### The Hong Kong University of Science and Technology School of Engineering An Example on Student's Pathway (as of Fall 2022-23)

<< Declaration of major

| School:<br>Department:  |   |   |  |                   |  |  | claratio                   |            |   |   |                 |  |  |
|---|---|---|--|-------------------|--|--|----------------------------|------------|---|---|-----------------|--|--|
|   |   | School of Engineering   |  |                   |  |  |                            | tudent's l |   | s (i.e. Stu                             | idy Patte       | rn)  | 1  |
| Program:  |   | Department of Mechanical and Aerospace Engineering<br>BEng in Aerospace Engineering + Extended Major in Artificia   | 1  | Backgro           | und: 🗆   |  | F                          | Pathway    | 1   |   |                 |  | •  |
| -   |   | Intelligence  |  |                   |  | e. Studer  | nts to gra                 | date in B  | Eng (AE   | ) with Re                               | search O        | ption  |  |
|   |   |   |  |                   |  |  | 0                          |            |   |   |                 |  |  |
|   | Course Code   | Course Title / Courses List   |  |                   |  |  |                            |            |   |   |                 |  |  |
| Offering□<br>Dept□  |   |   |  |                   | ~  |  | ~                          |            | 4   |   | ~               |  |  |
| course code<br>prefix)  |   |   |  | Yea               | 'ear 1   | Yea  | fear 2                     | Yea        | fear 3  | Yea                                     | 'ear 4          | s  |  |
|   |   |   | Credit   | Year 1 Fa         | Year 1 Spring  | Year 2 Fal   | Year 2 Spring              | Year 3 Fa  | Year 3 Spring   | Year 4 Fa                               | Year 4 Spring   | Sub-tota   | Domorko  |
| Major Requ  | uirements   |   | its  | all               | ng   | all  | Bu                         | all        | ng  | all                                     | ng              | a  | Remarks  |
| Engineering F   | undamental (  |   |  | π                 |  |  |                            |            |   |   |                 |  |  |
|   | □<br>□<br>1021 □  | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR<br>COMP 2012H<br>Introduction to Computer Science   | 3-5<br>3   |                   |  | İ  |                            |            |   |   |                 |  |  |
|   | 10210<br>1022P<br>2011  | Introduction to Computing with Java Programming with C++□   | 3 4  | 3                 |  | ļ  |                            |            |   |   |                 | 3  |  |
| COMP<br>ANG   | 2012H<br>2030   | Honors Object-Oriented Programming and Data Structures<br>Technical Communication I   | 5  |                   |  | 3  |                            |            |   |   |                 | 3  |  |
| MATH D  |   | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND  | 4-7  |                   |  | 3  |                            |            |   |   |                 | 3  |  |
| IATHO<br>MATHO  | □<br>1012□<br>1013□   | (MATH 1014 OR MATH 1024)] OR [MATH 1020]□<br>Calculus IA□<br>Calculus IB□   | 4  |                   |  |  |                            |            |   |   |                 |  |  |
|   | 1013 I<br>1014 I<br>1020 I  | Calculus II<br>Accelerated Calculus   | 3 4  | 3                 | 3  |  |                            |            |   |   |                 | 6  |  |
| /ATH⊡<br>/ATH   | 1023 I<br>1023 I  | Honors Calculus I   | 3  |                   |  |  |                            |            |   |   |                 |  |  |
| ИАТН  | 2011  | Introduction to Multivariable Calculus  | 3  |                   |  | 3  |                            |            |   |   |                 | 3  |  |
| /ATH□<br>/ATH□<br>/ATH□   | □<br>2111□<br>2350□   | Note: MATH 2111 OR MATH 2350 OR MATH 2351<br>Matrix Algebra and Applications<br>Applied Linear Algebra and Differential Equations   | 3  |                   |  | Ì  | 3                          |            |   |   |                 | 3  |  |
| MATH<br>MATH<br>PHYS  | 2350  | Applied Linear Algebra and Differential Equations Introduction to Differential Equations Note: PHYS 1112 OR PHYS 1312   | 3<br>3<br>3  |                   |  | i  |                            |            |   |   |                 |  |  |
| PHYS<br>PHYS  | ⊔<br>1112□<br>1312  | General Physics I with Calculus<br>Honors General Physics I   | 3  |                   | 3  | i  |                            |            |   |   |                 | 3  |  |
| CHEM/LIFS/PHYS  | 1312  | Science 1000-level course (1 course from the specified course list)   | 3-4  |                   | 3  | <u>[</u>   |                            |            |   |   |                 | 3  |  |
|   | Re  | quired credits for Engineering Fundamental Courses  | 22-28  | 6                 | 9  | 6  | 3                          | 0          | 0   | 0                                       | 0               | 24   |  |
| <b>Иајог Require</b><br>иесн  | ed Courses an   | d Electives   |  |                   |  |  |                            |            |   |   |                 | -  |  |
| ЛЕСН<br>ЛЕСН  | 1907<br>1990  | Introduction to Aerospace Engineering Industrial Training   | 3  | 3                 |  | 0*   | [0^]                       |            |   |   |                 | 3<br>0   |  |
| MECH  | 2020  | Statics and Dynamics  | 3  |                   |  | 3  |                            |            |   |   |                 | 3  |  |
| NECH<br>NECH  | 2040<br>2210  | Solid Mechanics I<br>Fluid Mechanics  | 3  |                   |  | !  | 3                          |            |   |   |                 | 3  |  |
| NECH  | 2310  | Thermodynamics  | 3  |                   |  | 3  | 3                          |            |   |   |                 | 3  |  |
| MECH<br>MECH  | 2410<br>3400  | Engineering Materials I<br>Introduction to Composite Materials  | 3  |                   |  | ļ  | 3                          | 0          |   |   |                 | 3  |  |
| /ECH  | 3610  | Control Principles  | 3  | -                 |  |  |                            | 3          |   |   |                 | 3  |  |
| MECH  | 3620  | Aircraft Design   | 3  |                   |  |  |                            |            | 3   |   |                 | 3  |  |
| NECH<br>NECH  | 3640<br>3650  | Aerodynamics<br>Aircraft Structural Analysis  | 3  |                   |  | ¦  |                            | 3          |   |   |                 | 3  |  |
| NECH  | 3660  | Gas Turbines and Jet Propulsion   | 3  |                   |  | ¦  |                            |            | 3   |   |                 | 3  |  |
| /ECH  | 3670<br>3680  | Aircraft Performance and Stability Avionics Systems   | 3  |                   |  | <br>   |                            | 3          | 3   |   |                 | 3  |  |
| NECH  | 3690  | Aerospace Engineering Laboratory  | 3  |                   |  | :<br>I   |                            |            | 3   |   |                 | 3  |  |
|   | 4980  | Final Year Aerospace Design Project   |  |                   |  | · · · · · · · · · · · · · · · · · · ·                              |                            |            |   |   |                 |  |  |
| MECH  |   |   | 6  |                   |  | i  |                            |            |   | 3                                       | 3               | 6  |  |
|   | 2420<br>2010  | Basic Electronics Engineering Seminar Series  | 6<br>3<br>0  |                   |  | 3  | 0                          | 0          | 0   | 3                                       | 3               | 6<br>3<br>0  |  |
| ELEC  | 2420  | Basic Electronics   | 3  |                   |  |  | 0                          | 0          | 0   | 3                                       | 3               | 3  |  |
| ELEC  | 2420<br>2010  | Basic Electronics<br>Engineering Seminar Series   | 3<br>0   |                   |  |  | 0                          | 0          |   |   |                 | 3<br>0<br>3  |  |
| ELEC<br>ENGG<br>ANG   | 2420<br>2010<br>4034  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)   | 3<br>0<br>3<br>6   | 3                 | 0  | 0  |                            |            | 3   | 3                                       | 3               | 3<br>0<br>3<br>6   |  |
| ELEC<br>ENGG<br>ANG<br>MECH<br>Option Requir  | 2420<br>2010<br>4034<br>Requir  | Basic Electronics<br>Engineering Seminar Series<br>Technical Communication II for Mechanical and Aerospace Engineering  | 3<br>0<br>3<br>6   | 3                 | 0  |  | 0                          | 0          |   |   |                 | 3<br>0<br>3  |  |
| ELEC<br>ENGG<br>ANG<br>MECH   | 2420<br>2010<br>4034<br>Requir  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)   | 3<br>0<br>3<br>6   | 3                 | 0  | 0  |                            |            | 3   | 3                                       | 3               | 3<br>0<br>3<br>6<br>63   |  |
| ELEC<br>ENGG<br>ANG<br>AECH<br>Dption Requir<br>Research Option<br>AECH   | 2420<br>2010<br>4034<br>Requir<br>rements   | Basic Electronics<br>Engineering Seminar Series<br>Technical Communication II for Mechanical and Aerospace Engineering<br>MECH Electives in Aerospace (2 courses from the specified elective list)<br>ed credits for Major Required Courses and Electives   | 3<br>0<br>3<br>6<br>6<br>5<br>63   | 3                 | 0  | 0  |                            |            | 3   | 3                                       | 3               | 3<br>0<br>3<br>6   |  |
| ELEC<br>ENGG<br>ANG<br>AECH<br>Dption Requir<br>Research Option<br>AECH   | 2420<br>2010<br>4034<br>Requir<br>rements<br>4990<br>ments  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option   | 3<br>0<br>3<br>6<br>6<br>5<br>63   |                   |  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6  |  |
| ELEC<br>ENGG<br>ANG<br>AECH<br>Dption Requir<br>Research Option<br>AECH   | 2420<br>2010<br>4034<br>Requir<br>rements   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option   | 3<br>0<br>3<br>6<br>6<br>5<br>63   |                   |  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6  |  |
| ELEC<br>ENGG<br>ANG<br>AECH<br>Dption Requir<br>Aesearch Option<br>AECH<br>AI Requirer<br>Recommende<br>COMP/ISOM<br>COMP   | 2420<br>2010<br>4034<br>Requir<br>rements<br>4990<br>ments<br>d Background<br>1021  | Basic Electronics Engineering Seminar Series Technical Communication II for Mechanical and Aerospace Engineering MECH Electives in Aerospace (2 courses from the specified elective list) ed credits for Major Required Courses and Electives Aerospace Research Project Required credits for Research Option Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science   | 3<br>0<br>3<br>6<br>6<br>6<br>3<br>6<br>1<br>6<br>3<br>3<br>3  | 0                 |  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6  |  |
| ELEC<br>ENGG<br>ANG<br>AECH<br>Dotion Require<br>Research Option<br>AECH<br>AI Require<br>Recommende<br>COMP/ISOM   | 2420<br>2010<br>4034<br>rements<br>4990<br>ments<br>d Background  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230  | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>1<br>6<br>3  |                   |  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6<br>6   |  |
| ELEC<br>ENGG<br>ANG<br>ANG<br>AECH<br>Diption Require<br>Research Option<br>AI Requiree<br>Recommende<br>DOMP/ISOM<br>DOMP  | 2420<br>2010<br>4034<br>Requir<br>rements<br>4990<br>ments<br>1021<br>1022<br>1022  | Basic Electronics Engineering Seminar Series Technical Communication II for Mechanical and Aerospace Engineering MECH Electives in Aerospace (2 courses from the specified elective list) ed credits for Major Required Courses and Electives Aerospace Research Project Required credits for Research Option Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computing with Java   | 3<br>0<br>3<br>6<br>6<br>5<br>6<br>3<br>6<br>1<br>6<br>3<br>3<br>3<br>3  | 0                 |  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6<br>6   |  |
| ELEC<br>INGG<br>ANG<br>AECH<br>Dption Require<br>Research Option<br>AECH<br>AI Requiree<br>Recommende<br>Somptissom<br>Somptissom   | 2420<br>2010<br>4034<br>4034<br>Requir<br>rements<br>4990<br>ments<br>1021<br>1022P<br>3230<br>1014   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II   | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>3<br>6<br>1<br>6<br>8<br>6<br>3<br>3<br>3<br>3<br>3   | 0                 |  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6<br>6   |  |
| ELEC<br>ANG<br>ANG<br>AECH<br>Doption Require<br>Research Option<br>AECH<br>AI Requiree<br>Recommende<br>DOMP/ISOM<br>DOMP<br>SOMP<br>SOMP<br>SOMP  | 2420<br>2010<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>ments</b><br>d Background<br>1021<br>1022P<br>3230   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>8<br>6<br>8<br>6<br>7<br>8<br>6<br>7<br>8<br>6<br>7<br>8<br>6<br>7<br>8<br>8<br>6<br>7<br>8<br>7<br>8   | 0                 | 0  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6<br>6<br>6<br>6   |  |
| ELEC<br>ENGG<br>ANG<br>AECH<br>Diption Require<br>Research Option<br>AECH<br>AI Require<br>Recommende<br>DOMP/ISOM<br>DOMP<br>SOMP<br>SOMP<br>SOMP<br>AATH<br>AATH<br>AATH  | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Ments</b><br>d Background<br>1021<br>1022<br>1022<br>2300<br>1014<br>1024  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus   | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>6<br>6<br>7<br>6<br>7<br>6<br>7<br>7<br>8<br>6<br>7<br>7<br>8<br>7<br>8  | 0                 | 0  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6<br>6<br>6<br>6   |  |
| ELEC<br>INGG<br>ANG<br>AECH<br>Doption Require<br>Research Option<br>AECH<br>AI Require<br>Recommende<br>SOMP/ISOM<br>SOMP<br>SOM<br>ATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM   | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Background</b><br>1021<br>1022<br>3230<br>1014<br>1020<br>1024   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics  | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>8<br>6<br>8<br>6<br>8<br>6<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3   | 0                 | 0  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>63<br>6<br>6<br>6<br>6   |  |
| ELEC<br>ANG<br>ANG<br>AECH<br>Dption Require<br>Research Option<br>AECH<br>AI Requiree<br>Recommende<br>Some/ISOM<br>Some<br>Some<br>ATH<br>AATH<br>AATH<br>AATH<br>AATH<br>SOMMATH   | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Background</b><br>1021<br>1022P<br>3230<br>1014<br>1022<br>1024<br>2500<br>2411  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics   | 3       0       3       6       6       6       6       7       8       6       3       4       3       3  | (3)               | (3)  | 9  | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>63<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>2<br>4  |  |
| ELEC ENGG ANG ANG AECH Option Require Research Option AECH AI Require Recommende COMP/ISOM COMP SOM MATH AATH AATH SOM/MATH SOM/MATH SOM AATH   | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Background</b><br>1021<br>1022P<br>3230<br>1014<br>1022<br>1024<br>2500<br>2411  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         1 Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses  | 3       0       3       6       6       6       6       7       8       6       3       4       3       3  | 0                 | 0  | 9  | 9                          | 15         | 3<br>15   | 3 6 3                                   | 3 6 3           | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0  |  |
| ELEC ENGG ANG ANG AECH Option Require Research Option AECH AI Require Recommende COMP/ISOM COMP SOM MATH AATH AATH SOM/MATH SOM/MATH SOM AATH   | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Ments</b><br>1021<br>1021<br>1022<br>1024<br>1024<br>2500<br>2411  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         1 Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses  | 3       0       3       6       6       6       6       7       8       6       3       4       3       3  | (3)               | (3)  | 9  | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>63<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>2<br>4  |  |
| ELEC<br>ANG<br>ANG<br>AECH<br>Doption Require<br>Research Option<br>AECH<br>AI Require<br>Recommende<br>comp/ISOM<br>COMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP | 2420<br>2010<br>4034<br>4034<br>rements<br>4990<br><b>ments</b><br>4990<br><b>ments</b><br>1021<br>1021<br>1022<br>1024<br>1024<br>2500<br>2411<br><b>Require</b><br><b>Require</b>   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         I Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for Al Recommended Background Courses   | 3         0         3         0         3         6         6         6         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>9</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4</td><td></td></td<>   | (3)               | (3)  | 9  | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4                                 |  |
| ELEC ENGG ANG Option Require Research Option AECH AI Requiree Recommende SOMP/ISOM SOMP SOMP SOMP SOMP SOMP SOMP SOMP S   | 2420<br>2010<br>4034<br>4034<br>4034<br>4034<br>4034<br><b>Requir</b><br>ements<br>4990<br><b>Requir</b><br>1021<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>2411<br><b>Require</b><br><b>Require</b><br><b>Require</b><br><b>Require</b><br><b>Require</b>  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         1 Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for Al Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence   | 3         0         3         6         6         6         6         3         6         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         4         3         4         3         4         3         4         3         4         3         4         3         4         5         9-11   | (3)               | (3)  | 9  | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4<br>0                                 |  |
| ELEC ENGG ANG Definition Require ALECH Definition Require ALECH AL  | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br><b>Requir</b><br>4990<br><b>Background</b><br>1021<br>1022<br>3230<br>1014<br>1022<br>1024<br>2500<br>2411<br><b>Require</b><br><b>Courses an</b><br>2010A<br>2020<br>2011<br>2012   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Required credits for Research Option         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures   | 3         0         3         6         6         6         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>9</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>0</td><td></td></td<>   | (3)               | (3)  | 9  | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4<br>0                                 |  |
| ELEC ENGG ANG Dption Requir AECH Dption Requir Aesearch Option AECH AI Requirer Recommende comp/Isom Comp Som AATH AATH AATH Som AATH AATH Som AATH AATH Som AATH Comp Som AATH Som AATH AATH Som AATH Som AATH AATH Som AATH AATH AATH Som AATH AATH AATH Som AATH AATH AATH AATH AATH AATH AATH AAT  | 2420<br>2010<br>4034<br>4034<br>4034<br>4034<br>4034<br><b>Requir</b><br>ements<br>4990<br><b>Background</b><br>1021<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>2010<br>2500<br>2411<br><b>Require</b><br>d Courses an<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Required credits for Research Option         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISDM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures   | 3         0         3         0         3         6         6         6         6         6         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>4<br/>4<br/>4<br/>0<br/>3<br/>3</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>3<br>3             |  |
| ELEC ENGG ANG ANG AFFICIENCIC   | 2420       2010       4034       4034       4990       Requir       4990       Internets       4990       Internets       1021       1022P       3230       1014       1022P       3230       1014       1020       2411       Require       Courses and       2010A       2020       2011       2012       2012H   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         1 Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Hoors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Hoors Object-Oriented Programming and Data Structures         Honors Object-Oriented   | 3         0         3         6         6         6         3         6         3         4         0         3         4         4  | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>3<br>3             |  |
| ELEC ENGG ANG Comparison Comparis  | 2420<br>2010<br>4034<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Background</b><br>1021<br>1022<br>3230<br>1014<br>1022<br>1024<br>2500<br>2500<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2011<br>2012<br>2011<br>2012<br>2011<br>2012<br>2011<br>2012<br>2011<br>2012<br>2011<br>2012<br>2011<br>2011<br>2012<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>20   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Benjan Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211   | 3         0         3         6         6         6         6         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>0<br/>3<br/>3<br/>4</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4<br>0<br>3<br>3<br>4                  |  |
| ELEC ENGG ANG Comparison Comparis  | 2420<br>2010<br>4034<br>4034<br><b>Requir</b><br>rements<br>4990<br><b>Require</b><br><b>Background</b><br>1021<br>1022<br>2320<br>1014<br>1022<br>2320<br>1014<br>1022<br>2320<br>2012<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2010<br>2011<br>2010<br>2010<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>2011<br>201  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Benjan in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundame   | 3         0         3         6         6         6         6         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>0<br/>3<br/>3<br/>4</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4<br>0<br>3<br>3<br>4                  |  |
| ELEC ENGG ANG CONTRACT ANG CONTRACT CON  | 2420           2010           4034           4034 <b>Requir</b> 4990 <b>Handle State</b> 4990 <b>Handle State</b> 1021           1022           3230           1014           1020           1024           2500           2411           2010A           2020           2011           2012           2012           2012           2011           2012           2011           2012           2014           2211           3211   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Required credits for Research Option         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++ <t< td=""><td>3         0         3         6         6         6         3         6         3         4         5         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>4<br/>4<br/>0<br/>0<br/>3<br/>3<br/>4</td><td></td></td<></td></t<>  | 3         0         3         6         6         6         3         6         3         4         5         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>4<br/>4<br/>0<br/>0<br/>3<br/>3<br/>4</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>4   |  |
| ELEC ENGG ENGG ANG Comparison Com  | 2420       2010       4034       4034       4990       Requirements       4990       Internet s       1021       1022P       3230       1014       1022P       3230       1014       1020       1021       2500       2411       2500       2010A       2020       2011       2012       2012       211       3211       3211   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Applied Statistics         Applied Statistics         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Hoors Object-Oriented Programming and  | 3         3         0         3         6         6         6         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3 3 0 0 0</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3 3 0 0 0 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   |  |
| ELEC ENGG ANG ANG AFT AFT ATT AATT AATT AATT AATT AATT A  | 2420       2010       4034       4034       4990       Requirements       4990       Internet s       1021       1022P       3230       1014       1022P       3230       1014       1020       1021       2500       2411       2500       2010A       2020       2011       2012       2012       211       3211       3211   | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Hoors Object-Oriented Programming and Data Structures         Hoors Object-Oriented Programming and Data Structures         Hooros Object-Oriented Programming and Data S   | 3         0         3         0         3         6         6         6         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>4<br/>4<br/>0<br/>0<br/>3<br/>3<br/>4</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3         | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>4   |  |
| ELEC ENGG ELEC ENGG ELEC ENGG ANG ELEC ENGG ANG ELEC ENGG ENGG ELEC ENGG ENGG ELEC ELEC ELEC ELEC ELEC ELEC ELEC EL  | 2420           2010           4034           4034 <b>Requir</b> 4990 <b>Wents</b> 4990           1021           3230           1022           3230           1021           1022           3230           2500           2411           2500           2010A           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           3211  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP 211         Exploring Artificial Intelligence <td< td=""><td>3         0         3         6         6         6         3         6         3         <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3 3 0 0 0</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<></td></td<>  | 3         0         3         6         6         6         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3 3 0 0 0</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3 3 0 0 0 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   |  |
| ELEC ENGG ANG COMP COMP COMP COMP COMP COMP COMP COMP   | 2420           2010           4034           4034 <b>Requir</b> 4990 <b>Wents</b> 4990           1021           1022           3230           1021           1022           3230           2500           2411           2500           2010A           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           3211           3220  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Aerospace Research Project         Aerospace Research Option         Aerospace Research Project         Aerospace Research Option         Across Applications Programming         Not   | 3         0         3         6         6         6         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td>3 6 3 3</td><td>3 6 3 3 3 0 0 0</td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   | 3 6 3 3                                 | 3 6 3 3 3 0 0 0 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   |  |
| ELEC ENGG ELEC ENGG ANG ELEC ENGG ANG ELEC ENGG ANG ELEC ENGG ENGG ELEC ENGG ENGG ELEC ELEC ELEC ELEC ELEC ELEC ELEC EL   | 2420       2010       4034       4034 <b>Requir</b> 4990 <b>Wents</b> d Background       1021       1022       3230       1014       1020       2500       2411       2010A       2010A       2011       2012       2012       2012       2012       2012       2012       2012       2012       2012       2012       2014       3211       3212       3213       3214       3215       3216       3217 <td< td=""><td>Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Required credits for Research Option         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP 2211         Exporing Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 2211 OR COMP 2211         <td< td=""><td>3         0         3         6         6         6         3         3         6         3         <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<></td></td<></td></td<> | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Required credits for Research Option         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP 2211         Exporing Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 2211 OR COMP 2211 <td< td=""><td>3         0         3         6         6         6         3         3         6         3         <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<></td></td<>                             | 3         0         3         6         6         6         3         3         6         3 <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<>  | (3)<br>(3)<br>0   | 0<br>(3)<br>0<br>0   | 0<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>4                          | 9                          |            | 3<br>15<br>0<br>0   | 3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |                 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   |  |
| ELEC ENGG ANG COMP COMP COMP COMP COMP COMP COMP COMP   | 2420       2010       4034       4034       Requir       4990       Tements       Mark Spanne       1021       1021       1022       3230       1024       1025       2000       2411       2020       2010A       2012       2012       2012       2012       2012       2012       2012       2012       2012       2012       2014       3211       3211       3211       3211       3211       3211       3211       3211       3211  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432  | 3         0         3         6         6         6         3         3         6         3 <td< td=""><td>(3)</td><td>(3)</td><td>0<br/>9<br/>0<br/>0</td><td>9</td><td>0</td><td>3</td><td></td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<>   | (3)               | (3)  | 0<br>9<br>0<br>0   | 9                          | 0          | 3   |   |                 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   |  |
| ELEC ENGG ANG COMP COMP COMP COMP COMP COMP COMP COMP   | 2420       2010       4034       4034 <b>Requir</b> 4990 <b>Wents</b> d Background       1021       1022       3230       1014       1020       2500       2411       2010A       2010A       2011       2012       2012       2012       2012       2012       2012       2012       2012       2012       2012       2014       3211       3212       3213       3214       3215       3216       3217 <td< td=""><td>Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432</td><td>3         0         3         6         6         6         3         3         6         3         <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<></td></td<>                              | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432  | 3         0         3         6         6         6         3         3         6         3 <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td></td></td<>  | (3)<br>(3)<br>0   | 0<br>(3)<br>0  | 0<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>4                          | 9                          |            | 3<br>15<br>0<br>0   | 3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |                 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   |  |
| ELEC ENGG ANG Comparison Comparis  | 2420       2010       4034       1021       1022       1024       1025       1024       1025       2500       2500       2500       2500       20104       20102       2011       2012       2012       2012       2012       2012       2012       2012       2012       2014       4211       4102       4990       2011       2012       2014       4211       4102       4990       2014       4110       44991       4990  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         Aerospace Research Project         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: ISOM 2500 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus I         Note: ISOM 2500 OR MATH 2411         Business Statistics         Apriled Statistics         Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4100 CR MATH 4432 <t< td=""><td>3         0         3         6         6         6         3         3         6         3         <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td>(HMW) will usually be spre<br/>in the following pattern: Fa</td></td<></td></t<> | 3         0         3         6         6         6         3         3         6         3 <td< td=""><td>(3)<br/>(3)<br/>0</td><td>0<br/>(3)<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td>3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td>(HMW) will usually be spre<br/>in the following pattern: Fa</td></td<>   | (3)<br>(3)<br>0   | 0<br>(3)<br>0  | 0<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>4                          | 9                          |            | 3<br>15<br>0<br>0   | 3 3 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |                 | 3<br>0<br>3<br>6<br>6<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   | (HMW) will usually be spre<br>in the following pattern: Fa   |
| ELEC ENGG ANG Comparison Comparis  | 2420       2010       4034       1021       1022       1024       1025       1024       1025       2500       2500       2500       2500       20104       20102       2011       2012       2012       2012       2012       2012       2012       2012       2012       2014       4211       4102       4990       2011       2012       2014       4211       4102       4990       2014       4110       44991       4990  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         1 Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Hoors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honros Cobject-Oriented Programming and Data Structures         Honros Cobject-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial  | 3         3         0         3         6         6         6         3 <td< td=""><td></td><td>0<br/>(3)<br/>0<br/>0</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4</td><td>9</td><td></td><td>3<br/>15<br/>0<br/>0</td><td></td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>7<br/>0<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>4<br/>1<br/>3<br/>3<br/>3<br/>0<br/>9<br/>222</td><td>The credit load of CORE1<br/>(HMW) will usually be sprei<br/>in the following pattern: Fe<br/>Spring: 2</td></td<>   |                   | 0<br>(3)<br>0<br>0   | 0<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>4                          | 9                          |            | 3<br>15<br>0<br>0   |   |                 | 3<br>0<br>3<br>6<br>6<br>6<br>7<br>0<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>1<br>3<br>3<br>3<br>0<br>9<br>222 | The credit load of CORE1<br>(HMW) will usually be sprei<br>in the following pattern: Fe<br>Spring: 2 |
| ELEC ENGG ANG ANG ANG ANG ACH Dption Require Research Option AECH AI Requiree Comparing Comparin  | 2420       2010       4034       4034       4990       Requir       4990       Internets       1021       1022P       3230       1014       1022P       3230       1014       1022P       3230       1014       1022P       3230       2010A       2020       2011       2012       2012H       2012H       4110       4432       4990       CORE (Rev       CORE (Rev  | Basic Electronics         Engineering Seminar Series         Technical Communication II for Mechanical and Aerospace Engineering         MECH Electives in Aerospace (2 courses from the specified elective list)         ed credits for Major Required Courses and Electives         Aerospace Research Project         Required credits for Research Option         1 Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Hoors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Hones Object-Oriented Programming and Data Structures         Hones Object-Oriented Programming and Data Structures         Hones Object-Oriented Programming         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fu   | 3         3         0         3         6         6         6         3 <td< td=""><td>(3)<br/>(3)<br/>(3)</td><td>0<br/>(3)<br/>(3)<br/>(3)<br/>(3)<br/>(1)<br/>(1)<br/>(1)<br/>(1)<br/>(1)<br/>(1)<br/>(1)<br/>(1)<br/>(1)<br/>(1</td><td>0<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td>9<br/>0<br/>4<br/>4<br/>4<br/>9</td><td></td><td>3<br/>15<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td></td><td></td><td>3<br/>0<br/>3<br/>6<br/>6<br/>6<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7<br/>7</td><td>(HMW) will usually be spre<br/>in the following pattern: Fa</td></td<> | (3)<br>(3)<br>(3) | 0<br>(3)<br>(3)<br>(3)<br>(3)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1)<br>(1 | 0<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 9<br>0<br>4<br>4<br>4<br>9 |            | 3<br>15<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 |   |                 | 3<br>0<br>3<br>6<br>6<br>6<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7   | (HMW) will usually be spre<br>in the following pattern: Fa   |

Notes: [] denotes the course is also offered in other terms as indicated and students may take the course in one of these terms subject to advice by the program office.

\* Courses offered in winter term

^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

#### 2022-23 AE+AI (4Y) (2022-23 intake)

#### The Hong Kong University of Science and Technology School of Engineering

#### An Example on Student's Pathway (as of Fall 2022-23)

<< Declaration of major

| School:   |   | School of Engineering   |   | 1           |                       | << De       | claratio     | on of m    | -                         | Dette    | <i>n</i>      | 4. P  |   |
|---|---|---|---|-------------|-----------------------|-------------|--------------|------------|---------------------------|----------|---------------|---|---|
| Department:   |   | School of Engineering Department of Chemical and Biological Engineering   |   |             |                       |             |              | Pathway    |                           |          |               |   | ern)  |
| Program:  |   | BEng in Bioengineering + Extended Major in Artificial Intellige   | ence  | Backgro     | ound: HK              | DSE 4 Co    | ore + 2 E    | lec (incl. | 1/2x PH                   | YS, 1/2x | CHEM)□        |   |   |
|   |   |   |   | Profile:    | Normativ              | e. Stude    | nts to gr    | aduate in  | BEng B                    | IEN      |               |   |   |
|   |   |   |   |             |                       |             |              |            |                           |          |               |   |   |
| Course □<br>Offering□   | Course Code   | Course Title / Courses List   |   |             |                       |             |              |            |                           |          |               |   |   |
| Dept⊡<br>course code  |   |   |   |             | X                     |             | ×            |            | ×                         |          | ž             |   |   |
| orefix)   |   |   | ~   | Year        | Year 1 Spring         | Year 2 Fall | Year 2 Sprin | Year       | Year 3 Spring             | Year 4   | Year 4 Spring | Sut   |   |
|   |   |   | Credits   | Year 1 Fa   | Sprin                 | ar 2 Fa     | Sprin        | Year 3 Fa  | Sprin                     | -4 Fa    | Sprin         | Sub-tota  | Remarks   |
| Major Requ  |   |   | S,  | . =         | ũ                     |             | g            | =          | g                         | =        | g             | -   |   |
|   | undamental Co   | Urses   | 3-6   | T           | r                     |             |              | r          |                           |          |               |   |   |
|   | □<br>1021□  | OR COMP 2012H) AND COMP 1029P] Introduction to Computer Science   | 3   |             |                       |             |              |            |                           |          |               |   |   |
|   | 1022P<br>1029P  | Introduction to Computing with Java⊡<br>Python Programming Bridging Course⊡   | 3   |             | 3                     |             |              |            |                           |          |               | 3   |   |
| COMP COMP   | 2011□<br>2012H  | Programming with C++□<br>Honors Object-Oriented Programming and Data Structures   | 4<br>5  |             |                       |             |              |            |                           |          |               |   |   |
| CHEM  | 1020  | General Chemistry I   | 3   | 3           |                       |             |              |            |                           |          |               | 0   |   |
| CHEM  | 1050  | Laboratory for General Chemistry I  | 1   | 1           |                       |             |              |            |                           |          |               | 1   |   |
| ANG<br>IFS  | 2030  | Technical Communication I<br>Note: Students with level 3 or above in HKDSE 1x Biology are   | 3<br>0-3  |             |                       |             | 3            |            |                           |          |               | 3   |   |
| _<br>.IFS   | □<br>1901   | exempted from taking LIFS 1901□<br>General Biology I  | 3   | 3           |                       |             |              |            |                           |          |               | 3   |   |
| MATH  |   | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND<br>(MATH 1014 OR MATH 1024)] OR [MATH 1020]  | 4-7   |             |                       | I           |              |            |                           |          |               |   |   |
| MATH  MATH  | 1012□<br>1013□  | Calculus IA⊟<br>Calculus IB⊡  | 4<br>3  |             |                       |             |              |            |                           |          |               |   |   |
|   | 1014□<br>1020□  | Calculus II⊡<br>Accelerated Calculus⊡   | 3   | 3           | 3                     |             |              |            |                           |          |               | 6   |   |
| MATH⊡<br>MATH   | 1023□<br>1024   | Honors Calculus I ⊡<br>Honors Calculus II   | 3<br>3  |             |                       |             |              |            |                           |          |               |   |   |
| PHYS<br>PHYS  | □<br>1112□  | Note: PHYS 1112 OR PHYS 1312⊟<br>General Physics I with Calculus⊟   | 3<br>3  | _           |                       |             |              |            |                           |          |               |   |   |
| PHYS  | 1312  | Honors General Physics I  | 3   | 3           |                       |             |              |            |                           |          |               | 3   |   |
| SENG  |   | Engineering Introduction course (If the students take an introduction<br>course included in their major, this course can be counted towards their<br>makes the student of the students and the studen  | 3-4   |             | 3                     |             |              |            |                           |          |               | 3   |   |
|   |   | major requirement.)   |   |             |                       |             |              |            |                           |          |               |   |   |
| Major Require   | Red<br>d Courses and  | quired credits for Engineering Fundamental Courses  | 23-27   | 13          | 9                     | 0           | 3            | 0          | 0                         | 0        | 0             | 22  |   |
| BIEN/CENG   |   | Note: BIEN 1010 OR CENG 1000  | 3   | I           |                       |             |              |            |                           |          |               |   | CENG 1000 offered in Fall only<br>BIEN 1010 offered in Spring only  |
| BIEN□<br>CENG   | 1010□<br>1000   | Introduction to Biomedical Engineering<br>Introduction to Chemical and Biological Engineering   | 3<br>3  | [3]         | 3                     |             |              |            |                           |          |               | 3   | BIEN 1010 offered in Spring only  |
| BIEN  | 2310  | Modeling for Chemical and Biological Engineering  | 3   |             |                       | 3           |              |            |                           |          |               | 3   |   |
| BIEN  | 2410<br>2610  | Cellular and Systems Physiology for Engineers<br>Chemical Biology for Engineers   | 3   |             |                       | 3           | 3            |            |                           |          |               | 3   |   |
| BIEN  | 2990  | Academic and Professional Development I   | 1   |             |                       | 1           |              |            |                           |          |               | 1   |   |
| BIEN/LIFS/MATH  | □<br>3300□  | Note: BIEN 3300 OR LIFS 3150 OR MATH 2411□<br>Data Science for Molecular Engineering□   | 3-4<br>3  |             |                       | _           |              |            |                           |          |               |   |   |
| _IFS⊡<br>MATH   | 3150□<br>2411   | Biostatistics⊡<br>Applied Statistics  | 3<br>4  |             |                       | 3           |              |            |                           |          |               | 3   |   |
| BIEN  | □<br>3310**□  | Note: BIEN 3310 OR BIEN 3320⊡<br>Data Science for Neural Engineering⊡   | 3<br>3  |             |                       |             |              |            |                           |          |               |   |   |
| BIEN  | 3320  | Data Science for Biology and Medicine   | 3   |             |                       | 3           | [3]          |            |                           |          |               | 3   |   |
| BIEN  | 3410  | Introduction to Bioinstrumentation and Bioimaging   | 3   |             |                       |             |              | 3          |                           |          |               | 3   |   |
| BIEN  | 3910<br>□   | Bioengineering Laboratory Note: BIEN 4920 OR BIEN 4930 OR BIEN 4940   | 4   |             |                       |             |              | 4          |                           |          |               | 4   |   |
| BIEN  | 4920□<br>4930□  | Bioengineering Capstone Design⊟<br>Bioengineering Thesis Research⊟  | 6<br>6  |             |                       |             |              |            |                           | 3        | 3             | 6   |   |
| BIEN  | 4940  | Bioengineering Industrial Project   | 6   |             |                       |             |              |            |                           |          |               |   |   |
| BIEN  | 4990<br>2210  | Academic and Professional Development II<br>Chemical and Biological Engineering Thermodynamics  | 1 3   |             |                       |             | 3            |            |                           | 1        |               | 1   |   |
| CENG  | 2220  | Transport Phenomena I   | 3   |             |                       |             | 3            |            |                           |          |               | 3   | CENG2220 offered in Spring only   |
| CENG<br>ENGG  | 3230<br>2010  | Chemical and Biological Reaction Engineering<br>Engineering Seminar Series  | 3<br>0  |             |                       |             |              | 3          |                           |          |               | 3   |   |
| LANG  | 4035  | Technical Communication II for Chemical and Biological Engineering  | 3   |             |                       | 0           | 0            | 0          | 0                         | 3        |               | 0   |   |
| SSCI/SENG   |   | Bioengineering Electives (5 courses from the specified elective list, of  | 15  |             |                       |             |              |            |                           | 5        |               | 5   |   |
|   |   | which at least 9 credits should be taken from a single specialty area (Area 1 or Area 2). Out of the 15 credits taken, at least 9 credits should be at  |   |             |                       |             |              |            | 6                         | 3        | 6             | 15  |   |
|   | Require   | 4000-level)<br>ed credits for Major Required Courses and Electives  | 60-61   | 0           | 3                     | 13          | 9            | 10         | 6                         | 10       | 9             | 60  |   |
| Al Require  | ments   |   |   |             |                       | -           |              |            |                           |          |               |   |   |
| Recommende  | d Background  | Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 3   | 1           |                       |             |              |            |                           |          |               |   |   |
| COMP  | 1021  | Introduction to Computer Science  | 3   |             | (2)                   |             |              |            |                           |          |               | 0   |   |
| COMP  | 1022P<br>3230   | Introduction to Computing with Java<br>Business Applications Programming  | 3<br>3  |             | (3)                   |             |              |            |                           |          |               | 0   |   |
| MATH  |   | Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3-4   |             |                       |             |              |            |                           |          |               |   |   |
| матн  | 1014  |   |   |             |                       |             |              |            |                           |          |               |   |   |
|   |   | Calculus II   | 3   |             | (3)                   |             |              |            |                           |          |               | 0   |   |
| MATH<br>MATH  | 1020<br>1024  | Calculus II<br>Accelerated Calculus<br>Honors Calculus II   | 3<br>4<br>3   |             | (3)                   |             |              |            |                           |          |               | 0   |   |
|   | 1020<br>1024  | Accelerated Calculus  | 4   |             | (3)                   |             |              |            |                           |          |               | 0   |   |
| MATH<br>SOM/MATH<br>SOM   | 2500  | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics   | 4<br>3<br>3-4<br>3  |             | (3)                   | (4)         |              |            |                           |          |               | 0   |   |
| MATH<br>SOM/MATH<br>SOM   | 1024<br>2500<br>2411  | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics   | 4<br>3<br>3-4<br>3<br>4   |             |                       |             |              |            |                           |          |               | 0   |   |
| MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require  | 1024<br>2500<br>2411<br><b>Require</b><br>d Courses and   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Courses<br>Electives   | 4<br>3<br>3-4<br>3<br>4<br>9-11   | 0           | (3)                   | (4)         | 0            | 0          | 0                         | 0        | 0             |   |   |
| MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA  | 1024<br>2500<br>2411<br><b>Require</b><br>d Courses and<br>2010A  | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Appled Statistics<br>d credits for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence   | 4<br>3-4<br>3<br>4<br>9-11  | 0           |                       |             | 0            | 0          | 0                         | 0        | 0             | 0   |   |
| NATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA  | 1024<br>2500<br>2411<br><b>Require</b><br>d Courses and   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking   | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3  | 0           |                       | 0           | 0            | 0          | 0                         | 0        | 0             | 0   |   |
| MATH<br>SOM/MATH<br>SOM<br>Major Require<br>EMIA<br>EMIA<br>SOMP  | 1024<br>2500<br>2411<br>Courses and<br>2010A<br>2020  | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H  | 4<br>3<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5  | 0           |                       | 0           | 0            |            | 0                         | 0        | 0             | 0   |   |
| MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>COMP  | 1024<br>2500<br>2411<br>Courses and<br>2010A<br>2020<br>2011<br>2012  | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Creatist for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures  | 4<br>3<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>3<br>4-5<br>4<br>4   | 0           |                       | 0           | 0            |            | 0                         | 0        | 0             | 0   |   |
| MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>MIA<br>EMIA<br>COMP   | 1024<br>2500<br>2411<br>Require<br>d Courses and<br>2010A<br>2020<br>2011   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Creatist for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures  | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4  | 0           |                       | 0           | 0            |            | 0                         | 0        | 0             | 0 0 0 3   |   |
| MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP                      | 1024<br>2500<br>2411<br>Require<br>d Courses and<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2016<br>2017<br>2016<br>2017<br>2016<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017<br>2017 | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br><b>d credits for AI Recommended Background Courses</b><br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence  | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3   | 0           |                       | 0           | 0            |            | 0                         | 0        | 0             | 0 0 0 3   |   |
| AATH<br>SOM/MATH<br>SOM<br>AATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP              | 1024<br>2500<br>2411<br>Required<br>COURSES and<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015<br>2015  | Accelerated Calculus<br>Honors Calculus H<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Note: COMP 4211 OR EMIA 4110 OR MATH 4432  | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3   | 0           |                       | 0           | 0            | 3          | 0                         | 0        | 0             | 0 0 3 4   |   |
| AATH<br>SOM/MATH<br>SOM<br>AATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP      | 1024 2500 2411 Required COurses and 2010A 2020 2011 2012 2012 2012 2012H 2211 3211 4211 4211 4110   | Accelerated Calculus<br>Honors Calculus H<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamental Fundamental Fundamenta                         | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | 0           |                       | 0           | 0            | 3          | 0                         | 0        | 0             | 0 0 3 4   |   |
| AATH<br>SOM/MATH<br>SOM<br>AATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>S | 1024<br>2500<br>2411<br>Require<br>d Courses and<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2012<br>2014   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Note: COMP2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence  | 4<br>3-4<br>3-4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | 0           |                       | 0           | 0            | 3          |                           | 0        | 0             | 0<br>0<br>3<br>4<br>3   |   |
| AATH SOM/MATH SOM AATH Major Require EMIA COMP COMP COMP COMP COMP COMP COMP COMP   | 1024 2500 2411 COURSES and 2010A 2020 2011 2012 2012 2012 20124 2012 2012   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Courses<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Practical Machine Learning<br>Statistical Machine Learning   | 4<br>3-4<br>3-4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | 0           |                       | 0           | 0            | 3          |                           | 0        | 0             | 0<br>0<br>3<br>4<br>3   |   |
| AATH SOM/MATH SOM AATH Major Require EMIA COMP COMP COMP COMP COMP COMP COMP COMP   | 1024 2500 2411 Required COurses and 2010A 2020 2011 2012 2012 2012 2012H 2211 3211 4211 4421 4421   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fund | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                  |             |                       | 0           | 0            | 3          |                           | 0        |               | 0<br>0<br>3<br>4<br>3<br>0  |   |
| AATH SOM/MATH SOM AATH Major Require EMIA EMIA SOMP SOMP SOMP SOMP SOMP SOMP SOMP SOMP  | 1024 2500 2411 COURSES and 2010A 2020 2011 2012 2012 2012 20124 2012 2012   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br><b>d credits for AI Recommended Background Courses</b><br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Statistical Machine Learning<br>Statistical Machine Learning<br>Note: EMIA 4990 OR EMIA 4991<br>Interdisciplinary Capstone Project   | 4<br>3-4<br>3-4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0   |             |                       | 0           | 0            | 3          |                           | 0        |               | 0<br>0<br>3<br>4<br>3<br>0  |   |
| MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP                      | 1024 2500 2411 COURSES and 2010A 2020 2011 2012 2012 2012 20124 2012 2012   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundam | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                  |             |                       | 0           | 0            | 3          |                           | 0        |               | 0<br>0<br>3<br>4<br>3<br>0  |   |
| AATH SOM/MATH SOM AATH Major Require EMIA EMIA SOMP SOMP SOMP SOMP SOMP SOMP SOMP SOMP  | 1024 2500 2411 COURSES and 2010A 2020 2011 2012 2012 2012 20124 2012 2012   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2211<br>Exptoring Artificial Intelligence<br>Fundamentals of Artificial Intelligen    | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                  | 0<br>0<br>0 |                       | 0           | 0            | 3          | (3)                       |          | 0             | 0<br>0<br>3<br>4<br>3<br>0  |   |
| IATH SOM/MATH SOM AATH Major Require MIA Comp Comp Comp Comp Comp Comp Comp Comp  | 1024 2500 2411 2000 2411 2010A 2010A 2020 2011 2012 2012 2012   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundame | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>3<br>6-9                                       |             |                       | 4           |              | 3          | (3)                       | 3        | 0             | 0<br>0<br>3<br>4<br>3<br>0<br>0<br>3<br>3                             |   |
| MATH SOM/MATH SOM MATH Major Require EMIA EMIA SOMP SOMP SOMP SOMP SOMP SOMP SOMP SOMP  | I024           I024           Intervention           2500           2411           2000           2010A           2020           2011           2012           2012           2012           2014           4211           4432           4990           4991   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2211<br>Exptoring Artificial Intelligence<br>Fundamentals of Artificial Intelligen    | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>3<br>6-9                                       |             |                       | 0           | 0            | 3          | (3)                       |          | 0             | 0<br>0<br>3<br>4<br>3<br>0  |   |
| AATH SOM/MATH SOM AATH Major Require EMIA EMIA SOMP SOMP SOMP SOMP SOMP SOMP SOMP SOMP  | IO24           IO24           IO24           IO24           IO24           IO24           IO24           IO24           IO26           IO27           IO200           IO10A           IO200           IO10A           IO200           IO10A           IO200           IO11           IO12           IO11           III10  | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundame | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>3<br>6-9                                       |             |                       | 4           |              | 3          | (3)                       | 3        | 0             | 0<br>0<br>3<br>4<br>3<br>0<br>0<br>3<br>3                             | The credit load of CORE1905 (HMW) will us<br>be spread in the following pattern: Fall: 1;   |
| IATH SOM/MATH SOM ATH Major Require EMIA COMP COMP COMP COMP COMP COMP COMP COMP  | ID24           ID24           ID24           ID24           ID2500           ID21           ID20           ID21   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligen    | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |             |                       | 4           | 0            | 3          | (3)                       | 3        | 0             | 0<br>0<br>3<br>4<br>3<br>0<br>0<br>0<br>3<br>3<br>13                  | The credit load of CORE1905 (HMW) will us<br>be spread in the following pattern: Fall: 1;<br>Content of   |
| AATH SOM/MATH SOM AATH Aath Aath Aath Aath Aath Aath Aath Aath  | IO24           IO24           IO24           IO24           Required           COURSES and           2010           2010           2011           2012           2012           2012           2012           2012           4211           4110           4432           4990           4991           Rec           CORE           C3 - C12   | Accelerated Calculus Hones Calculus II Note: ISOM 2500 OR MATH 2411 Business Statistics Applied Statistics Cross-disciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honers Object-Oriented Programming and Data Structures Honers Object-Oriented Programming and Data Structures Note: COMP 211 OR COMP 211 Exptoring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 211 OR COMP 211 Exptoring Artificial Intelligence Fundamentals of Artificial Intelligence Fundamentals of Artificial Intelligence Interdisciplinary Capstone Project Interdisciplinary Cap  | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 | 0           | 0<br>0<br>0<br>0<br>0 |             | 0            | 3 3 3 6    | (3)<br>(3)<br>0<br>9<br>9 | 3        | 0             | 0<br>0<br>3<br>4<br>3<br>0<br>0<br>0<br>3<br>3<br>3<br>13<br>224      | The credit load of CORE1905 (HMW) will us<br>be spread in the following pattern: Fall: 1;<br>Caulars: 0   |
| ATH OM/MATH OM ATH OM ATH Iajor Require WIA DMP OMP OMP OMP OMP OMP OMP OMP OMP OMP CMIA ATH VIA  | IO24           IO24           IO24           IO24           Required           COURSES and           2010           2010           2011           2012           2012           2012           2012           2012           4211           4110           4432           4990           4991           Rec           CORE           C3 - C12   | Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP 2211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligen    | 4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 | 0           |                       |             | 0            | 3          | (3)<br>(3)<br>0<br>9<br>9 | 3        | 0 (3) 0       | 0<br>0<br>3<br>4<br>3<br>0<br>0<br>0<br>3<br>3<br>3<br>13<br>224<br>6 | The credit load of CORE1905 (HMW) will us<br>be spread in the following pattern: Fall: 1;<br>Current Content of the following pattern: Fall: 1; |

( ) indicates the reuse of the same course to fulfill more than one requirement.

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement.

| **Remarks |  |  |
|-----------|--|--|
|           |  |  |

- BIEN 3310: This is a new course to take effect in Fall, 2023-24.

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-todate information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 BIEN+AI (4Y) (2022-23 intake)

| School:<br>Department:<br>Program:<br>Course  Course  Course  Course  Course  Course code  prefix) |                          | School of Engineering<br>Department of Chemical and Biological Engineering<br>BEng in Chemical and Environmental Engineering + Extended<br>Artificial Intelligence                         | Major in       | Backgro   | und: UKI      |            |               | Student's<br>Pathway    |               | s (i.e. Stu | dy Patter     | n)       |   |
|--|--------------------------|--|----------------|-----------|---------------|------------|---------------|-------------------------|---------------|-------------|---------------|----------|---|
| Course  Course  Coffering  Copt Course code  |                          |  | Major in       | Backgro   | und HKI       |            |               |                         |               |             |               |          |   |
| Offering□<br>Dept□<br>course code  |                          |  |                |           |               |            |               |                         |               |             |               |          |   |
| Offering⊡<br>Dept⊡<br>course code  |                          |  |                | Profile:  | Normative     | e. Studer  | nts to gra    | duate in l              | BEng CE       | EV with F   | Research      | Option   |   |
| Offering⊡<br>Dept⊡<br>course code  |                          |  |                |           |               | -          |               |                         |               |             |               |          |   |
| course code  | Course Code              | Course Title / Courses List  |                |           |               |            |               |                         |               |             |               |          |   |
| JIEIIX)  |                          |  |                | ~         | Yea           | ~          | Yea           | ~                       | Yea           | ~           | Yea           |          |   |
|  |                          |  | Credit         | Year 1 Fa | fear 1 Spring | Year 2 Fal | Year 2 Spring | Year 3 Fa               | Year 3 Spring | Year 4 Fa   | Year 4 Spring | Sub-tota |   |
| Major Requii   | rements                  |  | dits           | all       | ing           | all        | ing           | all                     | ing           | all         | ing           | tal      | Remarks   |
| Engineering Fun  |                          |  |                | n         | •             |            |               |                         |               |             |               |          |   |
| COMP   | □<br>□<br>1021□          | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR<br>COMP 2012H<br>Introduction to Computer Science  | 3-5<br>3       |           |               |            |               |                         |               |             |               |          |   |
| COMP 1   | 1022P<br>2011            | Introduction to Computing with Java Programming with C++□  | 3 4            | 3         |               |            |               |                         |               |             |               | 3        |   |
|  | 2012H<br>1020            | Honors Object-Oriented Programming and Data Structures<br>General Chemistry I  | 5<br>3         |           | 3             |            |               |                         |               |             |               | 3        |   |
| LANG 2<br>MATH   | 2030                     | Technical Communication I Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND   | 3<br>4-7       | Į         |               | 3          |               |                         |               |             |               | 3        |   |
| MATHO 1  | □<br>1012□               | (MATH 1014 OR MATH 1024)] OR [MATH 1020]□<br>Calculus IA□  | 4              |           |               |            |               |                         |               |             |               |          |   |
| MATH 1   | 1013□<br>1014□<br>1020□  | Calculus IB<br>Calculus II<br>Accelerated Calculus   | 3<br>3<br>4    | 3         | 3             |            |               |                         |               |             |               | 6        |   |
| MATH 1   | 1023<br>1023<br>1024     | Honors Calculus II<br>Honors Calculus II   | 4<br>3<br>3    |           |               |            |               |                         |               |             |               |          |   |
| MATH 2<br>PHYS   | 2011                     | Introduction to Multivariable Calculus Note: PHYS 1112 OR PHYS 1312  | 3              |           |               | 3          |               |                         |               |             |               | 3        |   |
|  | 11120<br>1312            | General Physics I with Calculus<br>Honors General Physics I  | 3<br>3         | 3         |               |            |               |                         |               |             |               | 3        |   |
| Major Required   |                          | ired credits for Engineering Fundamental Courses<br>Electives  | 19-24          | 9         | 6             | 6          | 0             | 0                       | 0             | 0           | 0             | 21       |   |
| CENG D   | □<br>1000□               | Note: CENG 1000 OR CENG 1500□<br>Introduction to Chemical and Biological Engineering□  | 3<br>3         | [3]       | 3             |            |               |                         |               |             |               | 3        | CENG 1000 offered in Fall<br>only                       |
| CENG 1   | <u>1500</u><br>1010      | A First Course on Materials Science and Applications<br>Academic and Professional Development I  | 3<br>0         |           |               | 0          |               |                         |               |             |               | 0        | CENG1500 offered in Sprin                               |
|  | 1700<br>1980             | Introduction to Environmental Engineering<br>Industrial Training   | 3<br>0         | 3         |               |            | 0^            | 0*                      |               | 0*          |               | 3<br>0   | CENG1700 offered in Fall of                             |
| CENG 2   | 2110                     | Process and Product Design Principles  | 3              |           |               | 3          |               |                         |               |             |               | 3        |   |
|  | 2210<br>2220             | Chemical and Biological Engineering Thermodynamics Transport Phenomena I   | 3              |           |               |            | 3             |                         | <u> </u>      | L           |               | 3        |   |
|  | 2310<br>3110             | Modeling for Chemical and Biological Engineering<br>Process Dynamics and Control   | 3              |           |               | 3          |               |                         | 3             |             |               | 3        |   |
| CENG 3   | 3150                     | Integrated Chemical Process and Product Design   | 5              |           |               |            |               |                         | 5             |             |               | 5        |   |
|  | 3210<br>3220             | Separation Processes Transport Phenomena II  | 3<br>3         |           |               |            |               | 3<br>3                  |               |             |               | 3<br>3   |   |
|  | 3230<br>3950             | Chemical and Biological Reaction Engineering<br>Chemical and Environmental Engineering Laboratory  | 3              |           |               |            |               | 3                       | 4             |             |               | 3        |   |
| CENG 4   | 4020                     | Academic and Professional Development II   | 0              |           |               |            |               |                         | 4             | 0           |               | 4        |   |
|  | 4710<br>4720             | Environmental Control<br>Environmental Impact Assessment and Management Systems  | 3              |           |               |            |               |                         |               | 3           |               | 3        |   |
| CENG   |                          | Note: CENG 4920 OR CENG 4930 OR CENG 4940 (Students  | 6              |           |               |            |               |                         |               |             | 3             | 3        |   |
| CENGO 4<br>CENGO 4   | 4920<br>4930<br>4940     | taking the Research Option must take CENG 4930)<br>Chemical Engineering Capstone Design<br>Chemical Engineering Thesis Research<br>Chemical Engineering Industrial Project                 | 6<br>6<br>6    |           |               |            |               |                         |               | 3           | 3             | 6        |   |
| BIEN/CHEM/LIFS   | 2610                     | Note: BIEN 2610 OR CHEM 2311 OR LIFS 1901  Chemical Biology for Engineers  | 3              |           |               |            | 3             |                         |               |             |               | 3        |   |
| LIFS 1   | 2311<br>1901             | Analytical Chemistry<br>General Biology I  | 3              |           |               |            |               |                         |               |             |               | -        |   |
|  | 2010<br>1050             | Engineering Seminar Series<br>Laboratory for General Chemistry I   | 0              | 1         |               | 0          | 0             | 0                       | 0             |             |               | 0        |   |
|  | 2111<br>2155             | Fundamentals of Organic Chemistry Fundamental Organic Chemistry Laboratory   | 3              |           |               |            | 3             |                         |               |             |               | 3        |   |
|  | 4035                     | Technical Communication II for Chemical and Biological Engineering   | 3              |           |               |            |               |                         |               | 3           |               | 3        |   |
| SENG/ENVR  |                          | CEEV Depth Elective (2 courses from the specified elective list, of which at<br>least 1 course should be taken from the list of Restricted Electives)                                      | 6              |           |               |            |               |                         |               | 3           | 3             | 6        |   |
|  | Require                  | d credits for Major Required Courses and Electives   | 68             | 4         | 3             | 6          | 13            | 9                       | 12            | 12          | 9             | 68       |   |
| Option Requiren  |                          | · · · · · · · · · · · · · · · · · · ·  |                |           |               |            |               |                         |               |             |               |          |   |
| Research Option<br>CENG/BIEN   |                          | Research Electives (2 courses from the specified elective list, out of which at<br>least 3 credits must be attained from CENG 4980. Students may take<br>CENG 4980 for more than one term) | 6              |           |               |            | 3^            |                         | 3^            |             |               | 6        |   |
| Al Requirem  | ents                     | Required credits for Research Option   | 6              | 0         | 0             | 0          | 3             | 0                       | 3             | 0           | 0             | 6        |   |
|  |                          | Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230  | 3              |           | -             | -          |               |                         |               |             |               |          |   |
| COMP 1<br>COMP 1   | 1021<br>1022P            | Introduction to Computer Science<br>Introduction to Computing with Java  | 3<br>3         | (3)       |               |            |               |                         |               |             |               | 0        |   |
| ISOM 3<br>MATH   | 3230                     | Business Applications Programming Note: MATH 1014 OR MATH 1020 OR MATH 1024  | 3<br>3-4       |           | <u> </u>      |            |               |                         |               |             |               |          |   |
|  | 1014<br>1020             | Calculus II<br>Accelerated Calculus  | 3<br>4         |           | (3)           |            |               |                         |               |             |               | 0        |   |
|  | 1024                     | Honors Calculus II   | 3              |           |               |            |               |                         |               |             |               |          |   |
| SOM/MATH   | 2500                     | Note: ISOM 2500 OR MATH 2411   | 3-4            |           |               | 4          |               |                         |               |             |               | 0        |   |
|  | 2500<br>2411<br>Required | Business Statistics<br>Applied Statistics<br>credits for AI Recommended Background Courses   | 3<br>4<br>9-11 | 0         | 0             | 4          | 0             | 0                       | 0             | 0           | 0             | 0        |   |
| Major Required   | Courses and              | Electives  |                |           | 0             | 4          | 0             | 0                       | 0             | 0           | 0             | 0        |   |
|  | 2010A<br>2020            | Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking  | 0              |           |               | 0          |               |                         |               |             |               | 0        |   |
| EMIA 2<br>COMP   |                          | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H  | 3<br>4-5       |           |               |            |               | 3                       |               |             |               | 3        |   |
| COMP 2   | 2011                     | Programming with C++   | 4              |           |               | 4          |               |                         |               |             |               | 4        |   |
| COMP 2   | 2012<br>2012H            | Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures  | 4<br>5         |           |               |            |               |                         |               |             |               |          |   |
|  | 2211                     | Note: COMP2211 OR COMP3211<br>Exploring Artificial Intelligence  | 3              |           |               |            |               | 3                       |               |             |               | 3        |   |
| COMP 3<br>COMP/EMIA/MATH   | 3211                     | Fundamentals of Artificial Intelligence<br>Note: COMP 4211 OR EMIA 4110 OR MATH 4432   | 3              |           |               |            |               |                         |               |             |               |          |   |
| EMIA 4   | 4211<br>4110             | Machine Learning<br>Practical Machine Learning   | 3<br>3         |           |               |            |               |                         | 3             |             |               | 3        |   |
|  | 4432                     | Statistical Machine Learning<br>Note: EMIA 4990 OR EMIA 4991   | 3<br>0-3       |           |               |            |               |                         |               |             |               |          |   |
| EMIA 4   | 4990                     | Interdisciplinary Capstone Project   | 0              |           |               |            |               |                         |               |             | 0             | 0        |   |
| SBM/SENG/  | 4991                     | Interdisciplinary Capstone Project Note: Students taking EMIA4990 should take a minimum of 9 credits;  | 3<br>6-9       |           |               |            |               |                         |               |             |               |          |   |
| SSCI/IPO   |                          | students taking EMIA4991 should take a minimum of 6 credits  |                |           |               |            |               |                         | 3             | 3           | 3             | 9        |   |
|  | Roce                     | Al Electives<br>uired credits for Al Required Courses and Electives  | 22-23          | 0         | 0             | 4          | 0             | 6                       | 6             | 3           | 3             | 22       |   |
|  | ORE (Reva                | amped)   |                |           | 0             | 4          | 0             | 0                       | 0             |             | <u> </u>      | -22      |   |
| University C   | C3 - C12                 | U CORE - Others  | 24             | 1         | 5             | 0          | 3             | 6                       | 0             | 3           | 6             | 24       | The credit load of CORE19<br>(HMW) will usually be spre |
|  |                          | 1  |                | 3         | 3             |            |               |                         |               |             |               | 6        | in the following pattern: Fa<br>Spring: 2               |
| CORE   | C1 & C2                  | U CORE - English Language  | 6              |           | 3             |            |               | <b></b>                 |               |             | 1             | 0        |   |
| CORE   | C1 & C2                  | U CORE - English Language<br>Sub-total for University CORE   |                | 4         | 8             | 0          | 3             | 6                       | 0             | 3           | 6             | 30       |   |
| CORE   | C1 & C2                  |  |                | +         | 8             |            |               | 6<br>cl. free cre<br>21 |               | 3<br>18     | 6<br>18       | 30       |   |

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2022-23 CEEV+AI (4Y) (2022-23 intake)

### The Hong Kong University of Science and Technology

School of Engineering An Example on Student's Pathway (as of Fall 2022-2023)

<< Declaration of major

|                              |                         |   |         |          |               | << De     | claratio      | on of m    | ajor          |             |               |          |  |
|------------------------------|-------------------------|---|---------|----------|---------------|-----------|---------------|------------|---------------|-------------|---------------|----------|--|
| School:                      |                         | School of Engineering   |         | 1        |               |           | 5             | Student's  | Pathway       | s (i.e. Stu | idy Pattei    | m)       |  |
| Department:                  |                         | Department of Chemical and Biological Engineering   |         |          |               |           |               | Pathway    |               |             |               |          |  |
| Program:                     |                         | BEng in Chemical Engineering + Extended Major in Artificial<br>Intelligence                               |         | Backgro  | ound: HKI     | DSE 4 C   | ore + 2 E     | lec (incl. | 1/2x PH1      | /S, 1/2x (  | CHEM)□        |          |  |
|                              |                         |   |         | Profile: | Normativ      | e. Stude  | ents to gra   | aduate in  | BEng Cl       | ENG with    | Researc       | h Option |  |
|                              |                         |   |         |          |               |           |               |            |               |             |               |          |  |
| Course                       | Course Code             | Course Title / Courses List   | T       |          | r –           |           | 1             | r –        |               | r –         |               |          | 4  |
| Offering□                    |                         |   |         |          |               | ļ         |               |            |               |             |               |          |  |
| Dept⊡<br>(course code        |                         |   |         |          | ¥             | ļ –       | ×             |            | ž             |             | ¥             |          |  |
| prefix)                      |                         |   |         | Year 1   | Year 1 Spring | Yea       | Year 2 Spring | Yea        | Year 3 Spring | Year 4      | Year 4 Spring | s        |  |
|                              |                         |   | Credits | r1 F     | Spri          | Year 2 Fa | Spri          | Year 3 Fa  | Spri          | ır 4 F      | Spri          | Sub-tota |  |
| Malan Dam                    |                         |   | lits    | Fall     | ng            | a         | ng            | all        | ng            | Fall        | ng            | tal      | Remarks                                      |
| Major Requ                   | undamental Co           |   |         |          |               |           |               |            |               |             |               |          |  |
| COMP:                        |                         | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR   | 3-5     | Π        | <u> </u>      | i         | 1             | <u> </u>   |               | 1           |               |          |  |
|                              | □<br>1021 □             | COMP 2012H Introduction to Computer Science   | 3       |          |               |           |               |            |               |             |               |          |  |
|                              | 1022P<br>2011           | Introduction to Computing with Java⊟<br>Programming with C++□   | 3<br>4  | 3        |               | !         |               |            |               |             |               | 3        |  |
| COMP                         | 2012H                   | Honors Object-Oriented Programming and Data Structures  | 5       |          |               | ļ         |               |            |               |             |               |          |  |
| CHEM                         | 1020<br>2030            | General Chemistry I<br>Technical Communication I  | 3       |          | 3             |           |               |            |               |             |               | 3        |  |
| MATH                         |                         | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND  | 4-7     |          |               | 3         |               |            |               |             |               | 3        |  |
| □<br>MATH□                   | □<br>1012□              | (MATH 1014 OR MATH 1024)] OR [MATH 1020]□<br>Calculus IA□   | 4       |          |               | i         |               |            |               |             |               |          |  |
| MATH                         | 1013□                   | Calculus IB   | 3       | 3        | 3             | i         |               |            |               |             |               | 6        |  |
| MATH<br>MATH                 | 1014□<br>1020□          | Calculus II  Accelerated Calculus   | 3<br>4  |          | -             | i         |               |            |               |             |               | -        |  |
| MATH<br>MATH                 | 1023□<br>1024           | Honors Calculus I<br>Honors Calculus II   | 3<br>3  |          |               | i         |               |            |               |             |               |          |  |
| MATH                         | 2011                    | Introduction to Multivariable Calculus  | 3       |          |               | 3         |               |            |               |             |               | 3        |  |
| PHYS□<br>PHYS□               | □<br>1112 □             | Note: PHYS 1112 OR PHYS 1312□<br>General Physics I with Calculus□   | 3<br>3  | 3        |               | :         |               |            |               |             |               | 3        |  |
| PHYS                         | 1312                    | Honors General Physics I  | 3       |          |               |           |               |            | _             |             | -             |          |  |
| Major Require                | Req<br>ed Courses and   | uired credits for Engineering Fundamental Courses   | 19-24   | 9        | 6             | 6         | 0             | 0          | 0             | 0           | 0             | 21       | <u> </u>                                     |
| CENG                         |                         | Note: CENG 1000 OR CENG 1500  | 3       | Π        | 1             | :         | 1             | 1          |               | 1           |               |          | CENG1000 offered in Fall                     |
| CENG  CENG                   | 1000□<br>1500           | Introduction to Chemical and Biological Engineering A First Course on Materials Science and Applications  | 3<br>3  | [3]      | 3             | !         | L             | L          |               | L           |               | 3        | only CENG1500 offered in<br>Spring only      |
| CENG                         | 1010                    | Academic and Professional Development I   | 0       |          |               | 0         |               |            |               |             |               | 0        |  |
| CENG/BIEN<br>CENG            | □<br>1600□              | Note: CENG 1600 OR CENG 1700 OR BIEN 1010□<br>Biotechnology and Its Business Opportunities□               | 3<br>3  | ~        | 101           | i         | 1             |            |               |             |               | 2        | CENG1600 & CENG1700<br>offered in Fall only; |
|                              | 1700□<br>1010           | Introduction to Environmental Engineering   | 3       | 3        | [3]           | i         | 1             |            |               |             |               | 3        | BIEN1010 offered in Spring<br>only           |
| CENG                         | 1980                    | Industrial Training   | 0       |          |               | ;         | 0^            | 0*         |               | 0*          |               | 0        | only   |
| CENG                         | 2110                    | Process and Product Design Principles   | 3       |          |               | 3         |               |            |               |             |               | 3        |  |
| CENG                         | 2210                    | Chemical and Biological Engineering Thermodynamics  | 3       |          |               | <u> </u>  | 3             |            |               |             |               | 3        |  |
| CENG                         | 2220<br>2310            | Transport Phenomena I<br>Modeling for Chemical and Biological Engineering                                 | 3       |          |               | 3         | 3             |            |               |             |               | 3        |  |
| CENG                         | 3110                    | Process Dynamics and Control  | 3       |          |               | 3         |               |            | 3             |             |               | 3        |  |
| CENG                         | 3150                    | Integrated Chemical Process and Product Design  | 5       |          |               | <u> </u>  |               |            | 5             |             |               | 5        |  |
| CENG                         | 3210                    | Separation Processes  | 3       |          |               | i         |               | 3          |               |             |               | 3        |  |
| CENG                         | 3220                    | Transport Phenomena II  | 3       |          |               | i         |               | 3          |               |             |               | 3        |  |
| CENG                         | 3230<br>3950            | Chemical and Biological Reaction Engineering<br>Chemical and Environmental Engineering Laboratory         | 3       |          |               | i —       |               | 3          |               |             |               | 3        |  |
| CENG                         | 4020                    | Academic and Professional Development II  | 0       |          |               | <u>.</u>  |               |            | 4             | 0           |               | 4        |  |
| CENG                         |                         | Note: CENG 4920 OR CENG 4930 OR CENG 4940 (Students   | 6       |          |               |           |               |            |               | 0           |               | 0        |  |
|                              | □<br>4920□              | taking the Research Option must take CENG 4930)□<br>Chemical Engineering Capstone Design□                 | 6       |          |               | !         |               |            |               | 3           | 3             | 6        |  |
| CENG  CENG                   | 4930□<br>4940           | Chemical Engineering Thesis Research<br>Chemical Engineering Industrial Project                           | 6<br>6  |          |               |           |               |            |               |             |               |          |  |
| BIEN/LIFS                    |                         | Note: BIEN 2410 OR BIEN 2610 OR LIFS 1901□<br>Cellular and Systems Physiology for Engineers□              | 3       |          |               | !         |               |            |               |             |               |          |  |
| BIEN II<br>BIEN II           | 2410<br>2610            | Chemical Biology for Engineers  | 3<br>3  |          |               | !         | 3             |            |               |             |               | 3        |  |
| LIFS<br>ENGG                 | 1901<br>2010            | General Biology I<br>Engineering Seminar Series   | 3       |          |               | 0         | 0             | 0          | 0             |             |               | 0        |  |
| CHEM                         | 1050                    | Laboratory for General Chemistry I  | 1       | 1        |               |           | Ŭ             | 0          | 0             |             |               | 1        |  |
| CHEM                         | 2111                    | Fundamentals of Organic Chemistry   | 3       |          |               | i         | 3             |            |               |             |               | 3        |  |
| CHEM                         | 2155                    | Fundamental Organic Chemistry Laboratory  | 1       |          |               | <u> </u>  | 1             |            |               |             |               | 1        |  |
| LANG                         | 4035                    | Technical Communication II for Chemical and Biological Engineering  | 3       |          |               | 1         |               |            |               | 3           |               | 3        |  |
| CENG/CHEM                    |                         | CENG Electives (Courses from the specified list)  | 12      |          |               |           |               |            |               | 6           | 6             | 12       |  |
|                              |                         | ed credits for Major Required Courses and Electives   | 68      | 4        | 3             | 6         | 13            | 9          | 12            | 12          | 9             | 68       |  |
| Option Requir                | ements                  |   |         |          |               |           |               |            |               |             |               |          |  |
| Research Option<br>CENG/BIEN |                         | Research Electives (2 courses from the specified elective list, out of which                              | 6       | 1        |               |           |               |            |               |             |               |          |  |
|                              |                         | at least 3 credits must be attained from CENG 4980. Students may take CENG 4980 for more than one term)   |         |          |               | !         | 3^            |            | 3^            |             |               | 6        |  |
|                              |                         |   |         |          |               | l         |               |            |               |             |               |          |  |
|                              |                         | Required credits for Research Option  | 6       | 0        | 0             | 0         | 3             | 0          | 3             | 0           | 0             | 6        |  |
| Al Require                   |                         | 0   |         |          |               |           |               |            |               |             |               |          |  |
| Recommende<br>COMP/ISOM      | d Background            | Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230  | 3       |          |               |           |               |            |               |             |               |          |  |
|                              | 1021                    |   |         |          |               |           |               |            |               |             |               |          |  |
| COMP<br>COMP                 | 1021<br>1022P           | Introduction to Computer Science<br>Introduction to Computing with Java                                   | 3<br>3  | (3)      |               |           |               |            |               |             |               | 0        |  |
| ISOM                         | 3230                    | Business Applications Programming   | 3       |          |               |           |               |            |               |             |               |          |  |
| MATH                         |                         | Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3-4     |          |               |           |               |            |               |             |               |          |  |
| MATH<br>MATH                 | 1014<br>1020            | Calculus II<br>Accelerated Calculus   | 3<br>4  |          | (3)           |           |               |            |               |             |               | 0        |  |
| MATH                         | 1020                    | Accelerated Calculus<br>Honors Calculus II  | 4       |          |               |           |               |            |               |             |               |          |  |
| ISOM/MATH                    |                         | Note: ISOM 2500 OR MATH 2411  | 3-4     |          |               |           |               |            |               |             |               |          |  |
|                              | 2500                    | Business Statistics   | 3       |          |               | 4         |               |            |               |             |               | 0        |  |
| ISOM<br>MATH                 | 2500<br>2411            | Applied Statistics  | 4       |          |               |           |               |            |               |             |               |          |  |
| Major Decisi                 |                         | d credits for Al Recommended Background Courses   | 9-11    | 0        | 0             | 4         | 0             | 0          | 0             | 0           | 0             | 0        |  |
| Major Require                | ed Courses and<br>2010A | Cross-disciplinary Seminar in Artificial Intelligence   | 0       |          |               |           |               |            |               |             |               |          |  |
| EMIA                         | 2020                    | Cross-disciplinary Design Thinking  | 3       |          |               | 0         |               |            |               |             |               | 0        |  |
|                              | 2020                    |   |         |          |               |           |               | 3          |               |             |               | 3        |  |
| COMP                         |                         | Note: COMP 2011 OR COMP 2012 OR COMP 2012H  | 4-5     |          |               |           |               |            |               |             |               |          |  |
| COMP<br>COMP                 | 2011<br>2012            | Programming with C++<br>Object-Oriented Programming and Data Structures                                   | 4<br>4  |          |               | 4         |               |            |               |             |               | 4        |  |
| COMP                         | 2012<br>2012H           | Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures | 4<br>5  |          |               |           |               |            |               |             |               |          |  |
| COMP                         | 0044                    | Note: COMP2211 OR COMP3211  |         |          |               |           |               |            |               |             |               |          |  |
| COMP<br>COMP                 | 2211<br>3211            | Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence                              | 3       |          |               | i d       |               | 3          |               |             |               | 3        |  |
| COMP/EMIA/MATH               |                         | Note: COMP 4211 OR EMIA 4110 OR MATH 4432   | 3       |          |               |           |               |            |               |             |               |          |  |
| COMP<br>EMIA                 | 4211<br>4110            | Machine Learning<br>Practical Machine Learning  | 3       |          |               |           |               |            | 3             |             |               | 3        |  |

| Notes:               |                      |  |             |    |    | << De   | claratic   | on of m      | aior     |    |    |    |   |
|----------------------|----------------------|--|-------------|----|----|---------|------------|--------------|----------|----|----|----|---|
|                      |                      |  |             |    |    | 145 (w/ | o option)  | 151 (w/ o    | option)# |    |    |    |   |
|                      |                      |  |             | 17 | 17 | 20      | 19         | 21           | 21       | 18 | 18 |    |   |
|                      |                      |  |             |    |    | Terr    | n load (ex | cl. free cre | edits)   |    |    |    |   |
|                      | •                    | Sub-total for University CORE  | 30          | 4  | 8  | 0       | 3          | 6            | 0        | 3  | 6  | 30 |   |
| CORE                 | C1 & C2              | U CORE - English Language  | 6           | 3  | 3  |         |            |              |          |    |    | 6  |   |
| CORE                 | C3 - C12             | U CORE - Others  | 24          | 1  | 5  |         | 3          | 6            |          | 3  | 6  | 24 | The credit load of CORE1905<br>(HMW) will usually be spread<br>in the following pattern: Fall:<br>; Spring: 2 |
|                      | ty CORE (Reva        |  |             |    |    |         |            |              |          |    |    |    |   |
|                      | Requ                 | uired credits for AI Required Courses and Electives                            | 22-23       | 0  | 0  | 4       | 0          | 6            | 6        | 3  | 3  | 22 |   |
| SSCI/IPO             |                      | students taking EMIA4991 should take a minimum of 6 credits<br>Al Electives    |             |    |    |         |            |              | 3        | 3  | 3  | 9  |   |
| SBM/SENG/            | 4001                 | Note: Students taking EMIA4990 should take a minimum of 9 credits;             | 6-9         |    |    |         |            |              |          |    |    |    |   |
| EMIA<br>EMIA         | 4990<br>4991         | Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project       | 0<br>3      |    |    |         |            |              |          |    | 0  | 0  |   |
| EMIA                 |                      | Note: EMIA 4990 OR EMIA 4991   | 0-3         |    |    |         |            |              |          |    |    |    |   |
| COMP<br>EMIA<br>MATH | 4211<br>4110<br>4432 | Machine Learning<br>Practical Machine Learning<br>Statistical Machine Learning | 3<br>3<br>3 |    |    |         |            |              | 3        |    |    | 3  |   |
|                      |                      |  |             |    |    |         |            |              |          |    |    |    |   |

[] denotes the course is also offered in other terms as indicated and students may take the course in one of these terms subject to advice by the program office.

\* Courses offered in winter term

^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 CENG+AI (4Y) (2022-23 intake)

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| URCP         1100         Undergradual measure Logonautics all adds. PP (log Bill, builts all adds and person of her all adds. PP (log Bill, builts all adds and person of her all adds. PP (log Bill, builts a                         |   | 1   |           | 1           |         |                       |                       |          |           |               |  |
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| All Requirements         Recommended Background Courses         COMPION       Net COMP 1021 OR COMP 102P OR ISON 3230       3         COMPION       Net COMP 1021 OR COMP 102P OR ISON 3230       3         COMPION       Net COMP 1021 OR COMP 1102P OR ISON 3230       3         COMPION       Net COMP 1021 OR COMP 11024       0       0         States Applications Programming       3       (0)         MATH 101 COM MATH 1024 OR MATH 1024       0       Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4"Colspan="4">Colspan="4"Col  |   |   | 3         |             |         |                       |                       |          |           |               | -  |
| Recommended Background Courses           Note: COMM 101 OR COMP 1029' DRI SOM 3200         3         (3)         1  |   | 3   | 5         |             |         |                       |                       |          | 1         |               |  |
| DOUP       1021<br>1022 p       Introduction to Computing with Jung       3       0   |   |   |           | 1           | 0       | 0                     | 0                     | 0        | 0         | 0             | 4-7  |
| COMP         1002P         Introduction Computing With Juwa<br>Busines Applications Programming         100 </td <td></td> <td></td> <td></td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>4-7</td>  |   |   |           | 1           | 0       | 0                     | 0                     | 0        | 0         | 0             | 4-7  |
| SDM       S230       Business Applications Programming       3       I  |   |   |           | 1           | 0       | 0                     | 0                     | 0        | 0         | 0             | 3  |
| MATH       104<br>Accelerated Calculus II<br>Accelerated Calculus       Accelerated Calculus <td></td> <td>4</td> <td></td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>3<br/>3<br/>3</td>   |   | 4   |           | 1           | 0       | 0                     | 0                     | 0        | 0         |               | 3<br>3<br>3  |
| MATH         102<br>Horns         Accelerated Calculus         4<br>Horns         4<br>Letters         6 <sup>0</sup><br>Letters         Letters         Letters <thletters< th=""> <thletters< th=""> <thletters< td=""><td></td><td>4</td><td></td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td></td><td>3<br/>3<br/>3<br/>3</td></thletters<></thletters<></thletters<>   |   | 4   |           | 1           | 0       | 0                     | 0                     | 0        | 0         |               | 3<br>3<br>3<br>3   |
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| SOM<br>WATH         2500<br>2411         Business Statistics<br>Applied Statistics         Business Statistics<br>Applied Statistics         3<br>4         4         4         4         4         4         4           Required credits for AI Recommended Background Course of the<br>Main Required Courses and Electives         0   |   | 4   |           | 1           | 0       | 0                     | 0                     | 0        |           |               | 3<br>3<br>3<br>3-4<br>3<br>4   |
| MATH       2411       Applied Statistics       4       6 </td <td></td> <td>4</td> <td></td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> <td>3<br/>3<br/>3-4<br/>3<br/>4<br/>3</td>  |   | 4   |           | 1           | 0       | 0                     | 0                     | 0        |           |               | 3<br>3<br>3-4<br>3<br>4<br>3   |
| Major Required Courses and Electives       Courses and Electives       Courses and Electives       Course and Electi  |   | 4   |           | 1           | 0       | 0                     |                       | 0        |           |               | 3<br>3<br>3<br>3-4<br>3<br>4<br>3<br>3-4   |
| EMA       2010A       Cross-disciplinary Design Thinking       0 <td></td> <td>4</td> <td></td> <td>1</td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td></td> <td></td> <td>3<br/>3<br/>3-4<br/>3<br/>4<br/>3<br/>3-4<br/>3<br/>3-4<br/>3</td>  |   | 4   |           | 1           | 0       | 0                     |                       | 0        |           |               | 3<br>3<br>3-4<br>3<br>4<br>3<br>3-4<br>3<br>3-4<br>3   |
| MA       2020       Cross-disciplinary Design Thinking       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1       1       3       1 <th1< th=""> <th1< th=""></th1<></th1<>  |   | 4   | 3         |             |         |                       | 4                     |          | (3)       | (3)           | 3<br>3<br>3-4<br>3<br>4<br>3-4<br>3-4<br>3<br>4  |
| DOMP         Note: COMP 2011 OR COMP 2012 OR COMP 2012 H         4-5         4  |   | 4<br>0<br>0<br>4<br>4   | 3         |             |         |                       | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3-4<br>3<br>4<br>3<br>3-4<br>3<br>4<br>9-11  |
| 201P<br>2012H2012<br>Honors Object-Oriented Programming and Data Structures4<br>511 <th< td=""><td></td><td>4<br/>0<br/>0<br/>4<br/>4<br/>0</td><td>3</td><td></td><td></td><td>0</td><td>4</td><td>0</td><td>(3)</td><td>(3)</td><td>3<br/>3<br/>3<br/>3<br/>4<br/>3<br/>4<br/>3<br/>3<br/>4<br/>9-11</td></th<>   |   | 4<br>0<br>0<br>4<br>4<br>0  | 3         |             |         | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>3<br>4<br>9-11   |
| 2012H       Honors Object-Oriented Programming and Data Structures       5       Image: Construction of the   |   | 4<br>0<br>0<br>4<br>4<br>0  | 3         |             |         | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3  |
| 20MP       2211       Exploring Aufficial Intelligence       3       1       3       1       3       1       3       1       3       1       3       1       3       1       1       1       3       1 <th1< th=""> <th1< th=""></th1<></th1<>  |   | 4<br>0<br>0<br>4<br>4<br>3<br>3   | 3         |             |         | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4  |
| COMP       3211       Fundamentals of Artificial Intelligence       Image: Comp of the comp   |   | 4<br>0<br>0<br>4<br>4<br>3<br>3   | 3         |             |         | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4  |
| COMP       4211       Machine Learning       3       3       3       4       4       5       3       3       3         EMIA       4110       Practical Machine Learning       3       3       3       4       5       1       3       3       1       1       1       3       3       1       1       1       3       1   |   | 4 0 0 4 4 4 0 3 4 4   | 3         |             |         | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3-4<br>3<br>4<br>3-4<br>3<br>4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5  |
| MAA       4110<br>4432       Practical Machine Learning<br>MATH       3<br>4       3       1 <th1< th="">       1</th1<>  |   | 4 0 0 4 4 4 0 3 4 4   | 3         |             |         | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4<br>-5<br>4<br>4<br>5<br>3   |
| BMA       4990<br>4991       Interdisciplinary Capstone Project       0   |   | 4 0 0 4 4 4 0 3 3   | 3         |             | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3   |
| Minia       Year       Interdisciplinary Capatone Project       3       Image: Capatone Project       3   |   | 4 0 0 4 4 4 0 3 3   | 3         |             | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3  |
| SBM/SENG/<br>students taking EMIA4991 should take a minimum of 9 credits;<br>Al Electives       6-9       6-9       6-9       3       3       3       9         Required credits for Al Required Courses and Electives         CORE       C3 - C12       U CORE - Others       24       1       8       2       0       3       2       2       24       1       8       2       0       3       2  |   | 4 0 0 4 4 4 0 3 3 3 3   | 3<br>     |             | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3   |
| Al Electives       Al Electives       22-23       0       0       4       0       6       6       3       3       9         Required credits for Al Required Courses and Electives       22-23       0       0       4       0       6       6       3       3       22         University CORE (Revamped)         SORE       24       1       8       2       0       3       3       3       9         Core C3-C12       U CORE-Others       24       1       8       2       0       3       2 <td></td> <td>4 0 0 4 4 4 0 3 3 3 3</td> <td>3<br/></td> <td></td> <td>0</td> <td>0</td> <td>4</td> <td>0</td> <td>(3)</td> <td>(3)</td> <td>3<br/>3<br/>3<br/>3<br/>4<br/>3<br/>4<br/>3<br/>4<br/>3<br/>4<br/>9-11<br/>0<br/>3<br/>4-5<br/>4<br/>4<br/>5<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3</td>  |   | 4 0 0 4 4 4 0 3 3 3 3   | 3<br>     |             | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                |
| Required credits for AI Required Courses and Electives     22-3     0     0     4     0     6     6     3     3     22       University CORE (Revamped)       CORE     C3 - C12     U CORE - Others     24     1     8     3     0     3     2     7  |   | 4 0 0 4 4 4 0 3 3 3 3   | 3<br>     |             | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>3<br>3<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                  |
| University CORE (Revamped)           CORE         C3 - C12         U CORE - Others         24         1         8         3         0         3         2         3         2         3         2         4         1         8         3         0         3         <   |   | 4 0 0 4 4 0 0 3 4 3 3 0 0 0 0 0 0 0 0 0   | 0         | 0           | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>3<br>3<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                  |
| CORE         C3 - C12         U CORE - Others         24         1         9         3         0         2         2         2         2         7         (HMW) will usually be spre   |   | 4<br>0<br>4<br>4<br>3<br>3<br>3<br>3<br>9   |           | 0           | 0       | 0                     | 4                     | 0        | (3)       |               | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                |
|   |   | 4<br>0<br>4<br>4<br>3<br>3<br>3<br>3<br>9<br>9  |           | 0           | 0       | 0                     | 4                     | 0        | (3)       |               | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                |
| 1 8 3 0 3 3 3 3 24 in the following pattern: Fa   |   | 4<br>0<br>0<br>4<br>4<br>4<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>9                            |           | 0           | 0       | 0<br>0<br>3<br>3<br>6 | 4                     | 0        | (3)<br>0  | (3)<br>0      | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                     |
|   | MW) will usually be s<br>the following pattern: | 4<br>0<br>0<br>4<br>4<br>3<br>3<br>4<br>3<br>3<br>3<br>9<br>9<br>22                           |           | 0           | 0       | 0                     | 4                     | 0        | (3)       |               | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                     |
| C1 & C2         U CORE - English Language         6         3         3         6   | MW) will usually be s<br>the following pattern: | 4<br>0<br>0<br>4<br>4<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>9<br>22<br>24<br>6 |           |             | 0       | 0                     | 4<br>4<br>0<br>0      |          |           |               | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>2<br>22-23<br>24<br>6 |
|   | MW) will usually be s<br>the following pattern: | 4<br>0<br>0<br>4<br>4<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>9<br>22<br>24<br>6 |           |             | 0       |                       | 4<br>4<br>9<br>0<br>0 |          |           |               | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>2<br>22-23<br>24<br>6 |
|   |   | 4 0 0 4 4 0 3 3 3 0 0 0 0 0 0 0 0 0 0 0   | 0         | 0           | 0       | 0                     | 4                     | 0        | (3)       | (3)           | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                |
|   | MW) will usually be s<br>the following pattern: | 4<br>0<br>0<br>4<br>4<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>22<br>22                |           | 0           | 0       | 0<br>0<br>3<br>3<br>6 | 4                     | 0        | (3)       | (3)<br>0<br>0 | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                                 |
| DRE         C1 & C2         U CORE - English Language         6         3         3         -         -         6           Sub-total for University CORE         30         4         11         3         0         3         3         3         30  | MW) will usually be s<br>the following pattern: | 4<br>0<br>0<br>4<br>4<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>9<br>22<br>24<br>6 |           |             | 0       |                       | 4<br>4<br>9<br>0<br>0 |          |           |               | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>2<br>22-23<br>24<br>6 |

\* Courses offered in winter term ^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 CIEV+AI (4Y) (2022-23 intake)

<< Declaration of major

| School:<br>Department:  |   | School of Engineering<br>Department of Civil and Environmental Engineering  |   |           |               |                       |               | Student's<br>Pathway |                   | - <sub>(</sub> | ay ratter     | •••  |   |
|---|---|---|---|-----------|---------------|-----------------------|---------------|----------------------|-------------------|----------------|---------------|--|---|
| rogram:   |   | BEng in Civil Engineering + Extended Major in Artificial Intellig   | ence  | Backgro   | und: HKI      | DSE 4 Co              |               | lec (incl.           |                   | ′S, 1/2x (     | CHEM)□        |  | -   |
|   |   |   |   | Profile:  | Normativ      | e. Stude              | nts to gra    | aduate in            | BEng Cl           | VL with F      | Research      | Option   |   |
| Course □<br>Dffering□   | Course Code   | Course Title / Courses List   |   |           |               |                       |               |                      |                   |                |               |  |   |
| Dept⊟<br>course code<br>orefix)   |   |   | Credits   | Year 1 Fa | Year 1 Spring | Year 2 Fa             | Year 2 Spring | Year 3 Fa            | Year 3 Spring     | Year 4 Fa      | Year 4 Spring | Sub-tota   |   |
| Major Req   | uirements   |   | dits  | Fall      | ing           | Fall                  | ing           | Fall                 | ing               | Fall           | ing           | otal   | Remarks   |
|   | undamental C  | OUISES  | 3-5   |           |               | -                     |               |                      |                   |                |               |  | 1   |
|   | □<br>1021□  | COMP 2012H Introduction to Computer Science   | 3   | 2         |               |                       |               |                      |                   |                |               | 2  |   |
| COMP<br>COMP<br>COMP  | 1022P<br>2011<br>2012H  | Introduction to Computing with Java⊡<br>Programming with C++⊡<br>Honors Object-Oriented Programming and Data Structures   | 3<br>4<br>5   | 3         |               |                       |               |                      |                   |                |               | 3  |   |
| CHEM  | 1020  | General Chemistry I   | 3   | 3         |               |                       |               |                      |                   |                |               | 3  |   |
| LANG<br>MATH D  | 2030  | Technical Communication I<br>Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND<br>(MATH 1014 OR MATH 1024)] OR [MATH 1020]   | 3<br>4-7  |           |               |                       | 3             |                      |                   |                |               | 3  |   |
| ⊔<br>MATH□<br>MATH□   | ⊔<br>1012□<br>1013□   | Calculus IA<br>Calculus IB  | 4<br>3  |           |               |                       |               |                      |                   |                |               |  |   |
| MATH<br>MATH<br>MATH  | 1014□<br>1020□<br>1023□   | Calculus II<br>Accelerated Calculus<br>Honors Calculus I  | 3<br>4<br>3   | 3         | 3             |                       |               |                      |                   |                |               | 6  |   |
| MATH  | 2011  | Honors Calculus II<br>Introduction to Multivariable Calculus  | 3   |           |               | 3                     |               |                      |                   |                |               | 3  |   |
| MATH  | 2350  | Applied Linear Algebra and Differential Equations Note: PHYS 1112 OR PHYS 1312  | 3   |           |               | 3                     |               |                      |                   |                |               | 3  |   |
| PHYS⊡<br>PHYS⊡<br>PHYS  | □<br>1112□<br>1312  | Note: PHYS 1112 OR PHYS 1312⊟<br>General Physics I with Calculus⊟<br>Honors General Physics I   | 3<br>3<br>3   | 3         |               |                       |               |                      |                   |                |               | 3  |   |
|   | Re  | quired credits for Engineering Fundamental Courses  | 22-27   | 12        | 3             | 6                     | 3             | 0                    | 0                 | 0              | 0             | 24   |   |
| Major Require   | ed Courses an   | Academic and Professional Development I   | 0   |           |               | 0                     | 0             | T                    |                   |                |               | 0  |   |
| CIVL  | 1100<br>2010  | Discovering Civil and Environmental Engineering<br>Academic and Professional Development II   | 3<br>0  |           | 3             |                       |               | 0                    | 0                 |                |               | 3  |   |
| CIVL  | 2020  | Industrial and BIM Training   | 0   |           |               |                       | 0*            |                      | -                 |                |               | 0  | Student should attend the training modules in Year 2                                      |
| CIVL  | 2110  | Statics   | 3   |           |               | 3                     |               |                      |                   |                |               | 3  | Winter and Spring terms.  |
| CIVL  | 2120<br>2160  | Mechanics of Materials<br>Modeling Systems with Uncertainties   | 3<br>3  |           |               | 3                     | 3             |                      |                   |                |               | 3  |   |
| CIVL  | 2170<br>2410  | Infrastructure Systems Engineering and Management<br>Environmental Assessment and Management  | 3<br>3  |           |               |                       | 3             | <b>_</b>             |                   |                |               | 3  |   |
| CIVL  | 2510<br>2810  | Fluid Mechanics<br>Construction Materials   | 3   |           |               |                       | 3             | 3                    |                   |                |               | 3  |   |
| CIVL  | 3010  | Academic and Professional Development III   | 0   |           |               |                       |               | 3                    |                   | 0              | 0             | 0  |   |
| CIVL  | 3020<br>3210  | Internship Training<br>Introduction to Construction Management  | 0<br>3  |           |               |                       |               |                      | 0^<br>3           |                |               | 0  |   |
| CIVL  | 3310<br>3320  | Structural Analysis<br>Reinforced Concrete Design   | 3   |           |               |                       |               | 3                    | 3                 |                |               | 3  |   |
| CIVL  | 3510<br>3610  | Hydrosystems Engineering<br>Traffic and Transportation Engineering  | 3<br>3  |           |               |                       |               | 3                    | 3                 |                |               | 3  |   |
| CIVL  | 3730<br>3740  | Fundamentals of Geotechnics   | 3   |           |               |                       |               | 3                    |                   |                |               | 3  |   |
|   | 3740  | Geotechnical Analysis and Design<br>Note: CIVL 4910 OR CIVL 4920 (Students taking the Research<br>Option must take CIVL 4920)   | 6   |           |               |                       |               |                      | 3                 |                |               | 3  |   |
|   | 4910□<br>4920   | Civil and Environmental Engineering Final Year Project<br>Civil and Environmental Engineering Final Year Thesis   | 6<br>6  |           |               |                       |               |                      |                   | 2              | 4             | 6  |   |
| CIVL<br>ENGG  | 4950<br>2010  | Civil Engineering Capstone Design Project<br>Engineering Seminar Series   | 3<br>0  |           |               | 0                     | 0             | 0                    | 0                 | 3              |               | 3  |   |
| LANG  | 4033  | Technical Communication II for Civil and Environmental Engineering  | 3   |           |               |                       |               |                      |                   | 3              |               | 3  |   |
| CIVL/SENG   |   | CIVL Electives (3 courses from the specified elective list)   | 9   |           |               |                       |               |                      |                   | 3              | 6             | 9  |   |
| Option Requi  |   | ed credits for Major Required Courses and Electives   | 66  | 0         | 3             | 6                     | 12            | 12                   | 12                | 11             | 10            | 66   |   |
| Research Option   |   | Note: CIVL 4900 OR UROP 1100  | 1-4   | 1         |               | !                     |               |                      |                   |                |               |  |   |
| CIVL DUROP  | 4900□<br>1100   | Directed Studies⊡<br>Undergraduate Research Opportunities Series 1<br>Advanced Electives (Courses at 4000- or PG level. Students should seek  | 1-4<br>1<br>3   |           |               |                       |               |                      |                   | 1              |               | 1  |   |
|   |   | approval of their advisor for the choices of courses.)  | Ŭ   |           |               |                       |               |                      |                   |                | 3             | 3  |   |
| Al Require  | ments   | Required credits for Research Option  | 4-7   | 0         | 0             | 0                     | 0             | 0                    | 0                 | 1              | 3             | 4  |   |
|   | ed Background   | Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230   |   |           |               |                       |               |                      |                   |                |               |  |   |
| COMPISOM  |   | Note: COMP TO2T OR COMP TO22P OR ISOM 3230  | 0   |           |               | _                     |               |                      |                   |                |               |  |   |
|   | 1021  | Introduction to Computer Science  | 3<br>3  | (3)       |               |                       |               |                      |                   |                |               | 0  |   |
| COMP<br>ISOM  | 1021<br>1022P<br>3230   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming  |   | (3)       |               |                       |               |                      |                   |                |               | 0  |   |
| COMP<br>ISOM<br>MATH  | 1022P<br>3230   | Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3<br>3<br>3<br>3-4  | (3)       |               |                       |               |                      |                   |                |               | 0  |   |
| COMP<br>ISOM  | 1022P   | Introduction to Computing with Java<br>Business Applications Programming  | 3<br>3<br>3   | (3)       | (3)           |                       |               |                      |                   |                |               | 0  |   |
| COMP<br>ISOM<br>MATH<br>MATH<br>MATH  | 1022P<br>3230<br>1014<br>1020   | Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus  | 3<br>3<br>3-4<br>3<br>4   | (3)       | (3)           |                       |               |                      |                   |                |               |  |   |
| COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>ISOM/MATH   | 1022P<br>3230<br>1014<br>1020   | Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II  | 3<br>3<br>3-4<br>3<br>4<br>3  | (3)       | (3)           |                       | 4             |                      |                   |                |               |  |   |
| COMP<br>SOM<br>MATH<br>MATH<br>MATH<br>ISOMMATH<br>ISOM<br>MATH   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>Require  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses   | 3<br>3<br>3-4<br>3<br>4<br>3<br>3-4<br>3-4<br>3   | (3)       | (3)           | 0                     | 4             | 0                    | 0                 | 0              | 0             | 0  |   |
| COMP<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOMMATH<br>ISOM<br>MATH  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411   | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses   | 3<br>3<br>3-4<br>3<br>4<br>3<br>-4<br>3<br>4  |           |               |                       |               | 0                    | 0                 | 0              | 0             | 0  |   |
| COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>ISOMMATH<br>ISOM<br>MATH<br>Major Require   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br><b>Require</b><br>ed Courses an  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives   | 3<br>3<br>3-4<br>3<br>4<br>3-4<br>3-4<br>3<br>4<br>9-11   |           |               | 0                     |               | 0<br>3               | 0                 | 0              | 0             | 0  |   |
| COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>ISOMMATH<br>ISOMMATH<br>Major Require<br>EMIA<br>EMIA<br>EMIA   | 1022P           3230           1014           1020           1024           2500           2411              2010A           2020   | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Business Statistics         Applied Statistics         d Credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Nete: COMP 2011 OR COMP 2012 OR COMP 2012H  | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>3<br>4-5  |           |               | 0                     |               |                      | 0                 | 0              | 0             | 0<br>4<br>4<br>0<br>3  |   |
| COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>ISOMMATH<br>ISOM<br>MATH<br>Major Require<br>EMIA<br>EMIA   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>Require<br>ed Courses an<br>2010A  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking   | 3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3-4<br>3<br>4<br>9-11  |           |               |                       |               |                      | 0                 | 0              | 0             | 0 4 4 0  |   |
| COMP ISOM MATH MATH MATH ISOMMATH ISOM MATH EMIA EMIA COMP COMP COMP COMP   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>2010A<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012   | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Crost-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence   | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4  |           |               | 0                     |               |                      | 0                 | 0              | 0             | 0<br>4<br>4<br>0<br>3  |   |
| COMP COMP COMP COMP COMP COMP COMP COMP   | 1022P           3230           1014           1020           1024           2500           2411           2010A           2010A           2020           2011           2012           2012           2012H           2211           3211   | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211  | 3<br>3-4<br>3-4<br>3<br>4<br>3-4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>5  |           |               | 0                     |               | 3                    | 0                 | 0              | 0             | 0<br>4<br>4<br>0<br>3<br>4                                       |   |
| COMP ISOM MATH MATH MATH ISOMMATH ISOM MATH ISOM MATH ISOM MATH COMP COMP COMP COMP COMP COMP COMP COMP   | 1022P           3230           1014           1020           1024           2500           2411           2010A           2020           2011           2012           2012           2012           2012           2012           2012+           2211           3211           4           4211           4110  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Porgramming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Net: COMP 4211 OR COMP3211         Exploring Artificial Intelligence         Net: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning  | 3<br>3<br>3-4<br>3<br>4<br>3-4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3   |           |               | 0                     |               | 3                    | 0                 | 0              | 0             | 0<br>4<br>4<br>0<br>3<br>4                                       |   |
| COMP SOM WATH WATH SOM WATH SOM WATH SOM MATH SOM MATH COMP COMP COMP COMP COMP COMP COMP COMP  | 1022P           3230           1014           1020           1024           2500           2411           Require           ed Courses an           2010A           2020           2011           2012           2012           2012           2012           2012           2111           4           4211  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Nete: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honers Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Evolarity Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning  | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3  |           |               | 0                     |               | 3                    |                   | 0              | 0             | 0<br>4<br>4<br>0<br>3<br>4<br>3                                  |   |
| COMP SOM WATH WATH SOM WATH SOM WATH SOM WATH SOM MATH COMP COMP COMP COMP COMP COMP COMP COMP  | 1022P           3230           1014           1020           1024           2500           2411           2010A           2020           2011           2012           2012           2012           2012           2012           2012+           2211           3211           4           4211           4110  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Cross-disciplinary Seminar In Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Evolomp 44110 OR MATH 4410 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project   | 3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  |           |               | 0                     |               | 3                    |                   | 0              | 0             | 0<br>4<br>4<br>0<br>3<br>4<br>3                                  |   |
| COMP ISOM MATH MATH MATH ISOMMATH ISOMMATH MATH MATH MATH ISOM MATH COMP COMP COMP COMP COMP COMP COMP COMP   | 1022P           3230           1014           1020           1024           2500           2411           2010A           2020           2011           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           4211           4100           4000 | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics <b>d credits for AI Recommended Background Courses d cross-</b> disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fractical Machine Learning   | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>9-11<br>0<br>3<br>4<br>5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0                             |           |               | 0                     |               | 3                    |                   | 0              |               | 0<br>4<br>4<br>3<br>4<br>3<br>3                                  |   |
| COMP SOM MATH WATH WATH SOM MATH SOM MATH SOM MATH COMP COMP COMP COMP COMP COMP COMP COMP  | 1022P           3230           1014           1020           1024           2500           2411           2010A           2020           2011           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           4211           4100           4000 | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Evoloming Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamental Sof Arti | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>9-11<br>0<br>3<br>4<br>5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |           |               | 0                     |               | 3                    |                   | 0              |               | 0<br>4<br>4<br>3<br>4<br>3<br>3                                  |   |
| COMP SOM WATH WATH WATH SOM WATH SOM WATH SOM MATH SOM MATH COMP COMP COMP COMP COMP COMP COMP COMP   | 1022P           3230           1014           1020           2411           Require           ed Courses an           2010A           2020           2011           2021           2012           2012H           2211           4           4211           4110           4231           4990           4991           Re                                      | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Nete: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Nete: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Net: COMP 2211 OR COMP3211                              | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3       |           |               | 0                     |               | 3                    | 3                 |                | 0             | 0<br>4<br>4<br>3<br>3<br>3<br>0                                  |   |
| COMP SOM WATH WATH WATH SOM WATH SOM WATH SOM MATH SOM MATH COMP COMP COMP COMP COMP COMP COMP COMP   | 1022P           3230           1014           1020           2411           2000           2010A           2020           2012           2012           2012           2012           2012           2012           2012           2111           4           4211           4110           4321           4990           4991                                  | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Nete: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Nete: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Net: COMP 2211 OR COMP3211                              | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3       |           | 0             | 0                     | 0             | 3 3 3 6              | 3                 | 3              | 0             | 0<br>4<br>4<br>3<br>3<br>3<br>3<br>0<br>9<br>22                  |   |
| COMP<br>SOM<br>WATH<br>WATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P<br>SOM/P | 1022P           3230           1014           1020           2500           2411           2020           2010A           2020           2011           2012           2012H           2111           411           4211           4110           4432           4990           4991           Re           CORE (Rev   | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Credits for AI Recommended Background Courses         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Art | 3<br>3<br>3<br>4<br>3<br>4<br>9-11<br>0<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                 | 0         | 0             | 0                     | 4             | 3                    | 3                 | 3              | 0             | 0<br>4<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>222<br>24 | The credit load of CORE19<br>(HMW) will usually be spre-<br>in the following pattern: Fai |
| COMP<br>SOM<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/AATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH<br>SOM/PENIA/MATH   | 1022P           3230           1014           1020           2411           2010A           2010A           2010A           2010A           2010A           2010A           2011           2012           211           4211           4100           4432           4990           4991           CORE (Rev           C3 - C12                                 | Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for AI Recommended Background Courses         d Credits for AI Recommended Background Courses         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Pogramming with C++         Object-Oriented Programming and Data Structures         Honte: COMP 2211 OR COMP3211         Eypointg Artificial Intelligence         Fundamentals of Artificial Intelligence         Ruchine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project                         | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  |           | 0             | 0<br>4<br>4<br>3<br>3 |               | 3 3 3 6              | 3 3 3 3 3 3 3 3 3 | 3              | 0             | 0<br>4<br>4<br>3<br>3<br>3<br>3<br>0<br>9<br>22                  | (HMW) will usually be spre  |

^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 CIVL+AI (4Y) (2022-23 intake)

<< Declaration of major

|   |   |  |  | ı        |                  | << De     | claratio     |                      | -            |             |              |                              |  |
|---|---|--|--|----------|------------------|-----------|--------------|----------------------|--------------|-------------|--------------|------------------------------|--|
| School:<br>Department:  |   | School of Engineering Department of Computer Science and Engineering   |  |          |                  |           |              | Student's<br>Pathway |              | s (i.e. Stu | dy Patter    | n)                           |  |
| Program:  |   | BEng in Computer Science + Extended Major in Artificial Intell   | igence   | Backgro  | und: 🗆           |           |              | uunuy                |              |             |              |                              | -  |
|   |   |  |  | Profile: |                  |           |              |                      |              |             |              |                              |  |
|   |   |  |  |          |                  |           |              |                      |              |             |              |                              |  |
| Course □<br>Dffering□   | Course Code   | Course Title / Courses List  |  |          |                  | i         |              |                      |              |             |              |                              |  |
| Dept⊡<br>course code  |   |  |  |          | Ye               | į         | Ye           |                      | Ye           |             | Ye           |                              |  |
| orefix)   |   |  | o  | Year 1   | Year 1 Sprir     | Year 2 Fa | Year 2 Sprir | Year 3 Fal           | Year 3 Sprin | Year 4      | Year 4 Sprin | Sub-tota                     |  |
|   |   |  | Credits  | 1 Fal    | pring            | 2 Fal     | pring        | 3 Fal                | pring        | 4 Fal       | pring        | -total                       | Remarks  |
| Major Requ  | uirements<br><sup>F</sup> undamental C  | 0.000  |  |          |                  |           |              |                      |              |             |              |                              |  |
| COMP<br>COMP<br>COMP  |   | Note: COMP 1021 OR COMP 1022P  | 3<br>3   | 3        |                  | I         |              |                      |              |             |              | 3                            |  |
| COMP<br>COMP<br>CHEM/LIFS/PHYS  | 10210<br>1022P  | Introduction to Computing with Java<br>Note: CHEM 1008 OR CHEM 1020 OR LIFS 1901 OR  | 3<br>3-4   | 5        |                  | <u>i</u>  |              |                      |              |             |              | 3                            |  |
|   | <br>1008□   | PHYS 1101 OR PHYS 1112 OR PHYS 1312<br>Introductory Chemistry  | 3  |          |                  | į         |              |                      |              |             |              |                              |  |
| CHEM III  | 1020<br>1901  | General Chemistry I⊡<br>General Biology I□   | 3<br>3   |          | 3                | !         |              |                      |              |             |              | 3                            |  |
| PHYS -<br>PHYS -  | 1101 II<br>1112 II  | Introductory Physics<br>General Physics I with Calculus  | 4  |          |                  | !         |              |                      |              |             |              |                              |  |
| PHYS<br>ANG   | 1312<br>2030  | Honors General Physics I<br>Technical Communication I  | 3  |          |                  | 3         |              |                      |              |             |              | 3                            |  |
|   |   | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND<br>(MATH 1014 OR MATH 1024)] OR [MATH 1020]   | 4-7  |          |                  |           |              |                      |              |             |              |                              |  |
| MATH□<br>MATH□<br>MATH□   | 1012<br>1013<br>1014  | Calculus IA<br>Calculus IB<br>Calculus II  | 4<br>3<br>3  | 3        | 3                | Ī         |              |                      |              |             |              | 6                            |  |
|   | 1020<br>1023  | Accelerated Calculus<br>Honors Calculus I  | 4  |          |                  | į         |              |                      |              |             |              |                              |  |
| MATH<br>MATH  | 1024<br>2111  | Honors Calculus II<br>Matrix Algebra and Applications  | 3  |          |                  | 3         |              |                      |              |             |              | 3                            |  |
| SENG  |   | Engineering Introduction course (COMP students may also use COMP<br>1022P to fulfill this requirement.)  | 3-4  |          |                  | !         |              |                      |              |             |              | 0                            |  |
|   | Rec   | uired credits for Engineering Fundamental Courses  | 19-24  | 6        | 6                | 6         | 0            | 0                    | 0            | 0           | 0            | 18                           |  |
|   | ed Courses an   | d Electives  |  | 0        | 0                | 0         | 0            | 0                    | 0            | 0           | 0            | 10                           |  |
|   |   | Note: [COMP 1991 AND (COMP 4981 OR COMP 4981H)]<br>OR [COMP 4910]<br>Industrial Experience   | 6  |          |                  | i         |              |                      |              |             |              |                              |  |
| COMP<br>COMP<br>COMP  | 1991<br>4910<br>4981  | Industrial Experience⊡<br>Co-op Program⊡<br>Final Year Project⊡  | 0<br>6<br>6  |          |                  | i         |              |                      |              | 3           | 3            | 6                            |  |
| COMP<br>COMP<br>COMP  | 4981<br>4981H   | Final Year Project<br>Final Year Thesis<br>Note: (COMP 2011 AND COMP 2012) OR COMP 2012H   | 6<br>6<br>5-8  |          |                  | <u> </u>  |              |                      |              |             |              |                              |  |
| COMP COMP   | 2011<br>2012  | Programming with C++□<br>Object-Oriented Programming and Data Structures□  | 4<br>4   |          |                  | 4         | 4            |                      |              |             |              | 8                            |  |
| COMP  | 2012H<br>2611   | Honors Object-Oriented Programming and Data Structures<br>Computer Organization  | 5<br>4   | ╘        |                  | L         | 4            |                      |              |             |              | 4                            |  |
|   | □<br>2711 □   | Note: COMP 2711 OR COMP 2711H<br>Discrete Mathematical Tools for Computer Science  | 4<br>4   |          |                  | 4         |              |                      |              |             |              | 4                            |  |
| COMP  | 2711H   | Honors Discrete Mathematical Tools for Computer Science<br>Note: COMP 3111 OR COMP 3111H□  | 4  |          |                  | :<br>I    |              | 4                    |              |             |              | <u> </u>                     |  |
| COMP<br>COMP<br>COMP  | 3111<br>3111H<br>3511   | Software Engineering⊡<br>Honors Software Engineering<br>Onerating Systeme  | 4<br>4<br>3  |          |                  | i<br>I    |              |                      |              |             |              | 4                            |  |
|   |   | Operating Systems Note: COMP 3711 OR COMP 3711H□ Design and Apalysis of Algorithms□  | 3-4  | ╟───     |                  | i –       | <u> </u>     | 3                    |              |             |              | 3                            |  |
| COMP<br>COMP<br>COMP  | 3711<br>3711H   | Design and Analysis of Algorithms<br>Honors Design and Analysis of Algorithms<br>Note: Students are required to take COMP 4900 for every regular   | 3<br>4<br>0  |          |                  | <u> </u>  |              | 3                    |              |             |              | 3                            |  |
|   |   | term in which they are in residency at HKUST with major  | 0  |          |                  | 0         | 0            | 0                    | 0            | 0           | 0            | 0                            |  |
| COMP<br>ELEC/IEDA/MATH  | 4900  | Academic and Professional Development<br>Note: ELEC 2600 OR ELEC 2600H OR IEDA 2520 OR   | 0<br>3-4   |          |                  |           |              |                      |              |             |              |                              |  |
| 3   |   | IEDA 2540 OR MATH 2411 OR MATH 2421 OR<br>MATH 2431  |  |          |                  | -         |              |                      |              |             |              |                              |  |
|   | 2600 □<br>2600H □<br>2520 □   | Probability and Random Processes in Engineering⊡<br>Honors Probability and Random Processes in Engineering□<br>Probability for Engineers⊡  | 4<br>4<br>3  |          |                  | i         | 4            |                      |              |             |              | 4                            |  |
|   | 2520□<br>2540□<br>2411□   | Statistics for Engineers   | 3 4  |          |                  | i         |              |                      |              |             |              |                              |  |
| MATH D  | 2421<br>2431  | Probability<br>Honors Probability  | 4  |          |                  | į         |              |                      |              |             |              |                              |  |
| ENGG<br>LANG  | 2010  | Engineering Semihar Series<br>Technical Communication II for CSE, CPEG & DSCT  | 0  |          |                  | 0         | 0            | 0                    | 0            |             |              | 0                            |  |
| COMP  | 4050  | COMP Electives (5 courses from the specified elective list, of which at least  | 15   |          |                  | <u> </u>  |              |                      |              | 3           |              | 3                            |  |
|   |   | 3 courses should be taken from 1 area and at least 2 courses outside that<br>area (including course(s) in the Courses Without Associated Area).<br>Students may use at most one course under Deep Learning Applications  |  |          |                  | !         |              |                      | 6            | 6           | 3            | 15                           |  |
|   |   | (COMP 4471 and COMP 5223) to count towards this elective requirement.)   |  |          |                  | {         |              |                      | Ŭ            | Ŭ           | Ŭ            |                              |  |
| COMP  |   | COMP 2000-level or above Elective (Any course(s) of the subject and level  | 3  |          |                  | i         |              |                      |              |             |              |                              |  |
|   | Be switz  | as specified)  |  |          |                  | i         |              |                      |              |             | 3            | 3                            |  |
| Al Require  |   | ed credits for Major Required Courses and Electives  | 53-58  | 0        | 0                | 8         | 12           | 10                   | 6            | 12          | 9            | 57                           |  |
|   | ed Background   |  | 2  |          |                  |           |              |                      |              |             |              |                              |  |
| COMPIISOM   | 1021  | Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science  | 3<br>3   |          |                  |           |              |                      |              |             |              |                              |  |
| COMP  | 1022P<br>3230   | Introduction to Computing with Java<br>Business Applications Programming   | 3  | (3)      |                  |           |              |                      |              |             |              | 0                            |  |
| MATH  |   | Note: MATH 1014 OR MATH 1020 OR MATH 1024  | 3-4  |          |                  | i         |              |                      |              |             |              |                              |  |
| MATH  | 1014  | Calculus II<br>Accelerated Calculus  | 3  |          | (3)              |           |              |                      |              |             |              | 0                            |  |
| MATH<br>MATH  | 1020<br>1024  | Accelerated Calculus<br>Honors Calculus II   | 4<br>3   |          | (0)              |           |              |                      |              |             |              |                              |  |
| SOM/MATH  |   | Note: ISOM 2500 OR MATH 2411   | 3-4  |          |                  |           |              |                      |              |             |              |                              |  |
| SOM<br>MATH   | 2500<br>2411  | Business Statistics<br>Applied Statistics  | 3<br>4   |          |                  |           | (4)          |                      |              |             |              | 0                            |  |
|   |   | d credits for Al Recommended Background Courses  | 9-11   | 0        | 0                | 0         | 0            | 0                    | 0            | 0           | 0            | 0                            |  |
| Major Require   | ed Courses an   |  |  |          |                  |           |              |                      |              |             |              |                              |  |
|   |   | Cross-disciplinary Seminar in Artificial Intelligence  | 0  |          |                  | 0         |              |                      |              |             |              | 0                            |  |
| EMIA  |   |  | 2  |          | 1 million (1997) |           |              |                      |              |             |              | 3                            |  |
| EMIA  | 2020  | Cross-disciplinary Design Thinking   | 3  |          |                  |           | 3            |                      |              |             |              |                              |  |
| EMIA  |   | Cross-disciplinary Design Thinking   |  |          |                  |           | 3            |                      |              |             |              |                              |  |
| EMIA  |   |  | 3<br>4-5<br>4  |          |                  | (4)       | 3            |                      |              |             |              | 0                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP  | 2020  | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H  | 4-5  |          |                  | (4)       | 3            |                      |              |             |              | 0                            |  |
| Imia<br>Imia<br>Iomp<br>Iomp<br>Iomp<br>Iomp  | 2020<br>2011<br>2012<br>2012H   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211   | 4-5<br>4<br>4<br>5   |          |                  | (4)       | 3            |                      |              |             |              |                              |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2011<br>2012<br>2012H<br>2012H<br>2211<br>3211  | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence  | 4-5<br>4<br>4<br>5<br>3  |          |                  | (4)       | 3            | 3                    |              |             |              | 0                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211   | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432  | 4-5<br>4<br>5<br>3<br>3  |          |                  | (4)       | 3            | 3                    |              |             |              | 3                            |  |
| MIA<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP/EMIA/MATH<br>COMP<br>COMP/EMIA/MATH  | 2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>3211<br>4211   | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning  | 4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3   |          |                  | (4)       | 3            | 3                    | 3            |             |              |                              |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP/EMIA/MATH<br>COMP<br>EMIA<br>AATH  | 2020<br>2011<br>2012<br>2012<br>2012H<br>2012H<br>2012H   | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning   | 4-5<br>4<br>5<br>3<br>3<br>3   |          |                  | (4)       | 3            | 3                    | 3            |             |              | 3                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>EMIA<br>MATH<br>EMIA<br>EMIA  | 2020<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>3211<br>4211<br>4432<br>4990                                     | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project   | 4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0  |          |                  | (4)       | 3            | 3                    | 3            |             | 0            | 3                            |  |
| EMIÀ<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP/EMIA/MATH<br>COMP<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>SBW/SENG/   | 2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>3211<br>4211<br>4110<br>4432   | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Mote: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Note: COMP 4211 OR EMIA 410 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;   | 4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3  |          |                  | (4)       | 3            | 3                    | 3            |             | 0            | 3                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>3211<br>4211<br>4432<br>4990                                     | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Atficial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;   | 4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                       |          |                  | (4)       | 3            | 3                    | 3            | 3           | 0            | 3                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991                                     | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;<br>students taking EMIA4991 should take a minimum of 6 credits   | 4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9                           |          |                  |           |              |                      | 3            |             | 3            | 3<br>3<br>0<br>9             |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991<br>4990                             | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Monors Object-Oriented Programming and Data Structures         Monors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;         students taking EMIA4991 should take a minimum of 6 credits         Al Electives         Quired credits for Al Required Courses and Electives | 4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                       | 0        | 0                | (4)       | 3            | 3                    |              | 3           |              | 3<br>3<br>0                  |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991                                     | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Monors Object-Oriented Programming and Data Structures         Monors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;         students taking EMIA4991 should take a minimum of 6 credits         Al Electives         Quired credits for Al Required Courses and Electives | 4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9                           | 0        | 0                |           |              |                      | 3            |             | 3            | 3<br>3<br>0<br>9             |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991<br>4990<br>4991<br>Ref<br>CORE (Rev | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Monors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;         students taking EMIA4991 should take a minimum of 6 credits         Al Electives         quired credits for Al Required Courses and Electives tamped)  | 4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 | 0        | 0                |           |              |                      | 3            |             | 3            | 3<br>3<br>0<br>9             | (HMW) will usually be spr  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2020<br>2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991<br>4990<br>4991<br>Ref<br>CORE (Rev | Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Monors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;         students taking EMIA4991 should take a minimum of 6 credits         Al Electives         quired credits for Al Required Courses and Electives tamped)  | 4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |          |                  | 0         | 3            | 3                    | 3            | 3           | 3            | 3<br>3<br>0<br>9<br>18       | The credit load of CORE1<br>(HMW) will usually be spr<br>in the following pattern: Fi<br>Spring: 2 |
| MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP | 2020<br>2020<br>2011<br>2012<br>2012<br>2012<br>2012<br>2012  | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project Note: Students taking EMIA4991 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits AI Electives Spuired credits for AI Required Courses and Electives amped) U CORE - Others   | 4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>-3<br>0<br>3<br>6-9<br>22-23<br>24   | 1        | 5                | 0         | 3            | 3                    | 3 6 3 3      | 3           | 3            | 3<br>3<br>0<br>9<br>18<br>24 | (HMW) will usually be spr<br>in the following pattern: Fa  |

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement.

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 COMP+AI (4Y) (2022-23 intake)

<> Declaration of major

| School:  |  | School of Engineering  |  | 1          |              |            |               | o <b>n of m</b><br>Student's | -                | s (i.e. Stu      | dy Patter    | n)                                |  |
|--|--|--|--|------------|--------------|------------|---------------|------------------------------|------------------|------------------|--------------|-----------------------------------|--|
| Department:<br>Program:  |  | Computer Engineering Program Office<br>BEng in Computer Engineering + Extended Major in Artificial   |  | Backgro    | und: HKI     | DSE 4 Co   |               | Pathway<br>ec (incl. 1       |                  | S) []            | -            |                                   |  |
| rogram:  |  | Intelligence   |  |            |              |            |               | -                            |                  | S)⊡<br>EG with F | Research     | Option                            |  |
|  |  |  |  |            |              |            | 5             |                              | 5                |                  |              |                                   |  |
| Course □<br>Dffering□  | Course Code  | Course Title / Courses List  |  |            |              |            |               |                              |                  |                  |              |                                   |  |
| Dept<br>course code  |  |  |  |            | Ye           |            | Ye            |                              | Ye               |                  | Ye           |                                   |  |
| orefix)  |  |  | Credi  | Year 1 Fal | rear 1 Sprin | Year 2 Fal | Year 2 Spring | Year 3 Fal                   | Year 3 Spring    | Year 4 Fal       | Year 4 Sprin | Sub-tota                          |  |
| Major Requ   | irements   |  | dits   | Fall       | ring         | Fall       | ring          | Fall                         | ring             | Fall             | ring         | otal                              | Remarks  |
|  | undamental Co  | UISES<br>Note: COMP 1021 OR COMP 1022P   | 3  | 1          |              |            |               |                              |                  |                  |              |                                   |  |
| COMP COMP  | 1021<br>1022P  | Introduction to Computer Science   | 3<br>3   | 3          |              |            |               |                              |                  |                  |              | 3                                 |  |
| ANG  | 2030   | Technical Communication I  | 3  |            |              |            | 3             |                              |                  |                  |              | 3                                 |  |
| MATH ::<br>MATH ::   | <br>1012_  | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND⊡<br>(MATH 1014 OR MATH 1024)] OR [MATH 1020]⊡<br>Calculus IA⊡   | 4-7<br>4   |            |              |            |               |                              |                  |                  |              |                                   |  |
| AATH ::<br>AATH ::<br>AATH ::  | 1013<br>1014<br>1020   | Calculus IB⊟<br>Calculus II⊡<br>Accelerated Calculus⊡  | 3<br>3<br>4  | 3          | 3            |            |               |                              |                  |                  |              | 6                                 |  |
| MATH III<br>MATH IIII<br>MATH  | 1020<br>1023<br>1024   | Accelerated Carculus<br>Honors Calculus II<br>Honors Calculus II   | 4<br>3<br>3  |            |              |            |               |                              |                  |                  |              |                                   |  |
| MATH   | 2011   | Introduction to Multivariable Calculus   | 3  |            |              |            |               | 3                            |                  |                  |              | 3                                 |  |
|  | 2111<br>   | Matrix Algebra and Applications Note: PHYS 1112 OR PHYS 1312 Concert Physics Instead to Calculate  | 3  |            |              | 3          |               |                              |                  |                  |              | 3                                 |  |
| PHYS⊡<br>PHYS  | 1312<br>1312   | General Physics I with Calculus⊡<br>Honors General Physics I   | 3<br>3   | 3          |              |            |               |                              |                  |                  |              | 3                                 |  |
| PHYS⊡<br>PHYS⊡<br>PHYS   | □<br>1114□<br>1314   | Note: PHYS 1114 OR PHYS 1314⊟<br>General Physics II⊡<br>Honors General Physics II  | 3<br>3<br>3  |            | 3            |            |               |                              |                  |                  |              | 3                                 |  |
| SENG   | 1314   | Engineering Introduction course (If the students take an introduction course   | 3-4  |            |              |            |               |                              |                  |                  |              |                                   |  |
|  |  | included in their major, this course can be counted towards their major<br>requirement.)   |  |            | 3            |            |               |                              |                  |                  |              | 3                                 |  |
|  |  | lired credits for Engineering Fundamental Courses  | 25-29  | 9          | 9            | 3          | 3             | 3                            | 0                | 0                | 0            | 27                                |  |
| Major Required<br>PEG  | d Courses and  | Electives           Note:         [CPEG 1971 AND (CPEG 4901 OR CPEG 4902 OR]           CPEG 4911 OR CPEG 4912)         OR [CPEG 4910] (Students]   | 6  |            |              |            |               |                              |                  |                  |              |                                   |  |
| 1  |  | taking the Research Option must take either CPEG 4902 or⊡<br>CPEG 4912)⊡   |  |            |              |            |               |                              |                  |                  |              |                                   |  |
| CPEG<br>CPEG<br>CPEG   | 1971   | Industrial Experience□<br>Computer Engineering Final Year Project in COMP□<br>Computer Engineering Final Year Thesis in COMP□  | 0<br>6<br>6  |            |              |            |               |                              |                  | 3                | 3            | 6                                 |  |
| CPEG<br>CPEG<br>CPEG   | 4910□<br>4911□<br>4912   | Co-op Program<br>Computer Engineering Final Year Project in ELEC<br>Computer Engineering Final Year Thesis in ELEC   | 6<br>6   |            |              |            |               |                              |                  |                  |              |                                   |  |
| PEG  | 2930   | Academic and Professional Development I  | 0  |            |              | 0          | 0             |                              |                  |                  |              | 0                                 |  |
|  | 3930<br>   | Academic and Professional Development II Note: (COMP 2011 AND COMP 2012) OR COMP 2012H Programming with C++  | 0<br>5-8<br>4  |            |              |            |               | 0                            | 0                |                  |              | 0                                 |  |
| COMP COMP  | 2012<br>2012<br>2012H  | Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures   | 4<br>4<br>5  |            |              | 4          |               | 4                            |                  |                  |              | 8                                 |  |
| COMP/ELEC  | □<br>2611□   | Note: COMP 2611 OR ELEC 2350 Computer Organization   | 4  |            |              |            | 4             |                              |                  |                  |              | 4                                 |  |
| ELEC<br>COMP/ELEC<br>COMP  | 2350<br>2711   | Introduction to Computer Organization and Design<br>Note: COMP 2711 OR COMP 2711H OR ELEC 2600<br>Discrete Mathematical Tools for Computer Science   | 4  |            |              |            |               |                              |                  |                  |              |                                   |  |
|  | 2711H<br>2600  | Honors Discrete Mathematical Tools for Computer Science<br>Probability and Random Processes in Engineering   | 4  |            |              |            |               | 4                            |                  |                  |              | 4                                 |  |
| COMP   | 3511<br>1100   | Operating Systems<br>Introduction to Electro-Robot Design  | 3  |            |              | 4          |               |                              | 3                |                  |              | 3<br>4                            |  |
| ELEC   |  | Note: ELEC 1200 OR ELEC 2100 OR ELEC 2400 (2 out   | 8  |            |              | 4          |               |                              |                  |                  |              | 4                                 |  |
|  | 1200<br>2100<br>2400   | A System View of Communications: from Signals to Packets⊡<br>Signals and Systems⊡<br>Electronic Circuits   | 4<br>4<br>4  |            |              |            | 8             |                              |                  |                  |              | 8                                 |  |
| ELEC   | 3300   | Introduction to Embedded Systems   | 4  |            |              |            |               |                              | 4                |                  |              | 4                                 |  |
|  | 2010   | Engineering Seminar Series Note: LANG 4030 OR LANG 4031  | 0  |            |              | 0          | 0             | 0                            | 0                |                  |              | 0                                 |  |
| ANG<br>ANG<br>COMP/ELEC  | 4030□<br>4031  | Technical Communication II for CSE, CPEG & DSCT<br>Technical Communication II for ECE & CPEG<br>CPEG Restricted Elective (1 course from the specified elective list. The   | 3<br>3<br>3  |            |              |            |               |                              |                  | 3                |              | 3                                 |  |
| JOMP/ELEC  |  | course taken as Restricted Elective (i course from the specified elective list. The<br>course taken as Restricted Elective may not be counted towards the<br>requirement under "Area Courses".)  | 3  |            |              |            |               |                              |                  |                  | 3            | 3                                 |  |
| COMP/ELEC/ENGG   |  | Area Courses (At least 2 courses should be taken from one single area and  | 15   |            |              |            |               |                              |                  |                  |              |                                   | The 15 credits are divided   |
|  |  | at least 2 courses outside that area. Courses taken as Major Required<br>Courses may not be counted towards the elective requirement.)   |  |            |              |            |               |                              | 3                | 6                | 6            | 15                                | courses with each course<br>carries 3 credits.   |
| Option Require   |  | credits for Major Required Courses and Electives   | 59-62  | 0          | 0            | 8          | 12            | 8                            | 10               | 12               | 12           | 62                                |  |
| Research Option  | 1  | CPEG Electives (1 PG-level course as approved by advisor)  | 3  | 1          |              |            |               |                              |                  |                  |              |                                   |  |
| COMP/ELEC/UROP   |  | Research Electives [Students should take either (ELEC 5900 AND UROP  | 2-3  |            |              |            |               |                              |                  | 3                |              | 3                                 |  |
|  |  | 1100) or a 3-credit COMP 5000-level course to fulfill this requirement.]   |  |            |              | [1]        | [1]           | 1                            | 1                | [3]              |              | 2                                 |  |
| Al Requiren  | nents  | Required credits for Research Option   | 5-6  | 0          | 0            | 0          | 0             | 1                            | 1                | 3                | 0            | 5                                 |  |
| Recommended  | d Background   | Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 3  |            |              |            |               |                              |                  |                  |              |                                   |  |
| COMP   | 1021<br>1022P  | Introduction to Computer Science<br>Introduction to Computing with Java  | 3<br>3   | (3)        |              |            |               |                              |                  |                  |              | 0                                 |  |
| SOM<br>MATH  | 3230   | Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3<br>3-4   |            |              |            |               |                              |                  |                  |              |                                   |  |
| ИАТН<br>ИАТН   | 1014<br>1020   | Calculus II<br>Accelerated Calculus  | 3  |            | (3)          |            |               |                              |                  |                  |              | 0                                 |  |
| MATH<br>SOM/MATH   | 1024   | Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411   | 3<br>3-4   |            |              |            |               |                              |                  |                  |              |                                   |  |
| SOM<br>MATH  | 2500<br>2411   | Business Statistics<br>Applied Statistics  | 3  |            |              |            | (4)           |                              |                  |                  |              | 0                                 |  |
|  | Required   | credits for Al Recommended Background Courses  | 9-11   | 0          | 0            | 0          | 0             | 0                            | 0                | 0                | 0            | 0                                 |  |
| Anior Doguiro  | u Courses and  |  | 0  | <b>I</b>   |              | 0          |               |                              |                  |                  |              | 0                                 |  |
| EMIA   | 2010A  | Cross-disciplinary Seminar in Artificial Intelligence  |  |            |              | 3          |               |                              |                  |                  |              | 3                                 |  |
| EMIA<br>EMIA   |  | Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H  | 3<br>4-5   |            |              |            |               |                              |                  |                  |              |                                   |  |
| Major Required<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP   | 2010A<br>2020<br>2011<br>2012  | Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures  | 3<br>4-5<br>4<br>4   |            |              | (4)        |               |                              |                  |                  |              | 0                                 |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2010A<br>2020<br>2011<br>2012<br>2012H   | Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP3211  | 3<br>4-5<br>4  |            |              | (4)        |               |                              |                  |                  |              | 0                                 |  |
| MA<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 2010A<br>2020<br>2011<br>2012  | Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures  | 3<br>4-5<br>4<br>4   |            |              | (4)        |               | (3)                          |                  |                  |              | 0                                 |  |
| MIA<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432   | 3<br>4-5<br>4<br>5<br>3<br>3   |            |              | (4)        |               | (3)                          |                  |                  |              |                                   |  |
| IMA<br>IMA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP/EMIA/MATH<br>COMP   | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning   | 3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3  |            |              | (4)        |               | (3)                          | (3)              |                  |              |                                   |  |
| IMA<br>IMA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP/EMIA/MATH<br>COMP/EMIA/MATH<br>COMP   | 2010A<br>2020<br>2011<br>2012<br>2012H<br>2012H<br>2012H<br>2211<br>3211<br>4211   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3   |            |              | (4)        |               | (3)                          |                  |                  |              | 0                                 |  |
|  | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project   | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3  |            |              | (4)        |               | (3)                          | (3)              |                  |              | 0                                 |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP   | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0  |            |              | (4)        |               |                              |                  |                  |              | 0<br>0<br>0                       |  |
| IMA<br>IMA<br>IMA<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP  | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991                                   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project Interdisciplinary Capstone Project Note: Students taking EMIA4991 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits Al Electives  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9                                      |            |              |            |               | 3                            | 0                | 3                | 3            | 0 0 0 0 9                         |  |
| IMA<br>IMA<br>IMA<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP  | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991                                   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Tractical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capst | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3  | 0          | 0            | (4)        | 0             |                              |                  | 3                | 3            | 0<br>0<br>0                       |  |
| IMA<br>IMA<br>IMA<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP  | 2010A<br>2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4432<br>4990<br>4991<br>Reqi   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Tractical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capst | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9                                      | "<br>      | <u>.</u>     | 3          |               | 3                            | 0                |                  | 3            | 0<br>0<br>0<br>9<br>12            | (HMW) will usually be spr  |
| MIA<br>MIA<br>MIA<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4990<br>4991<br>CORE (Reva<br>C3 - C12 | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project Interdisciplinary EMIA4991 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits A Leictives Lired Credits for Al Required Courses and Electives II CORE - Others  | 3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9<br>22-23<br>24        | 0          | 0            |            | 0             | 3                            | 0                |                  |              | 0 0 0 0 9                         | (HMW) will usually be spr  |
| MIA<br>MMA<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP   | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991<br>Req<br>CORE (Reva              | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project Interdisciplinary Capstone Project students taking EMIA4990 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits AI Electives Jirred credits for AI Required Courses and Electives amped)   | 3<br>4-5<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0-3<br>0<br>3<br>6-9<br>22-23                           | "<br>      | <u>.</u>     | 3          |               | 3                            | 0                |                  | 3            | 0<br>0<br>0<br>9<br>12            | The credit load of CORE:<br>(HMW) will usually be spr<br>in the following pattern: Fr<br>Spring: 2 |
| MIA<br>MIA<br>DMP<br>DMP<br>DMP<br>DMP<br>DMP<br>DMP<br>DMP<br>DMP<br>DMP<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>DMP<br>SMVSENG/<br>SC/IPO | 2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4990<br>4991<br>CORE (Reva<br>C3 - C12 | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project At Electives Interdisciplinary EMIA4991 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits; At Electives Interdisciplinary Capstone Project ID CORE - English Language  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0-3<br>0-3<br>0-3<br>0-3<br>22-23<br>24<br>24<br>6 | 1          | 5            | 3          | 3             | 3                            | 0<br>0<br>6<br>6 | 3                | 3            | 0<br>0<br>0<br>9<br>12<br>24<br>6 | (HMW) will usually be spr<br>in the following pattern: F   |

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement. >> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 CPEG+AI (4Y) (2022-23 intake)

#### The Hong Kong University of Science and Technology School of Engineering

An Example on Student's Pathway (as of Fall 2022-23)

<< Declaration of major

| School:  |   |   |   |                 |              | << De      | claratio     | on of m                | ajor          |             |              |  |  |
|--|---|---|---|-----------------|--------------|------------|--------------|------------------------|---------------|-------------|--------------|--|--|
|  |   | School of Engineering   |   |                 |              |            |              |                        | Pathways      | s (i.e. Stu | dy Patte     | rn)                                    |  |
| Department:<br>Program:  |   | Department of Industrial Engineering and Decision Analytics<br>BEng in Decision Analytics + Extended Major in Artificial Inte   | lligence  | Backgro         | und: HKI     | DSE 4 Co   |              | Pathway<br>ec (incl. 1 |               | S)□         |              |  | ł  |
|  |   |   |   | □<br>Profile: N |              |            |              | (1101.                 |               | -,          |              |  |  |
|  |   |   |   | Profile: r      | vormative    | e          |              |                        |               |             |              |  |  |
| Course 🗆   | Course Code   | Course Title / Courses List   |   |                 |              |            |              |                        |               |             |              |  |  |
| Offering□  | Course Code   |   |   |                 |              | į          |              |                        |               |             |              |  |  |
| Dept⊡<br>(course code  |   |   |   |                 | Ye           | į          | Ye           |                        | Ye            |             | Ye           |  |  |
| orefix)  |   |   | c   | Year 1 Fa       | Year 1 Sprin | Year 2 Fal | Year 2 Sprin | Year 3                 | ar 3 S        | Year 4      | Year 4 Sprin | Sub                                    |  |
|  |   |   | Credits   | 1 Fal           | spring       | 2 Fal      | spring       | 3 Fal                  | Year 3 Spring | 4 Fal       | pring        | Sub-tota                               | Remarks  |
| Major Requ   | uirements   | 1   |   | _               | 9            |            | ų            | _                      | 9             |             |              |  | •  |
| Engineering F  | undamental Co   | DUISES<br>Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR   | 3-5   | 11              |              | ·          |              |                        |               |             |              |  | 1  |
|  | <br>1021  | COMP 2012H Introduction to Computer Science I   | 3   |                 |              | <br>:      |              |                        |               |             |              | _                                      |  |
|  | 1022P□<br>2011□   | Introduction to Computing with Java<br>Programming with C++   | 3 4   | 3               |              | !          |              |                        |               |             |              | 3                                      |  |
| COMP<br>CHEM/PHYS  | 2012H   | Honors Object-Oriented Programming and Data Structures Note: CHEM 1020 OR PHYS 1112 OR PHYS 1312  | 5   |                 |              | !<br>:     |              |                        |               |             |              |  |  |
| CHEMO<br>PHYSO   | _<br>1020 □<br>1112 □   | General Chemistry I□<br>General Physics I with Calculus□  | 3   | 3               |              |            |              |                        |               |             |              | 3                                      |  |
| PHYS<br>LANG   | 1312<br>2030  | Honors General Physics I<br>Technical Communication I   | 3   |                 |              | 3          |              |                        |               |             |              | 3                                      |  |
| MATH   |   | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND  | 4-7   |                 |              |            |              |                        |               |             |              | 5                                      |  |
| MATH   | □<br>1012□  | (MATH 1014 OR MATH 1024)] OR [MATH 1020]□<br>Calculus IA□   | 4   |                 |              | 1          |              |                        |               |             |              |  |  |
| MATH D   | 1013□<br>1014□  | Calculus IB□<br>Calculus II□  | 3   | 3               | 3            | i          |              |                        |               |             |              | 6                                      |  |
|  | 1020□<br>1023□  | Accelerated Calculus<br>Honors Calculus I   | 4   |                 |              | i          |              |                        |               |             |              |  |  |
| MATH<br>MATH   | 1024<br>2011  | Honors Calculus II<br>Introduction to Multivariable Calculus  | 3<br>3  |                 |              | :<br>I     | 3            |                        |               |             |              | 3                                      |  |
| MATH   | 2111  | Matrix Algebra and Applications   | 3   |                 |              | 3          |              |                        |               |             |              | 3                                      |  |
| BENG   |   | Engineering Introduction course (If the students take an introduction course<br>included in their major, this course can be counted towards their major   | 3-4   |                 | 3            | l          |              |                        |               |             |              | 3                                      |  |
|  |   | requirement.)   |   |                 | 9            | i          |              |                        |               |             |              | 0                                      |  |
|  |   | uired credits for Engineering Fundamental Courses   | 22-28   | 9               | 6            | 6          | 3            | 0                      | 0             | 0           | 0            | 24                                     |  |
| EDA  | d Courses and   | Academic and Professional Development I   | 0   | II              |              | 0          | 0            |                        |               |             |              | 0                                      |  |
| EDA  | 1020  | Academic and Professional Development II  | 0   |                 |              | į          |              | 0                      | 0             |             |              | 0                                      |  |
| EDA<br>EDA   | 1901<br>2520  | Industrial Training and Experience Probability for Engineers  | 0   |                 |              | 0*<br>3    | 0^           |                        |               |             |              | 0                                      |  |
| EDA  | 2540  | Statistics for Engineers  | 3   |                 |              |            | 3            |                        |               |             |              | 3                                      |  |
| EDA  | 3010  | Prescriptive Analytics  | 3   |                 |              | <u>[</u>   |              | 3                      |               |             |              | 3                                      |  |
| EDA<br>EDA   | 3230<br>3250  | Engineering Economics and Accounting Stochastic Models  | 3   |                 |              | <u>i</u>   | 3            | 3                      |               |             |              | 3                                      |  |
| EDA  | 3300  | Industrial Data Systems   | 3   | ·               |              | <u> </u>   | 3            | 5                      |               |             |              | 3                                      |  |
| EDA  | 3560  | Predictive Analytics  | 3   |                 |              | į          |              |                        | 3             |             |              | 3                                      |  |
|  | ⊔<br>4901□  | Note: IEDA 4901 OR IEDA 4920⊡<br>Final Year Thesis⊡<br>Decision Analytics Final Year Project  | 6   |                 |              | !          |              |                        |               | 3           | 3            | 6                                      |  |
| EDA<br>ENGG  | 4920<br>2010  | Engineering Seminar Series  | 6<br>0  |                 |              | 0          | 0            | 0                      | 0             |             |              | 0                                      |  |
|  | □<br>2103□  | Note: ECON 2103 OR ECON 2113□<br>Principles of Microeconomics□  | 3<br>3  |                 |              | ļ          |              | 3                      |               |             |              | 3                                      |  |
| ECON<br>LANG   | 2113<br>4032  | Microeconomics<br>Technical Communication II for IEDA and ISDN  | 3   |                 |              | ļ          |              |                        | 3             |             |              | 3                                      |  |
| EDA/ISOM   |   | Area Electives (5 courses from the specified elective list, of which all 5<br>courses should be taken from the same area)   | 15  |                 |              | <b> </b>   |              |                        |               |             |              |  |  |
|  |   |   |   |                 |              | ļ<br>      |              | 3                      | 6             | 6           |              | 15                                     |  |
| Al Require   |   | d credits for Major Required Courses and Electives  | 48  | 0               | 0            | 3          | 9            | 12                     | 12            | 9           | 3            | 48                                     |  |
|  | d Background  | Courses   |   |                 |              |            |              |                        |               |             |              |  |  |
| COMP/ISOM  |   | Note: COMP 1021 OR COMP 1022P OR ISOM 3230  | 3   |                 |              |            |              |                        |               |             |              |  |  |
| COMP<br>COMP   | 1021<br>1022P   | Introduction to Computer Science<br>Introduction to Computing with Java   | 3<br>3  | (3)             |              |            |              |                        |               |             |              | 0                                      |  |
| SOM  | 3230  | Business Applications Programming   | 3   |                 |              |            |              |                        |               |             |              |  |  |
| MATH   |   | Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3-4   |                 |              |            |              |                        |               |             |              |  |  |
| MATH<br>MATH   | 1014<br>1020  | Calculus II<br>Accelerated Calculus   | 3<br>4  |                 | (3)          | i          |              |                        |               |             |              | 0                                      |  |
| MATH   | 1024  | Honors Calculus II  | 3   |                 |              | i          |              |                        |               |             |              |  |  |
| ISOM/MATH  |   | Note: ISOM 2500 OR MATH 2411  | 3-4   |                 |              | i          |              |                        |               |             |              |  |  |
| ISOM<br>MATH   | 2500<br>2411  | Business Statistics<br>Applied Statistics   | 3<br>4  |                 |              | i          | (4)          |                        |               |             |              | 0                                      |  |
|  |   | credits for Al Recommended Background Courses   |   | 0               | 0            | 0          | 0            | 0                      | 0             | 0           | 0            | 0                                      |  |
| Maior Require  | d Courses and   |   | 9-11  |                 | 0            | 0          | 0            | 0                      | 0             | 0           | 0            | 0                                      |  |
| nujor recyulio   | 2010A   | Cross-disciplinary Seminar in Artificial Intelligence   |   |                 |              | -          | 1            |                        |               |             |              | 0                                      |  |
|  | 2010A   |   | 0   |                 |              | 0          |              |                        |               |             |              |  |  |
| EMIĂ   | 2020  | Cross-disciplinary Design Thinking  | 0<br>3  |                 |              | 0          |              | 3                      |               |             |              | 3                                      |  |
| EMIA   |   |   |   |                 |              | 0          |              | 3                      |               |             |              | 3                                      |  |
|  | 2020  | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++  | 3<br>4-5<br>4   |                 |              | 0<br>4     |              | 3                      |               |             |              | 3                                      |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP   | 2020  | Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures   | 3<br>4-5  |                 |              |            |              | 3                      |               |             |              |  |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012<br>2012H   | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence   | 3<br>4-5<br>4<br>4  |                 |              |            |              | 3                      |               |             |              |  |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012H<br>2211<br>3211   | Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211  | 3<br>4-5<br>4<br>4<br>5   |                 |              |            |              |                        |               |             |              | 4                                      |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP/EMIA/MATH<br>COMP   | 2020<br>2011<br>2012<br>2012н<br>2211<br>3211<br>4211   | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3   |                 |              |            |              |                        | 3             |             |              | 4<br>3                                 |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012H<br>2211<br>3211   | Cross-disciplinary Design Thinking  Note: COMP 2011 OR COMP 2012 OR COMP 2012H  Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432  | 3<br>4-5<br>4<br>5<br>3<br>3  |                 |              |            |              |                        | 3             |             |              | 4                                      |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110   | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning  | 3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3  |                 |              |            |              |                        | 3             |             |              | 4<br>3                                 |  |
| Emia<br>Emia<br>Comp<br>Comp<br>Comp<br>Comp<br>Comp<br>Comp<br>Emia<br>Comp<br>Emia<br>Emia<br>Emia   | 2020<br>2011<br>2012<br>2012H<br>22111<br>3211<br>4211<br>4110<br>4432<br>4990  | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project   | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0   |                 |              |            |              |                        | 3             |             | 0            | 4<br>3                                 |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>EMIA<br>MATH<br>EMIA<br>EMIA<br>EMIA<br>EMIA   | 2020<br>2011<br>2012<br>2012н<br>2211<br>3211<br>4211<br>4110<br>4432   | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991  | 3<br>4-5<br>4<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3                                      |                 |              |            |              |                        | 3             |             | 0            | 4<br>3<br>3                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012H<br>22111<br>3211<br>4211<br>4110<br>4432<br>4990  | Cross-disciplinary Design Thinking         Rote: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                 |                 |              |            |              |                        | 3             | 3           | 0            | 4<br>3<br>3                            |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>EMIA<br>COMP/EMIA/MATH<br>COMP<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>EMIA   | 2020<br>2011<br>2012<br>2012H<br>22111<br>3211<br>4211<br>4110<br>4432<br>4990  | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;   | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3                                 |                 |              |            |              |                        | 3             | 3           |              | 4<br>3<br>3<br>0                       |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991<br>4990<br>4991   | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;         students taking EMIA4991 should take a minimum of 6 credits         Al Electives         uired credits for Al Required Courses and Electives   | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9                     | 0               | 0            |            | 0            |                        | 3             | 3           |              | 4<br>3<br>3<br>0                       |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4990<br>4991<br>8990<br>4991<br>8990<br>4991<br>800<br>6000000000000000000000000000000000  | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project Note: Students taking EMIA4990 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits AI Electives uired credits for AI Required Courses and Electives amped)  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9<br>22-23                           | 0               | 0            | 4          | 0            | 3                      |               |             | 6            | 4<br>3<br>3<br>0<br>9                  |  |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4991<br>4990<br>4991   | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;         students taking EMIA4991 should take a minimum of 6 credits         Al Electives         uired credits for Al Required Courses and Electives   | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9                     | 0               | 0            | 4          | 0            | 3                      |               |             | 6            | 4<br>3<br>3<br>0<br>9                  | The credit load of CORE1<br>(HWW) will usually be sor      |
| EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 2020<br>2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4990<br>4991<br>8990<br>4991<br>8990<br>4991<br>800<br>6000000000000000000000000000000000  | Cross-disciplinary Design Thinking Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211 Exploring Artificial Intelligence Fundamentals of Artificial Intelligence Note: COMP 4211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Statistical Machine Learning Note: EMIA 4990 OR EMIA 4991 Interdisciplinary Capstone Project Interdisciplinary Capstone Project Note: Students taking EMIA4990 should take a minimum of 9 credits; students taking EMIA4991 should take a minimum of 6 credits AI Electives uired credits for AI Required Courses and Electives amped)  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9<br>22-23                           |                 |              | 4          |              | 6                      | 3             | 3           | 6            | 4<br>3<br>3<br>0<br>9<br>22            | (HMW) will usually be spre<br>in the following pattern: Fa |
| IMIA<br>IMIA<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP<br>IOMP   | 2020<br>2020<br>2011<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4110<br>4432<br>4990<br>4990<br>4991<br>8990<br>4991<br>8990<br>4991<br>800<br>6000000000000000000000000000000000  | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;<br>students taking EMIA4991 should take a minimum of 6 credits         Al Electives         uired credits for Al Required Courses and Electives         amped)         U CORE - Others         U CORE - English Language | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9<br>22-23<br>24<br>6 | 1               | 8            | 4          |              | 6                      | 3             | 3           | 6            | 4<br>3<br>3<br>0<br>9<br>22<br>24<br>6 | (HMW) will usually be spre                                 |
| IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA<br>IMIA | 2020           2011           2012           2012           2012           2012           2012           2012           2012           4211           4211           4432           4990           4991           Req           CORE (Revail           C3 - C12 | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;<br>students taking EMIA4991 should take a minimum of 6 credits         Al Electives         uired credits for Al Required Courses and Electives         amped)         U CORE - Others  | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9<br>22-23<br>24           | 1               | 8            | 4          | 3            | 3<br>6<br>0            | 3<br>0        | 3           | 6            | 4<br>3<br>3<br>0<br>9<br>22<br>24      | (HMW) will usually be spre<br>in the following pattern: Fa |
| MIA<br>MIA<br>OMP<br>OMP<br>OMP<br>OMP<br>OMP/EMIA/MATH<br>OMP<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA<br>MIA   | 2020           2011           2012           2012           2012           2012           2012           2012           2012           4211           4211           4432           4990           4991           Req           CORE (Revail           C3 - C12 | Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project         Note: Students taking EMIA4991 should take a minimum of 9 credits;<br>students taking EMIA4991 should take a minimum of 6 credits         Al Electives         uired credits for Al Required Courses and Electives         amped)         U CORE - Others         U CORE - English Language | 3<br>4-5<br>4<br>5<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>0-3<br>0<br>3<br>6-9<br>22-23<br>24<br>6 | 1               | 8            | 4          | 3            | 3<br>6<br>0            | 3<br>0        | 3           | 6            | 4<br>3<br>3<br>0<br>9<br>22<br>24<br>6 | (HMW) will usually be sprin the following pattern: Fa      |

^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement.

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

#### 2022-23 DA+AI (4Y) (2022-23 intake)

<< Declaration of major

| artment:<br>gram:   |   | School of Engineering  |   | 1  |               | <u> </u>   | 5   | Student's | Pathway       | s (i.e. Stu | dy Patter     | rn)  |   |
|---|---|--|---|--|---------------|------------|---|-----------|---------------|-------------|---------------|--|---|
| grann.  |   | Department of Electronic and Computer Engineering  |   | Pookar   | und: UK       |            | ore + 2 E   | Pathway   |               | (2)         |               |  | -   |
|   |   | BEng in Electronic Engineering + Extended Major in Artificial<br>Intelligence  |   |  |               |            | ents to gra   |           |               |             | Research      | n Option   |   |
|   |   |  |   |  |               |            | 5   |           |               |             |               |  |   |
| rse 🗆   | Course Code   | Course Title / Courses List  |   |  |               | <br>i      |   |           |               |             |               |  | -   |
| ring□<br>ot□<br>rse code  |   |  |   |  | ~             | i          | ~   |           | ~             |             | ~             |  |   |
| x)  |   |  | 0   | Year 1 Fa  | Year 1 Spring | Year 2 Fal | Year 2 Spring   | Year 3 Fa | Year 3 Spring | Year 4 Fa   | Year 4 Spring | Sub  |   |
|   |   |  | Credits   | 1 Fall   | Spring        | 2 Fall     | Spring  | 3 Fall    | Spring        | 4 Fall      | Spring        | Sub-total  | Remarks   |
|   | irements  |  |   |  |               |            |   |           |               |             |               |  |   |
|   | Indamental C  | Note: (ELEC 2600 OR ELEC 2600H) OR MATH 2011 OR  | 9-10  | I  | 1             | i          |   | 1         |               |             |               |  |   |
|   | □<br>2600□  | MATH 2111 OR MATH 2350 OR MATH 2351 (3 courses<br>out of 6)–<br>Probability and Random Processes in Engineering⊐   | 4   |  |               | ļ          |   |           |               |             |               |  |   |
|   | 2600H□<br>2011□   | Honors Probability and Random Processes in Engineering□<br>Introduction to Multivariable Calculus□   | 4<br>3  |  |               | 3          | 3   | 3         |               |             |               | 9  |   |
|   | 2111<br>2350<br>2251  | Matrix Algebra and Applications□<br>Applied Linear Algebra and Differential Equations□   | 3   |  |               | ļ          |   |           |               |             |               |  |   |
| H<br>PO<br>PO   | 2351<br>0<br>10210  | Introduction to Differential Equations<br>Note: COMP 1021 OR COMP 1022P□<br>Introduction to Computer Science□  | 3<br>3<br>3   | 3  |               | !          |   |           |               |             |               | 3  |   |
| P<br>P  | 1022P   | Introduction to Computing with Java<br>Note: COMP 2011 OR COMP 2012H   | 3<br>4-5  | -  |               | ¦          |   |           |               |             |               | 0  |   |
| P D   | 2011<br>2012H   | Programming with C++□<br>Honors Object-Oriented Programming and Data Structures  | 4<br>5  |  |               | :<br>I     | 4   |           |               |             |               | 4  |   |
| G<br>H⊡   | 2030  | Technical Communication I<br>Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND  | 3<br>4-7  |  |               | 3          |   |           |               |             |               | 3  |   |
|   | □<br>1012□<br>1012□   | (MATH 1014 OR MATH 1024)] OR [MATH 1020]□<br>Calculus IA□  | 4   |  |               | ļ          |   |           |               |             |               |  |   |
| +0<br>+0<br>+0  | 1013□<br>1014□<br>1020□   | Calculus IB⊡<br>Calculus II□<br>Accelerated Calculus□  | 3<br>3<br>4   | 3  | 3             | !          |   |           |               |             |               | 6  |   |
| HD<br>H   | 1023<br>1024  | Honors Calculus I<br>Honors Calculus II  | 3   |  |               |            |   |           |               |             |               |  |   |
| S   | □<br>1112 □   | Note: PHYS 1112 OR PHYS 1312□<br>General Physics I with Calculus□  | 3   | 3  |               | i          |   |           |               |             |               | 3  |   |
| S<br>S ::<br>S ::   | 1312<br>□<br>1114□  | Honors General Physics I<br>Note: PHYS 1114 OR PHYS 1314<br>General Physics II   | 3 3 3   |  | 3             | į——        |   |           |               |             |               | 3  |   |
| s   | 1114 L<br>1314  | Honors General Physics II<br>Engineering Introduction course (If the students take an introduction course  | 3   |  | 5             | <u> </u>   |   |           |               |             |               | 5  |   |
|   |   | included in their major, this course can be counted towards their major requirement.)  |   |  | 3             | !          |   |           |               |             |               | 3  |   |
|   | Re  | quired credits for Engineering Fundamental Courses   | 32-38   | 9  | 9             | 6          | 7   | 3         | 0             | 0           | 0             | 34   |   |
|   | d Courses an  | d Electives  |   | и <u> </u>   |               |            | · ·   |           |               |             |               |  | 1   |
|   | 1100<br>1200  | Introduction to Electro-Robot Design<br>A System View of Communications: from Signals to Packets   | 4   |  |               | 4          | 4   |           |               |             |               | 4  |   |
|   |   | Note: ELEC 2100 OR ELEC 2100H  | 4   |  |               | i –        | 4   |           |               |             |               | 4  |   |
|   | 2100□<br>2100H  | Signals and Systems⊡<br>Honors Signals and Systems   | 4<br>4  |  |               | <u>i</u>   |   | 4         |               |             |               | 4  |   |
|   | 2350<br>2400  | Introduction to Computer Organization and Design<br>Electronic Circuits  | 4   |  |               | ļ          | 4   | 4         |               |             |               | 4  |   |
| 0   | 2910  | Academic and Professional Development I  | 0   |  |               | 0          | 0   |           |               |             |               | 0  |   |
|   |   | Note: [ELEC 2991 AND (ELEC 4900 OR ELEC 4901)]□<br>OR [ELEC 4910] (Students taking the Research Option□<br>must take ELEC 4901]□   | 6   |  |               | :          |   |           |               |             |               |  | <ol> <li>"0" refers to ELEC299</li> <li>Students should comp<br/>safety</li> </ol>                |
|   | 2991<br>4900  | Industrial Experience (Electronic Engineering) Final Year Design Project   | 0<br>6  |  |               | i          |   |           |               |             |               |  | training and internship/<br>industrial  |
|   | 4901□<br>4910   | Final Year Thesis⊡<br>Co-op Program  | 6   |  |               | i          | 0   | 0         | 0             | 3*          | 3             | 6  | training to get pass of<br>ELEC2991.  |
|   |   |  |   |  |               | į          |   |           |               |             |               |  | ELEC2991 is not required<br>students taking ELEC491   |
|   |   |  |   |  |               | į          |   |           |               |             |               |  | but they should complete<br>safety training in order to<br>full pass of the course.               |
|   | 3910  | Academic and Professional Development II   | 0   |  |               | <b>↓</b>   |   | 0         | 0             |             |               | 0  | iun pass of the course.   |
| G<br>G  | 2010<br>4031  | Engineering Seminar Series<br>Technical Communication II for ECE & CPEG  | 0   |  |               | 0          | 0   | 0         | 0             | 3           |               | 0  |   |
| 2   | T   | ELEC 3000-level or above Electives (Courses of the subject and level as  | 21  |  |               | !          |   |           |               |             |               |  |   |
|   |   | specified, out of which at least 2 courses must be at 4000-level. ELEC   | 21  |  |               |            |   |           |               | -           | -             |  |   |
|   |   |  | 21  |  |               | <br> <br>  |   | 4         | 11            | 3           | 3             | 21   |   |
| ion Require   |   | specified, out of which at least 2 courses must be at 4000-level. ELEC   |   | 0  | 0             | 4          | 8   | 4         | 11<br>11      | 3<br>9      | 3<br>6        | 21<br>50   |   |
| ion Require   | ements  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives  |   | 0  | 0             | 4          | 8   |           | 11            |             |               | 50   |   |
|   |   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)     ed credits for Major Required Courses and Electives     Modern Engineering Research Methodologies     Advanced Elective Courses approved by advisor (at least one UROP  | ; 50<br>1<br>6  | 0  | 0             | 4          | 8   |           |               |             |               |  |   |
| earch Option  | ements  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies   | ; 50<br>1<br>6  | 0  | 0             | 4          | 8   |           | 11            |             |               | 50   |   |
| earch Option  | 5900  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)     red credits for Major Required Courses and Electives     Modern Engineering Research Methodologies     Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC   | 50<br>1<br>6  | 0  | 0             | 4          | 8   |           | 11            | 9           | 6             | 50   |   |
| earch Option  | 5900<br>nents   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      ed credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option   | 50<br>1<br>6  |  |               | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50<br>1<br>6   |   |
| earch Option  | 5900  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      ed credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option   | 50<br>1<br>6  |  |               | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50<br>1<br>6   |   |
| Requiren  | 5900<br>nents<br>Background   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science   | 50<br>1<br>6<br>3<br>7<br>3<br>3<br>3   |  |               | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50<br>1<br>6   |   |
| Requiren  | 5900<br><b>nents</b><br>I Background  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      ed credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Introduction to Computer Science     Introduction to Computing with Java     Business Applications Programming   | 50<br>1<br>6<br>7<br>3<br>3<br>3<br>3<br>3<br>3   | 0  |               | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50   |   |
| Requiren<br>commended<br>prisom<br>P<br>e<br>t  | 5900<br>Sements<br>Background<br>1021<br>1022P<br>3230  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      ed credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computing with Java     Business Applications Programming      Note: MATH 1014 OR MATH 1020 OR MATH 1024  | 50<br>50<br>1<br>6<br>7<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | 0  |               | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50   |   |
| Requiren<br>commendec<br>P/ISOM<br>P<br>A<br>H<br>H   | 5900<br>5900<br>nents<br>1 Background<br>1021<br>1022P<br>3230<br>1014<br>1020  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Introduction to Compare Science     Introdu  | 50<br>1<br>6<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4   | 0  |               | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50   |   |
| Requiren<br>commended<br>prisom<br>p<br>a<br>t<br>t<br>t<br>t<br>t<br>t                     | 5900<br>Sements<br>Background<br>1021<br>1022P<br>3230<br>1014  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Introduc  | 1<br>6<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3   | 0  | 0             | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50<br>1<br>6<br>7<br>0   |   |
| Requiren<br>commendec<br>P/ISOM<br>P<br>A<br>H<br>H   | 5900<br>5900<br>nents<br>1 Background<br>1021<br>1022P<br>3230<br>1014<br>1020  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Introduction to Compare Science     Introdu  | 50<br>1<br>6<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4   | 0  | 0             | r<br>i     |   | 12        | 11<br>1<br>0  | 9           | 6             | 50<br>1<br>6<br>7<br>0   |   |
| Parch Option  | 5900           5900           nents           Background           1021           1022P           3230           1014           1020           1024           2500           2411   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Introduc  | 1<br>1<br>6<br>7<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4   | (3)  | (3)           |            | 0   | 0         | 11            | 9           | 6             | 50<br>1<br>7<br>0<br>0<br>4  |   |
| Pequiren<br>Commended<br>Prisom<br>P<br>P<br>A<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H      | 5900<br>5900<br>5900<br>5900<br>5900<br>5900<br>1021<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>10  | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Int  | 1<br>1<br>6<br>7<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4   | 0  | 0             | r<br>i     | 0   | 12        | 11<br>1<br>0  | 9           | 6             | 50   |   |
| Pequiren<br>Commended<br>Prisom<br>P<br>P<br>A<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H      | 5900           5900           nents           Background           1021           1022P           3230           1014           1020           1024           2500           2411   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      red credits for Major Required Courses and Electives      Modern Engineering Research Methodologies      Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)      Required credits for Research Option      Required credits for Research Option      Courses      Note: COMP 1021 OR COMP 1022P OR ISOM 3230      Introduction to Computer Science     Int  | 1<br>1<br>6<br>7<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4   | (3)  | (3)           |            | 0   | 0         | 11            | 9           | 6             | 50<br>1<br>7<br>0<br>0<br>4  |   |
| Requiren  | 5900           5900           Background           1021           1022P           3230           1014           1020           1021           1022P           3230           2500           2411           Required           Courses an  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>ed credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Courses<br>d Electives  | 1<br>1<br>6<br>7<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | (3)  | (3)           |            | 0   | 0         |               | 9           | 6             | 50<br>50<br>7<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4   |   |
| Requiren  | 5900           5900           1021           1022P           3230           1014           1020           1024           2500           2411           Require           Courses an           2010A   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      ded credits for Major Required Courses and Electives     Modern Engineering Research Methodologies     Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)     Required credits for Research Option     Courses     Note: COMP 1021 OR COMP 1022P OR ISOM 3230     Introduction to Computer Science     Introduction t  | 1           6           7           6           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           9           9           9           9           9           10  | (3)  | (3)           |            | 0   | 0         | 11            | 9           | 6             | 50<br>1<br>6<br>7<br>0<br>0<br>0<br>4<br>4   |   |
| Requiren  | 5900           5900           1021           1022P           3230           1014           1020           1024           2500           2411           Require           Courses an           2010A   | specified, out of which at least 2 courses must be at 4000-level. ELEC     4940 cannot be used to count towards this elective requirement)      ded credits for Major Required Courses and Electives     Modern Engineering Research Methodologies     Advanced Elective Courses approved by advisor (at least one UROP     course taken prior to the commencement of Final Year Thesis, and one PC     level course)     Required credits for Research Option     Courses     Note: COMP 1021 OR COMP 1022P OR ISOM 3230     Introduction to Computer Science     Introduction t  | 1           6           7           6           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           9           9           9           9           9           10  | (3)  | (3)           |            | 0   | 0         |               | 9           | 6             | 50<br>50<br>7<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4   |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P                          | 5900           5900           5900           1021           1022           1021           1022           3230           1014           1020           1024           2500           2411           2020           2010A           2020  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Required credits for Research Option<br>Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Interest Statistics<br>Introduction to Computer Science<br>Introduction to Computer Sc                      | 1           6           3           4           3           4           5           6   | (3)  | (3)           |            | 0   | 0         |               | 9           | 6             | 50<br>50<br>7<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4   |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P | 5900           5900           5900           Background           1021           10229           3230           1014           1020           2500           2411           Require           1 Courses an           2010A           2020           2011  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Required credits for Research Option<br>Required credits for Research Option<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Co                         | 1           1           6           3           4           3           4           3           4           3           4           3           4           5           9           10           3           4           5           10           11           11           11           11           11           12           13           14                           | (3)  | (3)           |            |   | 0         |               | 9           | 6             | 50<br>50<br>7<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3   |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P                          | 5900           5900           5900           1021           1022           1021           1022           3230           1014           1020           1024           2500           2411           2020           2010A           2020  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Required credits for Research Option<br>Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Interest Statistics<br>Introduction to Computer Science<br>Introduction to Computer Sc                      | 1           6           3           4           3           4           5           6   | (3)  | (3)           |            |   | 0         |               | 9           | 6             | 50<br>50<br>7<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3  |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P                          | Require           25900           1 Background           1021           1022P           3230           1014           1020           2500           2411           2500           2411           2500           2411           2020           2010           2012           2012           2012           2012H           2211           3211   | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Required credits for Research Option<br>Required credits for Research Option<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Calculus II<br>Note: ISOM 2500 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Nete: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Nete: COMP 4211 OR EMIA 4110 OR MATH 4432  | 1           1           6           3           4           5           3           3   | (3)  | (3)           |            |   | 0         |               | 9           | 6             | 50<br>50<br>7<br>6<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>0   |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P | Require           25900           1 Background           1021           1022P           3230           1014           1020           2411           2010A           2010A           2010A           2010A           2012           2012           2012           2012           2012H           2211           3211           4211           4110   | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Required credits for Research Option<br>Required credits for Research Option<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Interest Statistics<br>Interest Stati | 1           6           3           4           5           3           3           3   | (3)  | (3)           |            |   | 0         |               | 9           | 6             | 50<br>50<br>7<br>6<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>0   |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P | Require           2500           1021           1022P           3230           1014           1022P           3230           1014           1020           2500           2411           Require           2010A           2010A           20112           20124  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction Intelligence<br>Introduction Intelligence<br>Introduction Intelligence<br>Introduction Intelligence<br>Introduction Science Intelligence<br>Introduction Intelligence<br>Introduction Intelli                  | 1         6           1         6           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           3         3           4         3           3         3           4         3           5         4           4         5           3         3   | (3)  | (3)           |            |   | 0         |               | 9           | 6             | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>3   |   |
| PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP  | Required           2000           1021           1022P           3230           1014           1022P           3230           1014           1024           2500           2411           2500           2411           2010A           2010A           20112           20124           2211           3211           4211           4432           4990  | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Courses<br>Required credits for Research Option<br>Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Intervision Science Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Collect-Oriented Programming and Data Structures<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 211 OR COMP 2011 OR COMP 2012 OR MATH 4432<br>Machine Learning<br>Practical Machine Learni   | 1           1           6           3 | (3)  | (3)           |            |   | 0         |               | 9           | 6             | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>3   |   |
| P P P P P P P P P P P P P P P P P P P   | Aments           5900           5900           1 Background           1021           1022P           3230           1014           1020           2411           2500           2411           2020           2010A           2020           2011           2012           2012H           2211           3211           4211           4110           4432   | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>4940 cannot be used to count towards this elective requirement)<br>red credits for Major Required Courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Courses<br>Required credits for Research Option<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Intercitives<br>Cross-disciplinary Design Thinking<br>Intercitiene Programming and Data Structures<br>Honors Object-Oriented Programmi   | 1           6           3           4           5           3 | (3)  | (3)           |            |   | 0         |               | 9           |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>0<br>0<br>3<br>3<br>3  |   |
| PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP  | Required           2000           1021           1022P           3230           1014           1022P           3230           1014           1024           2500           2411           2500           2411           2010A           2010A           20112           20124           2211           3211           4211           4432           4990  | a specified, out of which at least 2 courses must be at 4000-level. ELEC 4940 cannot be used to count towards this elective requirement)  a decredits for Major Required Courses and Electives  Modern Engineering Research Methodologies  Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PC level course)  Required credits for Research Option  Courses  Note: COMP 1021 OR COMP 1022P OR ISOM 3230  Introduction to Computer Science Interdisciplinary Seminar in Artificial Intelligence Cross-disciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP 2012 OR COMP 2012H Programmin  | 1           6           3           4           5           3 | (3)  | (3)           |            |   | 0         |               | 9           |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>0<br>0<br>3<br>3<br>3  |   |
| P P P P P P P P P P P P P P P P P P P   | Require           2500           IBackground           1021           1022P           3230           1014           1022P           3230           1014           1024           2500           2411           Require           2010A           2010A           2010A           2010A           20112           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20135           2014           20154           20154           20154           20154           20154           20154   | a specified, out of which at least 2 courses must be at 4000-level. ELEC 4940 cannot be used to count towards this elective requirement)  a decredits for Major Required Courses and Electives  Modern Engineering Research Methodologies  Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PC level course)  Required credits for Research Option  Courses  Note: COMP 1021 OR COMP 1022P OR ISOM 3230  Introduction to Computer Science Interdisciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming and Data Structures Honors Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP 2211 OR COMP 2211 OR COMP 2211 Reporting Artificial Intelligence Fundamentals of Artificial Intelligence Fundamentals of Artificial Intelligence Fundamentals of Artificial Intelligence Fundamentals of Artiticial Intelligence Fundamentals of Artiticial Intellig  | 1           1           6           3 |  |               |            | 0           0           4 |           |               | 9           |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>0<br>3<br>9                      |   |
| P P P P P P P P P P P P P P P P P P P   | Priments           5900           5900           5900           1021           1022           1021           1022           3230           1014           1020           1024           2500           2411           2020           2011           2012           2012           2012           2012           2111           3211           4110           4432           4990           4991   | specified, out of which at least 2 courses must be at 4000-level. ELEC 4940 cannot be used to count towards this elective requirement)  red credits for Major Required Courses and Electives  Modern Engineering Research Methodologies  Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PC level course)  Required credits for Research Option  Courses  Note: COMP 1021 OR COMP 1022P OR ISOM 3230  Introduction to Computer Science Interdisciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Orien  | 1           1           6           3 | (3)  | (3)           |            |   | 0         |               |             |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>0<br>0<br>3<br>3<br>0<br>0  |   |
| P P P P P P P P P P P P P P P P P P P   | Require           2500           IBackground           1021           1022P           3230           1014           1022P           3230           1014           1024           2500           2411           Require           2010A           2010A           2010A           2010A           20112           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20124           20135           2014           20154           20154           20154           20154           20154           20154   | specified, out of which at least 2 courses must be at 4000-level. ELEC 4940 cannot be used to count towards this elective requirement)  red credits for Major Required Courses and Electives  Modern Engineering Research Methodologies  Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PC level course)  Required credits for Research Option  Courses  Note: COMP 1021 OR COMP 1022P OR ISOM 3230  Introduction to Computer Science Interdisciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming With C++ Object-Orien  | 1           1           6           3 | (3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3) |               |            | 0           4           4           4           4           4           4           0           0           0           0   |           |               |             |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>4<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>3<br>0<br>0<br>3<br>3<br>3<br>3<br>0<br>0<br>3<br>3<br>18      |   |
| P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P<br>P | Require       2500       1021       1022P       3230       1014       1022P       3230       1014       1024       2500       2411       2020       2010A       2010A       2010A       2010A       2010A       2010A       2011A       2012       2011A       2012H       2014H       2015H       2014H       2015H       2015H       2016H       2017H       2018H       2019H       2010H       2010H       2010H       2010H       2010H       2010H       2010H       2010H       2010H       2010H <t< td=""><td>specified, out of which at least 2 courses must be at 4000-level. ELEC<br/>specified, out of which at least 2 courses must be at 4000-level. ELEC<br/>specified, out of which at least 2 courses and Electives<br/>Modern Engineering Research Methodologies<br/>Advanced Elective Courses approved by advisor (at least one UROP<br/>course taken prior to the commencement of Final Year Thesis, and one PC<br/>level course)<br/>Required credits for Research Option<br/>Courses<br/>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br/>Introduction to Computer Science<br/>Introduction to Computer Science<br/>Cross-disciplinary Seminar in Artificial Intelligence<br/>Interclisciplinary Design Thinking<br/>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br/>Programming with C++<br/>Object-Oriented Programming and Data Structures<br/>Honors Object-Oriented Programming and Data Structures<br/>Honors Object-Oriented Programming and Data Structures<br/>Honors Object-Oriented Programming and Data Structures<br/>Note: COMP 2211 OR COMP3211<br/>Exploring Artificial Intelligence<br/>Fundamentals of Artificial Intellige</td><td>1           1           6           3           4           5           4           5           4           5           3</td><td></td><td></td><td></td><td>0           0           4</td><td></td><td></td><td>9</td><td></td><td>50<br/>50<br/>1<br/>6<br/>7<br/>0<br/>0<br/>0<br/>0<br/>4<br/>4<br/>4<br/>4<br/>0<br/>0<br/>3<br/>3<br/>3<br/>3<br/>3<br/>3<br/>0<br/>0<br/>3<br/>9</td><td>The credit load of CORE<br/>(HMW) will usually be sp<br/>in the following pattern: F<br/>; Spring: 2</td></t<> | specified, out of which at least 2 courses must be at 4000-level. ELEC<br>specified, out of which at least 2 courses must be at 4000-level. ELEC<br>specified, out of which at least 2 courses and Electives<br>Modern Engineering Research Methodologies<br>Advanced Elective Courses approved by advisor (at least one UROP<br>course taken prior to the commencement of Final Year Thesis, and one PC<br>level course)<br>Required credits for Research Option<br>Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computer Science<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Interclisciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intellige   | 1           1           6           3           4           5           4           5           4           5           3 |  |               |            | 0           0           4 |           |               | 9           |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>0<br>4<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>3<br>3<br>3<br>3<br>0<br>0<br>3<br>9                      | The credit load of CORE<br>(HMW) will usually be sp<br>in the following pattern: F<br>; Spring: 2 |
| PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP<br>PP                  | Aments           5900           5900           Background           1021           1022P           3230           1014           1020           1021           1022P           3230           1014           1020           22500           2411           2020           2011           2012           2012H           2211           3211           4211           44991           4990           4991           CORE (Rev  | specified, out of which at least 2 courses must be at 4000-level. ELEC 4940 cannot be used to count towards this elective requirement)  red credits for Major Required Courses and Electives  Modern Engineering Research Methodologies  Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PC level course)  Required credits for Research Option  Courses  Net: COMP 1021 OR COMP 1022P OR ISOM 3230  Introduction to Computing with Java Business Applications Programming  Net: MATH 1014 OR MATH 1020 OR MATH 1024 Calculus II  Accelerated Calculus Honors Calculus II  Note: ISOM 2500 OR MATH 2411 Business Statistics Applied Statistics Cross-disciplinary Seminar in Artificial Intelligence  Cross-disciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking  Net: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 211 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 211 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 211 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP 211 OR EMIA 4110 OR MATH 4432 Machine Learning Practical Machine Learning Nati: ComP 4211 OR EMIA 410 OR MATH 4432 Machine Learning Natistical Machine Learning Natistical Machine Learning Natistical Machine Learning Statistical Machine Learning Natistical Machine Learning Nate: Eudents ta  | 1           1           6           3           4           5           4           5           4           5           4           5           3 | (3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3)<br>(3) |               |            | 0           4           4           4           4           4           4           0           0           0           0   |           |               |             |               | 50<br>50<br>1<br>6<br>7<br>0<br>0<br>0<br>4<br>4<br>4<br>4<br>0<br>0<br>3<br>3<br>3<br>3<br>0<br>0<br>3<br>3<br>3<br>3<br>0<br>0<br>3<br>3<br>18 | (HMW) will usually be sp<br>in the following pattern: F   |

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 ELEC (4Y) (2022-23 intake)

<< Declaration of major

| School:<br>Department:<br>Program:   |  |  | 1  |           |               |                  |               |           |               |             |               |  |   |
|--|--|--|--|-----------|---------------|------------------|---------------|-----------|---------------|-------------|---------------|--|---|
| Program:   |  | School of Engineering Department of Industrial Engineering and Decision Analytic   |  |           |               |                  |               |           |               |             |               |  |   |
| Program:   |  | BEng in Industrial Engineering and Engineering Manageme<br>Extended Major in Artificial Intelligence   |  | Backgro   |               |                  |               |           |               |             |               |  |   |
|  |  | Extended major in Annicial Intelligence  |  | Profile:  | Normativ      | e                |               |           |               |             |               |  |   |
|  |  |  |  |           |               |                  |               |           |               |             |               |  |   |
| Course □<br>Dffering□  | Course Code  | Course Title / Courses List  |  |           |               |                  |               |           |               |             |               |  |   |
| Dept⊡<br>course code   |  |  |  |           | ×             |                  | ×             |           | ×             |             | ×             |  |   |
| prefix)  |  |  |  | Yea       | ear 1         | Yea              | ear 2         | Yea       | ear 3         | Yea         | ear 4         | Su   |   |
|  |  |  | Credits  | Year 1 Fa | Year 1 Spring | Year 2 Fa        | Year 2 Spring | Year 3 Fa | Year 3 Spring | Year 4 Fall | Year 4 Spring | Sub-tota   | Remarks   |
| Major Requ   | irements   | ł  | Ø  | #         | g             | . =              | g             |           | g             |             | g             |  |   |
|  | undamental C   | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR  | 3-5  | Г         | 1             |                  |               |           |               |             |               |  |   |
|  | □<br>1021 □  | COMP 2012H   | 3-5  |           |               | l                |               |           |               |             |               |  |   |
|  | 1022P<br>2011  | Introduction to Computing with Java Programming with C++□  | 3  | 3         |               | !                |               |           |               |             |               | 3  |   |
| COMP<br>CHEM/PHYS  | 2012H  | Honors Object-Oriented Programming and Data Structures<br>Note: CHEM 1020 OR PHYS 1112 OR PHYS 1312  | 5  |           |               | <br>             |               |           |               |             |               |  |   |
| CHEM D<br>PHYS D   | 1020<br>1112   | General Chemistry I□<br>General Physics I with Calculus □  | 3<br>3   | 3         |               |                  |               |           |               |             |               | 3  |   |
| PHYS<br>_ANG   | 1312<br>2030   | Honors General Physics I<br>Technical Communication I  | 3  |           |               | 3                |               |           |               |             |               | 3  |   |
| MATH   |  | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND<br>(MATH 1014 OR MATH 1024)] OR [MATH 1020]   | 4-7  |           |               | i                |               |           |               |             |               |  |   |
| MATH D   | 1012□<br>1013□   | Calculus IA<br>Calculus IB   | 4  | 3         | 3             | i                |               |           |               |             |               | 6  |   |
|  | 1014<br>1020   | Calculus II<br>Accelerated Calculus  | 3 4  |           | -             | İ                |               |           |               |             |               | Ū  |   |
|  | 1023<br>1024   | Honors Calculus I<br>Honors Calculus II<br>Interductions to Multiversible Coloulus   | 3  |           |               | į                |               |           |               |             |               |  |   |
| ИАТН<br>ИАТН   | 2011<br>2111   | Introduction to Multivariable Calculus Matrix Algebra and Applications   | 3  |           |               | 3                | 3             |           |               |             |               | 3  |   |
| ENG  |  | Engineering Introduction course (If the students take an introduction course<br>included in their major, this course can be counted towards their major  | 3-4  | -         |               |                  |               |           |               |             |               |  |   |
|  |  | requirement.)  |  |           | 3             | 1                |               |           |               |             |               | 3  |   |
|  |  | quired credits for Engineering Fundamental Course  | <b>22-28</b>   | 9         | 6             | 6                | 3             | 0         | 0             | 0           | 0             | 24   |   |
| Major Require  | d Courses an   | d Electives Academic and Professional Development I  | 0  |           | _             | 0                | 0             | _         |               | _           |               | 0  |   |
| EDA  | 1020   | Academic and Professional Development II   | 0  |           |               |                  |               | 0         | 0             |             |               | 0  |   |
| EDA<br>EDA   | 1901<br>2520   | Industrial Training and Experience<br>Probability for Engineers  | 0  |           |               | 0*<br>3          | 0^            |           |               |             |               | 0  |   |
| EDA  | 2540   | Statistics for Engineers   | 3  |           |               |                  | 3             |           |               |             |               | 3  |   |
| EDA<br>EDA   | 3010<br>3230   | Prescriptive Analytics<br>Engineering Economics and Accounting   | 3  |           |               | i<br>I           |               | 3         |               |             |               | 3  |   |
| EDA  | 3250   | Stochastic Models  | 3  |           |               | i                | 3             | 3         |               |             |               | 3  |   |
| EDA<br>EDA   | 3300<br>4100   | Industrial Data Systems<br>Integrated Production Systems   | 3  |           |               | <u> </u>         | 3             |           |               |             |               | 3  |   |
| EDA  | 4130   | System Simulation  | 3  |           |               | i —              |               |           | 3             |             |               | 3  |   |
| EDA 🗆  |  | Note: IEDA 4901 OR IEDA 4960 (Students taking the Research<br>Option must take IEDA 4901)  | 6  |           |               | ŗ                |               |           |               |             |               | 0  |   |
| EDA 🗆<br>EDA   | 4901 □<br>4960   | Final Year Thesis□<br>Industrial Engineering and Engineering Management Final Year Project   | 6<br>6   |           |               | 1                |               |           |               | 3           | 3             | 6  |   |
|  | 2010   | Engineering Seminar Series Note: ECON 2103 OR ECON 2113  | 0  |           |               | 0                | 0             | 0         | 0             |             |               | 0  |   |
|  | 2103□<br>2113  | Principles of Microeconomics   | 3  |           |               | :                |               | 3         |               |             |               | 3  |   |
| _ANG   | 4032   | Technical Communication II for IEDA and ISDN   | 3  | -         |               |                  |               |           | 3             |             |               | 3  |   |
| EDA  |  | Industrial Engineering Electives (Courses from the specified elective list, of<br>which at least 15 credits should be taken from 1 of the 2 areas and at least<br>credits outside that area.)  |  |           |               |                  |               | 3         | 6             | 6           | 6             | 21   |   |
|  |  | ·  | _  |           |               | :<br>            |               |           |               |             |               |  |   |
| Option Require   |  | ed credits for Major Required Courses and Elective   | <b>95</b> 57   | 0         | 0             | 3                | 9             | 12        | 15            | 9           | 9             | 57   |   |
| Financial Enginee  |  |  |  |           |               |                  |               |           |               |             |               |  | I   |
| EDA  |  |  |  |           |               |                  |               |           |               |             |               | 3  |   |
|  |  | Introduction to Financial Engineering<br>Financial Engineering Electives (2 courses from the specified elective list)  | 3  |           |               | ļ                |               | 3         |               | 2           | 2             |  |   |
|  |  | Financial Engineering Electives (2 courses from the specified elective list)   | 6  | 0         |               | 0                | 0             |           | 0             | 3           | 3             | 6  |   |
| 31   | Л  |  | 6  | 0         | 0             | 0                | 0             | 3         | 0             | 3<br>3      | 3<br>3        |  |   |
| Al Requirer<br>Recommended   | ments  | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses  | 6<br>on 9  | 0         | 0             | 0                | 0             |           | 0             | -           |               | 6  |   |
| AI Requirer<br>Recommender<br>COMP/ISOM  | nents<br>d Background  | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 6<br>on 9<br>3   |           | 0             | 0                | 0             |           | 0             | -           |               | 6  |   |
| EDA/FINA/ISOM/RM<br>BI<br>AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>COMP<br>SOMP  | d Background   | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computer Science   | 6<br>on 9<br>3<br>3<br>3   | (3)       | 0             | 0                | 0             |           | 0             | -           |               | 6  |   |
| BI<br>AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>COMP<br>ISOM  | nents<br>d Background  | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science  | 6<br>on 9<br>3<br>3  |           | 0             | 0                | 0             |           | 0             | -           |               | 6  |   |
| BI<br>AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>COMP  | d Background   | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computing with Java Business Applications Programming  | 6<br>0n 9<br>3<br>3<br>3<br>3<br>3   |           |               | 0                | 0             |           | 0             | -           |               | 6<br>9<br>0  |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOMP<br>SOMP  | d Background<br>1021<br>1022P<br>3230  | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computer Science Business Applications Programming Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 6<br>on 9<br>3<br>3<br>3<br>3<br>3<br>3<br>4   |           | (3)           | 0                | 0             |           | 0             | -           |               | 6  |   |
| AI Requiren<br>Recommender<br>COMP/ISOM<br>COMP<br>SOMP<br>SOMP<br>WATH<br>WATH<br>WATH  | A<br>Dents<br>d Background<br>1021<br>1022P<br>1022P<br>1022P<br>10220<br>1014<br>1020   | Financial Engineering Electives (2 courses from the specified elective list)     Required credits for Financial Engineering Optic      Courses     Note: COMP 1021 OR COMP 1022P OR ISOM 3230     Introduction to Computer Science     Introduction to Computer Science     Introduction to Computer Science     Note: MATH 1014 OR MATH 1020 OR MATH 1024     Calculus II     Accelerated Calculus     Honors Calculus II   | 6<br>9<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3   |           |               | 0                | 0             |           | 0             | -           |               | 6<br>9<br>0  |   |
| AI Requirer<br>Recommender<br>COMPISOM<br>COMP<br>SOM<br>MATH<br>MATH<br>MATH  | A<br>d Background<br>1021<br>1022P<br>3230<br>1014<br>1020<br>1024<br>2500   | Financial Engineering Electives (2 courses from the specified elective list) Required credits for Financial Engineering Optic Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computing with Java Business Applications Programming Note: MATH 1014 OR MATH 1020 OR MATH 1024 Calculus II Accelerated Calculus   | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>4   |           |               | 0                | (4)           |           | 0             | -           |               | 6<br>9<br>0  |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>SOM<br>AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM   | A<br>C Background<br>1021<br>1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411   | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I         Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics  | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4  |           |               | 0                |               |           | 0             | -           |               | 6<br>9<br>0  |   |
| AI Requirer<br>Recommender<br>comprison<br>comp<br>som<br>som<br>math<br>math<br>math<br>som<br>math<br>som<br>math  | A<br>d Background<br>1021<br>1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>Require  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I         Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for Al Recommended Background Course   | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4  |           |               | 0                |               |           | 0             | -           |               | 6<br>9<br>0  |   |
| AI Requirer<br>Recommender<br>compison<br>comp<br>som<br>comp<br>som<br>aath<br>aath<br>aath<br>aath<br>som<br>math<br>som<br>math<br>som<br>aath<br>som<br>aath   | A<br>d Background<br>1021<br>1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>Require  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I         Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d credits for Al Recommended Background Course   | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4  | (3)       | (3)           |                  | (4)           | 3         |               | 3           | 3             | 6<br>9<br>0<br>0   |   |
| AI Requirer<br>Recommender<br>comprison<br>comp<br>som<br>aath<br>aath<br>aath<br>aath<br>som<br>math<br>som<br>math<br>som<br>aath<br>som<br>aath<br>som<br>aath  | Iments           d Background           1021           1022P           3230           1014           1020           1024           2500           2411           Required           Courses an   | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I         Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Credits for Al Recommended Background Coursed         d Electives  | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | (3)       | (3)           | 0                | (4)           | 3         |               | 3           | 3             | 6<br>9<br>0<br>0   |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>WATH<br>WATH<br>WATH<br>WATH<br>SOM/MATH   | Iments           d Background           1021           1022P           3230           1014           1020           1021           2500           2411              2010A  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I         Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d credits for Al Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence  | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3   | (3)       | (3)           | 0                | (4)           | 0         |               | 3           | 3             |  |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH       | A<br>d Background<br>1021<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1022P<br>3230<br>1014<br>1020<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024<br>1024 | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Clectives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++  | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | (3)       | (3)           | 0                | (4)           | 0         |               | 3           | 3             |  |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>MATH<br>MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH   | A d Background d Background 1021 1022P 3230 1014 1020 1024 2500 2411 Require d Courses an 2010A 2020   | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         ICourses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H   | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3  | (3)       | (3)           | 0                | (4)           | 0         |               | 3           | 3             |  |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOMP<br>SOMP<br>SOM<br>AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SO | A D D D D D D D D D D D D D D D D D D D  | Financial Engineering Electives (2 courses from the specified elective list)  Required credits for Financial Engineering Optic  COURSES  Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computer Science Introduction to Computer Science Calculus II Accelerated Calculus Honors Calculus II Note: ISOM 2500 OR MATH 1020 OR MATH 1024 Calculus II Note: ISOM 2500 OR MATH 2411 Business Statistics Applied Statistics Cross-disciplinary Seminar in Artificial Intelligence Cross-disciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Nete: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Honors Object-Oriented Programming and Data Structures Nete: COMP 2211 OR COMP 2211 Exploring Artificial Intelligence   | 6           9           3           4           3           3           3           3           3           3           3           3           4           4  | (3)       | (3)           | 0                | (4)           | 0         |               | 3           | 3             |  |   |
| AI Requirer<br>Recommender<br>COMP/SOM<br>COMP<br>SOM<br>MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM  | A D D D D D D D D D D D D D D D D D D D  | Financial Engineering Electives (2 courses from the specified elective list)  Required credits for Financial Engineering Optic  COURSES Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computer Science Introduction to Computer Science Calculus II Note: MATH 1014 OR MATH 1020 OR MATH 1024 Calculus II Note: ISOM 2500 OR MATH 2411 Business Statistics Applied Statistics Cross-disciplinary Seminar in Artificial Intelligence Cross-disciplinary Design Thinking Note: COMP 2011 OR COMP 2012 OR COMP 2012H Programming with C++ Object-Oriented Programming and Data Structures Note: COMP2211 OR COMP3211  | 6<br>9<br>3<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3   | (3)       | (3)           | 0                | (4)           | 0         |               | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4   |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOMP<br>SOMP<br>AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>C   | A A B B C B C C C C C C C C C C C C C C  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honers Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honers Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211  | 6<br>9<br>9<br>3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 | (3)       | (3)           | 0                | (4)           | 0         |               | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4   |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>SOM/AATH<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | A D D D D D D D D D D D D D D D D D D D  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d credits for Al Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence   | 6           9           3  | (3)       | (3)           | 0                | (4)           | 0         | 0             | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4   |   |
| Al Requirer<br>Recommender<br>comprison<br>comp<br>som<br>Aath<br>Aath<br>Aath<br>Aath<br>Aath<br>Som/Math<br>Som/Math<br>Som<br>Major Requirer<br>Major Requirer<br>Major Requirer<br>Som<br>Som<br>Som<br>Som<br>Som<br>Som<br>Som<br>Som<br>Som<br>Som  | A D D D D D D D D D D D D D D D D D D D  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Clectives         Cross-disciplinary Seminar In Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         <  | 6           9           3  | (3)       | (3)           | 0                | (4)           | 0         | 0             | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>4<br>3<br>3   |   |
| Al Requirer<br>Recommender<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>math<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>compison<br>c          | A D D D D D D D D D D D D D D D D D D D  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Credits for Al Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming and Data Structures         Hoors Object-Oriented Programming and Data Structures         Hoors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence<  | 6           9           3  | (3)       | (3)           | 0                | (4)           | 0         | 0             | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4   |   |
| AI Requirer<br>Recommender<br>comprison<br>comprison<br>aath<br>aath<br>aath<br>aath<br>aath<br>som/math<br>som/math<br>som/math<br>som/math<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp   | A<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>De   | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211   | 6       9       3 <t< td=""><td>(3)</td><td>(3)</td><td>0</td><td>(4)</td><td>0</td><td>0</td><td>3</td><td>3</td><td>6<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>3<br/>4<br/>3<br/>3</td><td></td></t<>   | (3)       | (3)           | 0                | (4)           | 0         | 0             | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>4<br>3<br>3   |   |
| AI Requirer<br>Recommender<br>COMPISOM<br>COMP<br>SOMP<br>SOMP<br>SOMP<br>SOMP<br>AATH<br>AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/AATH<br>SOMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | A<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>Description<br>De   | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honers Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamm  | 6           9           3  | (3)       | (3)           | 0                | (4)           | 0         | 0             | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>4<br>3<br>3   |   |
| AI Requirer<br>Recommender<br>comprison<br>comprison<br>aath<br>aath<br>aath<br>aath<br>aath<br>som/math<br>som/math<br>som/math<br>som/math<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp   | A         Image: Constraint of the second s  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Credits for Al Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming and Data Structures         Note: COMP 211 OR COMP3211         Exploring Artificial Intelligence         Pundamentals of Artificial Intelligence         Pundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 410 OR MATH 4432 <t< td=""><td>6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           5           4           5           4           5           3</td><td></td><td>(3)</td><td>0</td><td>(4)</td><td>3</td><td>0</td><td>3</td><td>3</td><td>6<br/>9<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>3<br/>4<br/>3<br/>3<br/>3<br/>3<br/>0<br/>0<br/>9</td><td></td></t<>  | 6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           5           4           5           4           5           3  |           | (3)           | 0                | (4)           | 3         | 0             | 3           | 3             | 6<br>9<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>4<br>3<br>3<br>3<br>3<br>0<br>0<br>9                      |   |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/P<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COM   | A         Image: state stat  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I       Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Credits for AI Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Nete: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Honors Color 4211 OR COMP3211         Exploring Artificial Intelligence         Fund   | 6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           5           4           5           4           5           3  | (3)       | (3)           | 0                | (4)           | 0         | 0             | 0           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4<br>3<br>3<br>3   |   |
| AI Requirer<br>Recommender<br>comprison<br>comprison<br>aath<br>aath<br>aath<br>aath<br>aath<br>som/math<br>som/math<br>som/math<br>som/math<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp<br>comp   | A         Image: state stat  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         I       Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Credits for AI Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Nete: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Honors Color 4211 OR COMP3211         Exploring Artificial Intelligence         Fund   | 6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           5           4           5           4           5           3  |           | (3)           | 0                | (4)           | 3         | 0             | 3           | 3             | 6<br>9<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>4<br>3<br>3<br>3<br>3<br>0<br>0<br>9                      | Image: Control of CORE  |
| AI Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>SOM<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/P<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COM   | A           d Background           1021           1022P           3230           1014           1022P           3230           1014           1022P           3230           1014           1020           2500           2411           2000           2010A           2011           2012           2012           2012           2012           2012           2012           2014           4211           4100           4432           4990           4991           Exercise  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Colocy 4211 OR COMP3211         Exploring Artificial Intelligence  | 6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           5           3  |           | (3)           | 0                | (4)           | 3         | 0             | 3           | 3             | 6<br>9<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>4<br>3<br>3<br>3<br>3<br>0<br>0<br>9                      | (HMW) will usually be spr   |
| Al Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMMATH<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | A           d Background           1021           1022P           3230           1014           1022P           3230           1014           1022P           3230           1014           1020           2500           2411           2000           2010A           2011           2012           2012           2012           2012           2012           2012           2014           4211           4100           4432           4990           4991           Exercise  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         d Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Colocy 4211 OR COMP3211         Exploring Artificial Intelligence  | 6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           3           4           3           4           5           3  |           |               | 0<br>0<br>4<br>4 | (4)<br>0      | 3         | 0             | 3           | 3             | 6<br>9<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>9<br>9<br>22 | The credit load of CORE=<br>(HMW) will usually be grin the following pattern: Fi<br>Spring: 2 |
| Al Requirer<br>Recommender<br>COMP/ISOM<br>COMP<br>INTH<br>INTH<br>INTH<br>INTH<br>INTH<br>INTH<br>INTH<br>INTH  | A         Iments         d Background         1021         1022P         3230         1014         1022P         3230         1014         1020         2500         2411         2010A         2020         2012H         2012H         2211         3211         4211         4110         4432         4990         4991         Ref         CORE (Rev  | Financial Engineering Electives (2 courses from the specified elective list)         Required credits for Financial Engineering Optic         Introduction to Computer Science         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         d Credits for Al Recommended Background Course         d Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Prodematil Machine Learning         Note: EMIA 4990 OR EMIA 4991 <td< td=""><td>6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           5           4           5           4           5           3</td><td></td><td>(3)</td><td>0<br/>0<br/>4<br/>4</td><td>(4)<br/>0</td><td>3</td><td>0</td><td>3</td><td>3</td><td>6<br/>9<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>3<br/>3<br/>4<br/>3<br/>3<br/>3<br/>3<br/>0<br/>9<br/>9<br/>222</td><td>(HMW) will usually be spr<br/>in the following pattern: F</td></td<> | 6           9           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           5           4           5           4           5           3  |           | (3)           | 0<br>0<br>4<br>4 | (4)<br>0      | 3         | 0             | 3           | 3             | 6<br>9<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>0<br>9<br>9<br>222          | (HMW) will usually be spr<br>in the following pattern: F                                      |

^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 IEEM+AI (4Y) (2022-23 intake)

<< Declaration of major

| School:<br>Department:  |   |   |  |                  |                      | << Declaration of major<br>Student's Pathways (i.e. Study Pattern) |  |  |  |             |               |   |  |  |  |  |
|---|---|---|--|------------------|----------------------|--|--|--|--|-------------|---------------|---|--|--|--|--|
| Department:   |   |   |  |                  |                      |  |  | Student's<br>Pathway                               |  | s (i.e. Stu | ıdy Pattei    | rn)   | 1  |  |  |  |
| Program:  |   | BSc in Integrative Systems and Design + Extended Major in A   | rtificial  | Backgro          |                      |  |  |  |  |             |               |   |  |  |  |  |
| -   |   | Intelligence  |  | □<br>Profile:    |                      |  |  |  |  |             |               |   |  |  |  |  |
|   |   |   |  |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| Course 🗆  | Course Code   | Course Title / Courses List   |  |                  |                      |  |  |  |  |             |               |   | -  |  |  |  |
| Offering□<br>Dept□  |   |   |  |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| (course code  |   |   |  |                  | Yea                  |  | Yea  |  | Yea  | _           | Yea           |   |  |  |  |  |
| prefix)   |   |   | Q  | Year 1 Fa        | Year 1 Spring        | Year 2 Fa  | Year 2 Spring  | Year 3 Fa  | Year 3 Spring                                  | Year 4 Fal  | Year 4 Spring | Sub-  |  |  |  |  |
|   |   |   | Credits  | 1 Fal            | pring                | 2 Fal  | pring  | 3 Fal  | pring  | 4 Fal       | pring         | -tota   | Remarks  |  |  |  |
| Major Requ  | uirements   |   | 0,   |                  | <u>u</u>             |  | <u>u</u>   |  | <u>u</u>                                       | _           | <u>u</u>      | _   |  |  |  |  |
| Major Require   | d Courses and   | Electives<br>Redefining Problems for the Real Needs   | 2  | п.,              |                      | -  |  |  |  |             |               | -   | 1  |  |  |  |
| ISDN  | 1002  | Sketching   | 3  | 3                |                      |  |  |  |  |             |               | 3   |  |  |  |  |
| SDN   | 1006  | Human-centered Innovation   | 3  |                  | 3                    | · · · · ·  |  |  |  |             |               | 3   |  |  |  |  |
| SDN   | 2001  | Second Year Design Project I  | 1  |                  |                      | 1  |  |  |  |             |               | 1   |  |  |  |  |
| ISDN  | 2002<br>2200  | Second Year Design Project II Systems Thinking and Design   | 4  |                  |                      | 3  | 4  |  |  |             |               | 4   |  |  |  |  |
| ISDN  | 2300  | Introduction to 3D Design   | 3  | 3                |                      | -  |  |  |  |             |               | 3   |  |  |  |  |
| ISDN  | 2400  | Physical Prototyping  | 3  |                  | 3                    |  |  |  |  |             |               | 3   |  |  |  |  |
| ISDN  | 3001<br>3002  | Third Year Design Project I Third Year Design Project II  | 4  |                  |                      |  |  | 4  | 4  |             |               | 4   |  |  |  |  |
| SDN   | 4001  | Final Year Design Project I   | 5  | ╢────            |                      |  |  |  | 4  | 5           |               | 4<br>5  |  |  |  |  |
| SDN   | 4002  | Final Year Design Project II  | 5  |                  |                      |  |  |  |  |             | 5             | 5   |  |  |  |  |
|   |   | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR<br>COMP 2012H   | 3-5  |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| COMP COMP   | 1021□<br>1022P□   | Introduction to Computer Science<br>Introduction to Computing with Java   | 3<br>3   |                  | 3                    |  |  |  |  |             |               | 3   |  |  |  |  |
| COMP COMP   | 2011<br>2012H   | Programming with C++ □<br>Honors Object-Oriented Programming and Data Structures  | 4<br>5   |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| LANG  | 2030  | Technical Communication I   | 3  |                  |                      | 3  |  |  |  |             |               | 3   |  |  |  |  |
| LANG<br>MATH  | 4032  | Technical Communication II for IEDA and ISDN Note: [MATH 1012 OR MATH 1013 OR MATH 1023 AND   | 3<br>4-7   |                  |                      |  |  |  | 3  |             |               | 3   |  |  |  |  |
|   |   | (MATH 1012 OR MATH 1024)] OR [MATH 1020 (Abject⊡<br>to approval of the program office, MATH 1014/1024 may be⊡   |  | l                |                      |  |  |  |  |             |               |   | 1) For students who chose t<br>technical stream of Comput  |  |  |  |
|   | □<br>1012□  | replaced by a COMP course)<br>Calculus IA   | 4  |                  |                      |  |  |  |  |             |               |   | Science, MATH1014 is not a<br>compulsory course.   |  |  |  |
| MATHO<br>MATHO<br>MATHO   | 1012<br>1013<br>1014  | Calculus II   | 3  | 3                | 3                    |  |  |  |  |             |               | 6   | - singulating obtaile.   |  |  |  |
| MATH  | 1020 🗆  | Accelerated Calculus  | 3 4 2  | 1                |                      |  |  |  |  |             |               |   |  |  |  |  |
| MATHO<br>MATH   | 1023□<br>1024   | Honors Calculus I<br>Honors Calculus II   | 3  |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| PHYS -  |   | Note: PHYS 1101 OR PHYS 1111 OR PHYS 1112 OR<br>PHYS 1312   | 3-4  |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| PHYS□<br>PHYS□  | 1101□<br>1111□  | Introductory Physics  General Physics I   | 4<br>3   | 3                |                      |  |  |  |  |             |               | 3   |  |  |  |  |
| PHYS⊡<br>PHYS   | 1112□<br>1312   | General Physics I with Calculus□<br>Honors General Physics I  | 3<br>3   |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
| ISDN/ENGG/IEDA  |   | Design Electives (Courses from the specified elective list)   | 5  |                  |                      |  | 2  | 3  |  |             |               | 5   |  |  |  |  |
| ISDN/ENTR/SBM   |   | Product Management and Entrepreneurship Electives (Courses from the   | 9  |                  |                      |  |  |  |  |             |               |   |  |  |  |  |
|   |   | specified elective list)  |  |                  |                      |  |  |  | 3  | 3           | 3             | 9   |  |  |  |  |
| SENG/MATH   |   | Project-related Electives (Courses from the specified elective list. Students should seek approval of their advisor for the choices of courses.)  | 22   |                  |                      | 6  | 3  | 6  | 2  | 3           | 2             | 22  |  |  |  |  |
|   |   |   |  |                  |                      |  | -  | -  | _  |             | _             |   |  |  |  |  |
|   | Deguine   | d eventite for Moion Deguined Courses and Electives   | 04.07  | 40               | 10                   | 10   |  | 10   | 10   |             | 10            |   |  |  |  |  |
| Al Require  |   | d credits for Major Required Courses and Electives  | 91-97  | 13               | 12                   | 13   | 9  | 13   | 12   | 11          | 10            | 93  |  |  |  |  |
|   |   |   | 91-97  | 13               | 12                   | 13   | 9  | 13   | 12   | 11          | 10            | 93  |  |  |  |  |
|   | ments   |   | ; 91-97<br>3   | 13               | 12                   | 13   | 9  | 13   | 12   | 11          | 10            | 93  |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP   | d Background  | Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science   | 3  | 13               | (3)                  | 13   | 9  | 13   | 12   | 11          | 10            | 93  |  |  |  |  |
| Recommende  | ments<br>d Background   | Courses<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 3  | 13               |                      | 13   | 9  | 13   | 12   | 11          | 10            |   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>COMP   | d Background  | Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computing with Java   | 3<br>3<br>3  | 13               |                      | 13   | 9  | 13   | 12   | 11          | 10            |   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>COMP<br>SOM<br>MATH<br>MATH  | Imports           Background           1021           1022P           3230           1014   | COURSES<br>Note: COMP 1021 OR COMP 1022P OR ISOM 3230<br>Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II   | 3<br>3<br>3<br>3-4<br>3-4  | 13               | (3)                  | 13   | 9  | 13   | 12   | 11          | 10            |   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>COMP<br>ISOM   | Background<br>1021<br>1022P<br>3230   | Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computing with Java Business Applications Programming Note: MATH 1014 OR MATH 1020 OR MATH 1024   | 3<br>3<br>3<br>3<br>3-4  | 13               |                      | 13   | 9  | 13   | 12   | 11          | 10            | 0   |  |  |  |  |
| COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH   | Instruction         Instruction           1021         1022P           3230         1014           1020         1020  | Courses Note: COMP 1021 OR COMP 1022P OR ISOM 3230 Introduction to Computer Science Introduction to Computing with Java Business Applications Programming Note: MATH 1014 OR MATH 1020 OR MATH 1024 Calculus II Accelerated Calculus  | 3<br>3<br>3<br>3-4<br>3<br>4   | 13               | (3)                  | 13   | 9  | 13   | 12   | 11          | 10            | 0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH   | Instruction         Instruction           1021         1022P           3230         1014           1020         1020  | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II   | 3<br>3<br>3-4<br>3<br>4<br>3   | 13               | (3)                  | 13   | 9  | 13   | 12   | 11          | 10            | 0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH  | Instruction         Instruction           1021         1022P           3230         1014           1020         1024  | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411   | 3<br>3<br>3<br>3<br>3-4<br>3<br>4<br>3<br>3-4  | 13               | (3)                  | 13   |  | 13   | 12   |             | 10            | 0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM<br>MATH  | Instant           1021           1022P           3230           1014           1020           1024           2500           2411  | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for AI Recommended Background Courses   | 3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4  | 0                | (3)                  | 0  |  | 0  | 0  | 0           | 0             | 0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>Major Require   | Instant         Instant <thinstant< th=""> <thinstant< th=""> <thi< td=""><td>Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for AI Recommended Background Courses</td><td>3<br/>3<br/>3-4<br/>3<br/>4<br/>3<br/>4<br/>3<br/>4<br/>3<br/>4</td><td></td><td>(3)</td><td>0</td><td>4</td><td></td><td></td><td></td><td></td><td>0</td><td></td></thi<></thinstant<></thinstant<> | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for AI Recommended Background Courses   | 3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4  |                  | (3)                  | 0  | 4  |  |  |             |               | 0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>SOM<br>WATH<br>WATH<br>WATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH<br>SOM/MATH  | Hents           d Background           1021           1022P           3230           1014           1020           1024           2500           2411           Required           Courses and           2010A  | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence   | 3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3<br>-4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>9-11  |                  | (3)                  | 0  | 4  |  |  |             |               | 0<br>0<br>4<br>4<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>SOM<br>WATH<br>WATH<br>WATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>MATH<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM<br>SOM  | Instruction         Instruction           1021         1022P           3230         1014           1020         1024           2500         2411           Required           d Courses and   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking  | 3<br>3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>9-11<br>0<br>3   |                  | (3)                  | 0  | 4  |  |  |             |               | 0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>COMP  | Required           2500           2411           2500           2411           2500           2411           2010A           2020   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H   | 3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>9-11<br>0<br>3<br>4-5   |                  | (3)                  | 0  | 4  |  |  |             |               | 0<br>0<br>4<br>4<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MAJOR Require<br>EMIA<br>EMIA<br>COMP<br>COMP   | Nents           d Background           1021           1022P           3230           1014           1020           1024           2500           2411           Required           Courses and           2010A           2020           2011           2021   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures  | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>9-11<br>0<br>0<br>3<br>3<br>4-5<br>4<br>4  |                  | (3)                  | 0  | 4  |  |  |             |               | 0<br>0<br>4<br>4<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOMA | Required           2500           2411           Required           2010A           2020  | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures   | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3   |                  | (3)                  | 0  | 4  |  |  |             |               | 0<br>0<br>4<br>4<br>0<br>3  |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>Major Require<br>EMIA<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP  | Required           2500           2411           2010A           2010A           2010A           2010A           2010A           2011           2012           2012           2014           2014           2014           2014           2014           2014           2014           2014   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211  | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>9-11<br>0<br>0<br>3<br>3<br>4-5<br>4<br>4  |                  | (3)                  | 0  | 4  |  |  |             |               | 0<br>0<br>4<br>4<br>0<br>3  |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOM<br>MATH<br>ISOMA | Required           2500           2411           2500           2411           Required           2010A           2010A           2012           2014   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211  | 3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>4<br>5  |                  | (3)                  | 0  | 4  | 0  |  |             |               | 0<br>0<br>4<br>4<br>0<br>3<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>Major Require<br>EMIA<br>EMIA<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | Required           2500           2211           2010A           2010A           2010A           2010A           2010A           2010A           2010A           2011           2012           2014           2015           2014           2015           211           211           211           211           211           211           3211   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Ceredits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP4211 OR EMIA 4110 OR MATH 4432         Machine Learning   | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>3<br>4<br>5<br>3<br>3<br>3<br>3  |                  | (3)                  | 0  | 4  | 0  |  |             |               | 0<br>0<br>4<br>4<br>0<br>3<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MAJOR Require<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | Required           2500           2411           2010A           2011           2012           2012           2012           2012           2012           2012           2111           3211   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Ceredits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Hontors Object-Oriented Programming and Data Structures         Note: COMP2211 OR COMP3211         Exploring Artificial Intelligence         Note: COMP4211 OR COMP3211         Exploring Artificial Intelligence         Note: COMP 4211 OR CMP3211         Exploring Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432  | 3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>4<br>4<br>5<br>3<br>3<br>3  |                  | (3)                  | 0  | 4  | 0  | 0  |             |               | 0<br>0<br>4<br>4<br>0<br>3<br>0<br>0<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | Nents           d Background           1021           1022P           3230           1014           1020           1024           2500           2411           2500           2411           2010A           2010A           2011           2012           2012           2012           3211           3211           3211           3211           3211           3211           3211  | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning  | 3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>3<br>3<br>3<br>3  |                  | (3)                  | 0  | 4  | 0  | 0  |             |               | 0<br>0<br>4<br>4<br>0<br>3<br>0<br>0<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | Required           2500           2411           2500           2411           2010A           2011           2012           2012           2014           211           2010A           2011           2012           2111           2012           2111           2012           2111           2012           2111           2212           2111           2211           3211           2411           4410           4432           4990   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP 2211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR COMP3211         Exploring Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project   | 3<br>3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>3<br>3<br>3<br>3  |                  | (3)                  | 0  | 4  | 0  | 0  |             |               | 0<br>0<br>4<br>4<br>0<br>3<br>0<br>0<br>0   |  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP<br>ISOM<br>MATH<br>MATH<br>MATH<br>MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM/MATH<br>ISOM<br>MATH<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | Required           2500           2010           2010           2010           2010           2011           2012           2012           2014           2014           2015           2014           2014           2015           2012           2013           211           3211           321           321   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Interdisciplinary Capstone Project   | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br>5<br>3<br>3<br>3<br>3   |                  | (3)                  | 0  | 4  | 0  | 0  |             | 0             | 0<br>0<br>4<br>4<br>0<br>3<br>0<br>0<br>0<br>3<br>3   |  |  |  |  |
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C12   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Catculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Courses         Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP 2211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Statistical Machine Learning  | 3         3         3         3         3         3         4         3         4         3         4         3         4         3         4         5         9-11         0         3         4-5         4         5         3         4         5         22-23         24            6 | 0<br>0<br>0      | (3)<br>(3)<br>0<br>0 | 0<br>0<br>3<br>(4)<br>3<br>3<br>3<br>3                             | 4 4 4 4 6 6  | 0<br>(3)<br>3<br>3<br>3                            | 0<br>0<br>3<br>3<br>6<br>0                     | 0           | 0             | 0<br>0<br>4<br>4<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>0<br>15<br>15     | (HMW) will usually be spread<br>in the following pattern: Fall:  |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP/<br>COMP/<br>SOM<br>MATH<br>MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH<br>SOM/MATH<br>SOM<br>Major Require<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COM  | Hents         Background         1021         1022P         3230         1014         1020         1024         2500         2411         2000         2010A         2010A         2012         2012         2111         2012         2112         4211         4211         4211         4432         4990         4991         Req         CORE (Reva         C3 - C12   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Coursess         Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 410 OR MATH 4432         Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: Students taking EMIA4990 should take a minimum of 9 credits; students taking EMIA4990 should ta   | 3         3         3         3         3         3         4         3         4         3         4         3         4         3         4         5         9-11         0         3         4-5         4         5         3         4         5         22-23         24            6 |                  |                      | 0<br>0<br>3<br>(4)<br>3<br>3<br>3<br>3<br>1<br>7                   | 4<br>4<br>4<br>0<br>0<br>0                               | 0<br>(3)<br>3<br>3<br>3<br>3<br>(1, free creations | 0<br>0<br>3<br>3<br>6<br>0<br>0<br>0<br>0<br>0 | 0           | 0             | 0<br>0<br>4<br>4<br>4<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>9<br>9<br>15 | The credit load of CORE190<br>(HMW) will usually be sprea<br>in the following pattern: Fall:<br>1; Spring: 2 |  |  |  |
| Recommende<br>COMP/ISOM<br>COMP/SOM<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COM  | Hents         Background         1021         1022P         3230         1014         1020         1024         2500         2411         2000         2010A         2010A         2012         2012         2111         2012         2112         4211         4211         4211         4432         4990         4991         Req         CORE (Reva         C3 - C12   | Courses         Note: COMP 1021 OR COMP 1022P OR ISOM 3230         Introduction to Computer Science         Introduction to Computing with Java         Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus         Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics         Applied Statistics         Credits for Al Recommended Background Coursess         Electives         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++         Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR EMIA 410 OR MATH 4432         Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: Students taking EMIA4990 should take a minimum of 9 credits; students taking EMIA4990 should ta   | 3         3         3         3         3         3         4         3         4         3         4         3         4         3         4         5         9-11         0         3         4-5         4         5         3         4         5         22-23         24            6 | 0<br>0<br>0<br>0 |                      | 0<br>0<br>3<br>(4)<br>3<br>3<br>3<br>3                             | 4<br>4<br>4<br>0<br>0<br>0<br>6<br>6<br>m load (ex<br>19 | 0<br>(3)<br>3<br>3<br>3                            | 0<br>0<br>3<br>3<br>6<br>0                     | 0           | 0             | 0<br>0<br>4<br>4<br>4<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>3<br>0<br>0<br>9<br>9<br>15 | (HMW) will usually be sprea<br>in the following pattern: Fall  |  |  |  |

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement.

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 ISDN (4Y) (2022-23 intake)

#### The Hong Kong University of Science and Technology School of Engineering

An Example on Student's Pathway (as of Fall 2022-23)

<< Declaration of major

| Cabaali  | shool: School of Engineering  |  |  |                    |   | Student's Pathways (i.e. Study Pattern) |                  |             |   |            |               |   |  |  |  |  |
|--|---|--|--|--------------------|---|---|------------------|-------------|---|------------|---------------|---|--|--|--|--|
| Department:  | partment: Department of Mechanical and Aerospace Engineering  |  |  |                    | Student's Pathways (i.e. Study Pattern) Pathway 1 Background: HKDSE 4 Core + 2 Elec (incl. 1/2x PHYS) |   |                  |             |   |            |               |   |  |  |  |  |
| Program:   |   | BEng in Mechanical Engineering + Extended Major in Art<br>Intelligence   | ificial  | Backgr             | ound: HK  | DSE 4 Co                                | ore + 2 El       | ec (incl.   | I/2x PHY                                | S)□        |               |   |  |  |  |  |
|  |   |  |  | Profile:<br>Design |   |   |                  |             |   |            |               |   |  |  |  |  |
|  |   |  | Cauraa Titla / Cauraaa List  |                    |   |   |                  |             |   |            |               |   |  |  |  |  |
| Course □<br>Dffering□  | Course Code   | Course Title / Courses List  |  |                    |   | į                                       |                  |             |   |            |               |   |  |  |  |  |
| Dept⊡<br>course code   |   |  |  |                    | Ye  | !                                       | Ye               |             | Ye                                      |            | Ye            |   |  |  |  |  |
| orefix)  |   |  | 0  | Year 1 Fal         | Year 1 Spring   | Year 2 Fal                              | Year 2 Spring    | Year 3      | Year 3 Spring                           | Year 4 Fal | Year 4 Spring | Sub   |  |  |  |  |
|  |   |  | Credits  | 1 Fall             | spring  | 2 Fall                                  | spring           | 3 Fall      | pring                                   | 4 Fall     | spring        | Sub-total   | Remarks  |  |  |  |
| Major Req  |   |  |  |                    |   |   |                  |             |   |            |               |   |  |  |  |  |
| Ingineering F  | undamental  | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR  | 3-5  | T                  | 1   | 1                                       |                  |             |   |            |               |   |  |  |  |  |
|  | □<br>1021□  | COMP 2012H<br>Introduction to Computer Science   | 3  | 3                  |   | į                                       |                  |             |   |            |               | 3   |  |  |  |  |
|  | 1022P<br>2011<br>2012H  | Introduction to Computing with Java  Programming with C++ Honors Object-Oriented Programming and Data Structures   | 3 4  |                    |   | ļ                                       |                  |             |   |            |               |   |  |  |  |  |
| ANG  | 2030  | Technical Communication I  | 3  |                    |   | 3                                       |                  |             |   |            |               | 3   |  |  |  |  |
|  |   | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND<br>(MATH 1014 OR MATH 1024)] OR [MATH 1020]   | 4-7  |                    |   | !                                       |                  |             |   |            |               |   |  |  |  |  |
| MATH<br>MATH<br>MATH   | 1012<br>1013<br>1014  | Calculus IA<br>Calculus IB<br>Calculus II  | 4<br>3<br>3  | 3                  | 3   |   |                  |             |   |            |               | 6   |  |  |  |  |
|  | 1020<br>1023  | Accelerated Calculus<br>Honors Calculus I  | 4  |                    |   | i<br>I                                  |                  |             |   |            |               |   |  |  |  |  |
| MATH<br>MATH   | 1024<br>2011  | Honors Calculus II<br>Introduction to Multivariable Calculus   | 3  |                    |   | 3                                       |                  |             |   |            |               | 3   |  |  |  |  |
| MATH D   | □<br>2111 □   | Note: MATH 2111 OR MATH 2350 OR MATH 2351 □<br>Matrix Algebra and Applications □   | 3  |                    |   |   |                  |             |   |            |               |   |  |  |  |  |
| MATH D   | 2350<br>2351  | Applied Linear Algebra and Differential Equations Introduction to Differential Equations   | 3  |                    |   | ļ                                       | 3                |             |   |            |               | 3   |  |  |  |  |
| PHYS D   | 1112  | Note: PHYS 112 OR PHYS 1312<br>General Physics I with Calculus   | 3  |                    | 3   | 1                                       |                  |             |   |            |               | 3   |  |  |  |  |
| PHYS<br>CHEM/LIFS/PHYS   | 1312  | Honors General Physics I<br>Science 1000-level course (1 course from the specified course list)  | 3<br>3-4   |                    |   | <u> </u>                                |                  |             |   |            |               |   |  |  |  |  |
| _  | Det   |  |  |                    | 3   |   |                  | 0           | 0                                       | 0          | 0             | 3   |  |  |  |  |
|  | ed Courses a  |  | <b>rses</b> 22-28  | 6                  | 9   | 6                                       | 3                | 0           | 0                                       | 0          | 0             | 24  | l  |  |  |  |
| MECH   | 1906<br>1990  | Mechanical Engineering for Modern Life<br>Industrial Training  | 3  | 3                  | -   | 0*                                      | 1047             |             |   |            |               | 3   |  |  |  |  |
| месн<br>месн   | 2020  | Statics and Dynamics   | 3  |                    |   | 0*<br>3                                 | [0^]             |             |   |            |               | 0   |  |  |  |  |
| MECH   | 2040  | Solid Mechanics I  | 3  | _                  |   | ļ                                       | 3                |             |   |            |               | 3   |  |  |  |  |
| MECH   | 2210<br>2310  | Fluid Mechanics Thermodynamics   | 3  |                    |   | 3                                       | 3                |             |   |            |               | 3   |  |  |  |  |
| MECH   | 2410  | Engineering Materials I  | 3  |                    | 1   | <u> </u>                                | 3                |             |   |            |               | 3   |  |  |  |  |
| MECH   | 2520<br>3030  | Design and Manufacturing I<br>Mechanisms of Machinery  | 3  |                    |   | <u></u>                                 | 3                | 3           |   |            |               | 3   |  |  |  |  |
| MECH   |   | Note: MECH 3300 OR MECH 3420 OR MECH 3520 OR<br>MECH 3710  | 3  |                    | 1   | :                                       |                  | -           |   |            |               |   |  |  |  |  |
| MECH□<br>MECH□   | 3300□<br>3420□  | Energy Conversion<br>Engineering Materials II  | 3<br>3   |                    |   | i                                       |                  | 3           |   |            |               | 3   |  |  |  |  |
| MECH D   | 3520<br>3710  | Design and Manufacturing II⊟<br>Manufacturing Processes and Systems  | 3  |                    |   | i –                                     |                  |             |   |            |               |   |  |  |  |  |
| MECH<br>MECH   | 3310<br>3610  | Heat Transfer<br>Control Principles  | 3  |                    |   | i                                       |                  | 3           |   |            |               | 3   |  |  |  |  |
| MECH   | 3630  | Electrical Technology  | 3  | -                  |   | i –                                     |                  | 3           | 3                                       |            |               | 3   |  |  |  |  |
| MECH   | 3830<br>3907  | Laboratory<br>Mechatronic Design and Prototyping   | 3  |                    |   | į —                                     |                  |             | 3                                       |            |               | 3   |  |  |  |  |
| MECH   | 4900  | Final Year Design Project  | 6  |                    |   | <u> </u>                                |                  |             | 3                                       | 3          | 3             | 3<br>6  |  |  |  |  |
| ELEC   | 2420  | Basic Electronics  | 3  |                    |   | 3                                       |                  |             |   |            |               | 3   |  |  |  |  |
| ENGG<br>LANG   | 2010<br>4034  | Engineering Seminar Series<br>Technical Communication II for Mechanical and Aerospace Engineerir   | 0<br>ng 3  |                    |   | 0                                       | 0                | 0           | 0                                       |            |               | 0   |  |  |  |  |
|  | Poquir  | ed credits for Major Required Courses and Elect  | tives 54   | 3                  | 0   | 9                                       | 12               | 12          | 3<br>12                                 | 3          | 3             | 3<br>54   |  |  |  |  |
| Option Requi   | rements   |  | 1103 04  | 5                  | 0   | 3                                       | 12               | 12          | 12                                      | 5          | 5             | - 04  |  |  |  |  |
| Engineering Desi<br>MECH   | ign Option  | MECH Electives in Engineering Design (3 courses from the specified   | 9  |                    | 1   | !                                       |                  |             |   |            |               | <u> </u>  |  |  |  |  |
|  |   | elective list. Courses taken as Major Required Courses or Elective Co<br>of other MECH Options may not be counted towards this elective  | ourses   |                    |   | ļ                                       |                  |             |   | 3          | 6             | 9   |  |  |  |  |
|  |   | requirement.)<br>Required credits for Engineering Design Op  | otion 9  | 0                  | 0   | 0                                       | 0                | 0           | 0                                       | 3          | 6             | 9   |  |  |  |  |
| Al Require   | ments   |  |  | ů                  | Ű   | ů                                       | Ű                | ů           | 0                                       | 0          | 0             |   |  |  |  |  |
| Recommende   | ed Backgroun  |  |  |                    |   |   |                  |             |   |            |               |   |  |  |  |  |
| COMP   | 1021  | Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 3  |                    |   |   |                  |             |   |            |               |   |  |  |  |  |
| COMP   |   | Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 3  |                    |   |   |                  |             |   |            |               |   |  |  |  |  |
|  | 1021<br>1022P<br>3230   | Introduction to Computer Science<br>Introduction to Computing with Java  | 3<br>3<br>3<br>3   | (3)                |   |   |                  |             |   |            |               | 0   |  |  |  |  |
|  | 1022P   | Introduction to Computer Science   | 3  | (3)                |   |   |                  |             |   |            |               | 0   |  |  |  |  |
| MATH<br>MATH   | 1022P<br>3230<br>1014   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II   | 3<br>3-4<br>3  | (3)                | (2)   |   |                  |             |   |            |               |   |  |  |  |  |
| MATH   | 1022P<br>3230   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024  | 3<br>3<br>3-4  | (3)                | (3)   |   |                  |             |   |            |               | 0   |  |  |  |  |
| MATH<br>MATH<br>MATH   | 1022P<br>3230<br>1014<br>1020   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus   | 3<br>3-4<br>3<br>4   | (3)                | (3)   |   |                  |             |   |            |               |   |  |  |  |  |
| MATH<br>WATH<br>WATH<br>SOM/MATH<br>SOM  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics  | 3<br>3-4<br>3<br>4<br>3<br>4<br>3-4<br>3-4<br>3-4  | (3)                | (3)   |   | 4                |             |   |            |               |   |  |  |  |  |
| MATH<br>MATH<br>MATH<br>MATH<br>SOM/MATH   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics  | 3<br>3-4<br>3-4<br>3<br>4<br>3-4<br>3-4<br>3<br>4  |                    |   |   |                  |             |   |            |               | 0   |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br><b>Require</b>   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Cou   | 3<br>3-4<br>3-4<br>3<br>4<br>3-4<br>3-4<br>3<br>4  | (3)                | (3)   | 0                                       | 4                | 0           | 0                                       | 0          | 0             | 0   |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br><b>Require</b>   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Cou   | 3<br>3-4<br>3-4<br>3<br>4<br>3-4<br>3-4<br>3<br>4  |                    |   | 0                                       |                  | 0           | 0                                       | 0          | 0             | 0   |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br><b>Require</b><br>ed Courses al  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Cound<br>Electives  | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>3<br>4<br>7<br>8<br>8<br>9<br>9-11   |                    |   |   |                  | 0           | 0                                       | 0          | 0             | 0   |  |  |  |  |
| WATH<br>WATH<br>WATH<br>SOM/MATH<br>SOM<br>MATH  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br><b>Require</b><br>ed Courses an<br>2010A   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Cou<br>Id Electives<br>Cross-disciplinary Seminar in Artificial Intelligence  | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br><b>rses</b> 9-11<br>0   |                    |   |   |                  |             | 0                                       | 0          | 0             | 0<br>4<br>4<br>0  |  |  |  |  |
| MATH<br>VATH<br>VATH<br>SOM/MATH<br>SOM<br>WATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>COMP   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>2010A<br>2010A<br>2020<br>2011<br>2012   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming           Note: MATH 1014 OR MATH 1020 OR MATH 1024           Calculus II<br>Accelerated Calculus<br>Honors Calculus II           Note: ISOM 2500 OR MATH 2411           Business Statistics<br>Applied Statistics           Credits for AI Recommended Background Cou<br>d Electives           Cross-disciplinary Seminar in Artificial Intelligence           Cross-disciplinary Design Thinking           Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures  | 3<br>3-4<br>3-4<br>3-4<br>3-4<br>3-4<br>3-4<br>3-4<br>9-11<br><b>rses</b> 9-11<br>0<br>3-3   |                    |   |   |                  |             | 0                                       | 0          | 0             | 0<br>4<br>4<br>0  |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P<br>3230<br>1014<br>1020<br>2500<br>2411<br>2500<br>2411<br><b>Require</b><br>ed Courses al<br>2010A<br>2020   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Credits for Al Recommended Background Cou<br>Id Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures  | 3         3           3-4         3           4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           9-11         0           0         3           4-5         4   |                    |   | 0                                       |                  |             | 0                                       | 0          | 0             | 0<br>4<br>4<br>0<br>3   |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>Mia<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>2010<br>2010A<br>2020<br>2011<br>2012<br>2012H<br>2012<br>2012H  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Cou<br>d Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures  | 3<br>3<br>3-4<br>3<br>4<br>3<br>4<br>3<br>4<br><b>rses</b> 9-11<br>0<br>3<br>4-5<br>4<br>4<br>4  |                    |   | 0                                       |                  |             | 0                                       | 0          | 0             | 0<br>4<br>4<br>0<br>3   |  |  |  |  |
| MATH<br>VATH<br>VATH<br>SOM/MATH<br>SOM<br>MAJOR Require<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>2500<br>2411<br>2010A<br>2020<br>2010A<br>2020<br>2011<br>2012<br>2012   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>d credits for AI Recommended Background Cound<br>Electives<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP2211 OR COMP3211  | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>3<br>4<br><b>rses</b> 9-11<br>7<br>8<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>8<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>9-11   |                    |   | 0                                       |                  | 3           | 0                                       | 0          | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4   |  |  |  |  |
| MATH<br>VATH<br>WATH<br>SOMMATH<br>SOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br><b>Require</b><br>Courses at<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012<br>2012<br>2012<br>2014<br>2012<br>2014  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming<br>Note: MATH 1014 OR MATH 1020 OR MATH 1024<br>Calculus II<br>Accelerated Calculus<br>Honors Calculus II<br>Note: ISOM 2500 OR MATH 2411<br>Business Statistics<br>Applied Statistics<br>Cross-disciplinary Seminar in Artificial Intelligence<br>Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H<br>Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Endamentals of Artificial Intelligence<br>Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Endamentals of Artificial Intelligence<br>Note: COMP 4211 OR EMIA 4110 OR MATH 4432<br>Machine Learning   | 3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>7 <b>Ses</b> 9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>8<br>9-11<br>7<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>7<br>9-11<br>9-11 |                    |   | 0                                       |                  | 3           | 0                                       | 0          | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4   |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>EMIA<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>2010A<br>2010A<br>2010A<br>2020<br>2011<br>2012<br>2012  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II         Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 211 OR COMP 2211<br>Exploring Artificial Intelligence         Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals Machine Learning<br>Practical Machine Learning<br>Statistical Machine Learning   | 3         3           3-4         3           3-4         3           3-4         3           3-4         3           7565         9-11           7565         9-11           0         3           4-5         4           4-5         4           4         5           3         3           3         3           3         3           3         3           3         3  |                    |   | 0                                       |                  | 3           |   | 0          | 0             | 0<br>4<br>4<br>0<br>3<br>4<br>4<br>3  |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>Major Require<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P<br>3230<br>1014<br>1020<br>2500<br>2411<br>2010A<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Credits for Al Recommended Background Cound<br>Electives         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures<br>Note: COMP 211 OR COMP3211         Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artifici                                 | 3<br>3<br>3<br>3<br>4<br>3<br>4<br>3<br>4<br>7Ses 9-11<br>7Ses 9-11<br>7<br>7Ses 9-11<br>7<br>7Ses 9-11<br>7<br>7<br>7<br>8<br>7<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8   |                    |   | 0                                       |                  | 3           |   | 0          |               | 0<br>4<br>4<br>0<br>3<br>4<br>4<br>3<br>3<br>3                                      |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>MATH<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 1022P<br>3230<br>1014<br>1020<br>1024<br>2500<br>2411<br>2010<br>2010A<br>2020<br>2011<br>2012<br>2012H<br>2012<br>2012H<br>2012<br>2012  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Rudenie Learning<br>Practical Machine Learning<br>Statistical Machine Learning<br>Statistical Machine Learning         Note: Fundamental Schartificaring<br>Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991<br>Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project   | 3         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           5         9-11           0         3           4-5         4           4-5         4           5         3           3         3           3         3           3         3           3         3           0-3         0           0         3   |                    |   | 0                                       |                  | 3           |   | 0          | 0             | 0<br>4<br>4<br>0<br>3<br>4<br>4<br>3  |  |  |  |  |
| MATH<br>MATH<br>MATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>MATH<br>EMIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 1022P<br>3230<br>1014<br>1024<br>2500<br>2411<br>2500<br>2411<br>2010A<br>2010A<br>2020<br>2011<br>2012<br>2012<br>2012H<br>2211<br>3211<br>4211<br>4432<br>4390  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211         Exporting Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR COMP3211         Exporting Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project   | 3         3           3-4         3           3-4         3           3-4         3           3-4         3           7565         9-11           7565         9-11           0         3           4-5         4           5         3           3         3           3         3           3         3           3         3           3         3           3         3           0-3         0  |                    |   | 0                                       |                  | 3           | 3                                       |            | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>0                            |  |  |  |  |
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| AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>AATH<br>Major Require<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 1022P           3230           1014           1020           2500           2411           2010A           2010A           2011           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           2211           3211           4211           4432           4990           4991    | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Fundam | 3         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           4-5         4           5         3           3         3           4         5  |                    |   | 0                                       |                  | 3           | 3                                       |            | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>0                            |  |  |  |  |
| AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM<br>MAATH<br>Major Require<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P           3230           1014           1020           1024           2500           2411           2010A           2010A           2011           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           211           3211           4211           4100           4432           4990           4991           CORE (Re | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence         Fundamentas of Artificial Intelligence         Rude: COMP 4211 OR COMP3211<br>Exploring Artificial Intelligence         Note: COMP 4211 OR COMP3211<br>Exploring Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning<br>Practical Machine Learning<br>Statistical Machine Learning<br>Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991<br>Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project<br>AI Electives         Quired credits for AI Required Courses and Elect<br>vamped)  | 3       3-4       3       3-4       3       3-4       3       3-4       3       3-4       3       7505       9-11       0       3       4-5       4       5       3       4       5       5       5       5       6  |                    |   | 4                                       |                  | 3           | 3                                       | 3          | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>0<br>9                  |  |  |  |  |
| AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM<br>MATH<br>Major Require<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP  | 1022P         3230         1014         1020         1024         2500         2411         2010A         2011         2012         2012         2012         2012         2014         4211         4102         4432         4990         4991 <b>Ket</b>   | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming           Note: MATH 1014 OR MATH 1020 OR MATH 1024           Calculus II<br>Accelerated Calculus<br>Honors Calculus II           Note: ISOM 2500 OR MATH 2411           Business Statistics<br>Applied Statistics           Cross-disciplinary Seminar in Artificial Intelligence           Cross-disciplinary Design Thinking           Note: COMP 2011 OR COMP 2012 OR COMP 2012H           Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures           Note: COMP 211 OR COMP3211<br>Exploring Artificial Intelligence           Fundamentals of Artificial Intelligence<br>Fundamentals of Artificial Intelligence<br>Note: COMP 4211 OR COMP3211<br>Exploring Artificial Intelligence<br>Note: COMP 4211 OR EMIA 4110 OR MATH 4432           Machine Learning<br>Practical Machine Learning<br>Statistical Machine Learning<br>Stati                              | 3         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           3-4         3           4-5         4           5         3           3         3           4         5  |                    | 0<br>0  | 4                                       |                  | 3           | 3                                       | 3          | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>0<br>9                  | (HMW) will usually be spr  |  |  |  |
| AATH<br>AATH<br>AATH<br>AATH<br>SOM/MATH<br>SOM/MATH<br>SOM<br>Major Require<br>Mina<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P         3230         1014         1020         1020         1024         2500         2411         2010A         2020         2011         2012         2012         2012         2012         2014         3211         4211         4410         4432         4990         4991         Re(         CORE (Re)         CORE (Re)         C3-C12  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 211 OR COMP 2211         Exporing Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR COMP3211         Exploring Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Practical Machine Learning         Note: EMIA 4990 OR EMIA 4991         Interdisciplinary Capstone Project         Note: Students taking EMIA4990 should take a minimum of 9 credits;         At Electives         Quired credits for AI R   | 3       3-4       3       3-4       3       4-5       0       3       4-5       4-5       3  |                    | 0<br>0<br>0<br>0<br>0<br>0  | 4                                       |                  | 3           | 3                                       | 3          | 0             | 0<br>4<br>4<br>0<br>3<br>4<br>4<br>3<br>4<br>3<br>3<br>3<br>3<br>0<br>9<br>22<br>24 | (HMW) will usually be spr  |  |  |  |
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Require<br>Mia<br>Mia<br>Mia<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>C | 1022P           3230           1014           1020           1024           2500           2411           2010A           2010A           2011           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2012           2014           211           3211           4211           4100           4432           4990           4991           CORE (Re | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Seminar in Artificial Intelligence         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Programming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 2211 OR COMP3211<br>Exploring Artificial Intelligence         Fundamentas of Artificial Intelligence         Rude: COMP 4211 OR COMP3211<br>Exploring Artificial Intelligence         Note: COMP 4211 OR COMP3211<br>Exploring Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning<br>Practical Machine Learning<br>Statistical Machine Learning<br>Statistical Machine Learning         Note: EMIA 4990 OR EMIA 4991<br>Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project<br>AI Electives         Quired credits for AI Required Courses and Elect<br>vamped)  | 3       3.4       3       3.4       3       3.4       3       4.3       rses       9.11       0       3       4.5       3       4.5       3       3       4.5       3 <td< td=""><td></td><td>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>2<br/>3</td><td>4</td><td></td><td>3</td><td>3</td><td>3</td><td>0</td><td>0<br/>4<br/>4<br/>0<br/>3<br/>3<br/>4<br/>3<br/>3<br/>3<br/>3<br/>0<br/>9<br/>9<br/>22</td><td>The credit load of CORE:<br/>(HMW) will usually be spr<br/>in the following pattern: Fr<br/>Spring: 2</td></td<>   |                    | 0<br>0<br>0<br>0<br>0<br>0<br>2<br>3  | 4                                       |                  | 3           | 3                                       | 3          | 0             | 0<br>4<br>4<br>0<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>0<br>9<br>9<br>22            | The credit load of CORE:<br>(HMW) will usually be spr<br>in the following pattern: Fr<br>Spring: 2 |  |  |  |
| AATH<br>IATH<br>IATH<br>SOM/MATH<br>SOM/MATH<br>SOM/<br>IATH<br>MIA<br>MIA<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP<br>COMP   | 1022P         3230         1014         1020         1020         1024         2500         2411         2010A         2020         2011         2012         2012         2012         2012         2014         3211         4211         4410         4432         4990         4991         Re(         CORE (Re)         CORE (Re)         C3-C12  | Introduction to Computer Science<br>Introduction to Computing with Java<br>Business Applications Programming         Note: MATH 1014 OR MATH 1020 OR MATH 1024         Calculus II<br>Accelerated Calculus<br>Honors Calculus II         Note: ISOM 2500 OR MATH 2411         Business Statistics<br>Applied Statistics         Cross-disciplinary Design Thinking         Cross-disciplinary Design Thinking         Note: COMP 2011 OR COMP 2012 OR COMP 2012H         Porgramming with C++<br>Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures         Note: COMP 2011 OR COMP3211         Exporting Artificial Intelligence         Fundamentals of Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 2011 OR COMP3211         Exporting Artificial Intelligence         Fundamentals of Artificial Intelligence         Note: COMP 4211 OR COMP3211         Exporting Artificial Intelligence         Note: COMP 4211 OR EMIA 4110 OR MATH 4432         Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Statistical Machine Learning         Note: Students taking EMIA4990 should take a minimum of 9 credits;         Al Electives         Quiered credits for Al Required Courses and Elect         vamped)       U CORE - Others   | 3       3.4       3       3.4       3       4.3       rses       9.11       0       3       4.5       3       4.5       3       3.4       3.5       3.6       3.6       3.7       3.8  |                    | 0<br>0<br>0<br>0<br>0<br>0  | 0<br>4<br>4                             | 4<br>4<br>0<br>0 | 3 3 6 6 3 3 | 3 | 3          | 0             | 0<br>4<br>4<br>3<br>3<br>4<br>3<br>3<br>3<br>3<br>3<br>3<br>9<br>22<br>22           | (HMW) will usually be spi<br>in the following pattern: F   |  |  |  |

[] denotes the course is also offered in other terms as indicated and students may take the course in one of these terms subject to advice by the program office.

\* Courses offered in winter term

^ Courses offered in summer term

# To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

2022-23 MECH+AI (4Y) (2022-23 intake)

|                               |   |  |             |                         |   |          | << Dec    | laration           | of majo              | r                |              |             |          |  |
|-------------------------------|---|--|-------------|-------------------------|---|----------|-----------|--------------------|----------------------|------------------|--------------|-------------|----------|--|
| School:<br>Department:        |   |  |             |                         |   |          |           |                    | Student<br>Pathway 1 | 's Pathway:<br>I | s (i.e. Stuc | ly Pattern) |          |  |
| Program:                      |   | BEng in Sustainable Energy Engineering + Extended Major in Artificial Int  | telligenc   | e                       | Background: HKDSE 4 Core + 2 Elec (incl. 1/2x PHYS, 1/2x CHEM)□ |          |           |                    |                      |                  |              |             |          | 1  |
|                               |   |  |             |                         | Drofile: No   | ormative |           |                    |                      |                  |              |             |          |  |
|                               |   |  |             |                         |   |          |           |                    |                      |                  |              |             |          |  |
| Course □<br>Offering□         | Course Code   | Course Title / Courses List  |             |                         |   |          | !         |                    |                      |                  |              |             |          | 1  |
| Dept⊡<br>(course code prefix) |   |  |             | Extra<br>Credits /      |   | Year     |           | Year               |                      | Year             |              | Year        |          |  |
| (course coue preim)           |   |  | Q           | tra Er<br>ts Att        | Year 1  | ar 1 S   | Year 2 Fa | N                  | Year 3               | ar 3 S           | Year 4       | ar 4 S      | Sub-tota |  |
|                               |   |  | Credits     | a English<br>s Attained | 1 Fall  | 1 Spring | 2 Fall    | Spring             | 3 Fall               | 3 Spring         | 4 Fall       | 4 Spring    | -total   | Remarks  |
| Major Require                 |   |  |             |                         |   |          |           |                    |                      |                  |              |             |          |  |
| Engineering Fund              |   | Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR  | 3-5         |                         |   |          | 1         |                    |                      |                  |              |             |          |  |
|                               | 0<br>10210  | COMP 2012H Introduction to Computer Science  | 3           |                         |   | 3        | i         |                    |                      |                  |              |             | 3        |  |
|                               | 1022P<br>2011<br>2012 1   | Introduction to Computing with Java Programming with C++ Users Official Operations and Data Structures   | 3 4         |                         |   |          | ļ         |                    |                      |                  |              |             |          |  |
| ELEC/MATH                     |   | Note: (ELEC 2600 OR ELEC 2600H) OR MATH 2011 OR<br>MATH 2111 OR MATH 2351 (3 courses out of 5)   | 9-10        |                         |   |          |           |                    |                      |                  |              |             |          |  |
|                               | 2600□<br>2600H□   | Probability and Random Processes in Engineering⊟<br>Honors Probability and Random Processes in Engineering⊟  | 4<br>4      |                         |   |          | 6         | 3                  |                      |                  |              |             | 9        |  |
| MATH                          | 2011<br>2111  | Introduction to Multivariable Calculus□<br>Matrix Algebra and Applications□  | 3<br>3      |                         |   |          |           |                    |                      |                  |              |             |          |  |
| -                             | 1020  | General Chemistry I  | 3           |                         | 3   |          |           |                    |                      |                  |              |             | 3        |  |
| LANG<br>MATH                  | 2030<br>□   | Technical Communication I<br>Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND  | 3<br>4-7    |                         |   |          | 3         |                    |                      |                  |              |             | 3        |  |
|                               | □<br>1012□  | (MATH 1014 OR MATH 1024)] OR [MATH 1020]□<br>Calculus IA□  | 4           |                         |   |          | i         |                    |                      |                  |              |             |          |  |
| MATH                          | 1013□<br>1014□  | Calculus IB  | 3           |                         | 3   | 3        | į         |                    |                      |                  |              |             | 6        |  |
| MATH D<br>MATH D              | 1020 □<br>1023 □  | Accelerated Calculus  Honors Calculus  | 4 3         |                         |   |          | į         |                    |                      |                  |              |             |          |  |
| PHYS□<br>PHYS□                | 1112 I  | Note: PHYS 1112 OR PHYS 1312<br>General Physics I with Calculus  | 3           |                         | 3   |          |           |                    |                      |                  |              |             | 3        |  |
| PHYS<br>PHYS                  | 1312<br>□   | Honors General Physics I<br>Note: PHYS 1114 OR PHYS 1314   | 3           | +                       | ╢───  | 0        | !         | 1                  |                      |                  |              |             | 0        |  |
| PHYS<br>PHYS<br>SENG          | 1114□<br>1314   | General Physics II⊡<br>Honors General Physics II<br>Engineering Introduction course (If the students take an introduction course included in                       | 3<br>3-4    | -                       |   | 3        | <u> </u>  |                    |                      |                  |              |             | 3        |  |
| SLING                         |   | Engineering introduction course (if the students take an introduction course included in their major, this course can be counted towards their major requirement.) | 3-4         |                         | 3   |          | :         |                    |                      |                  |              |             | 3        |  |
|                               |   | Required credits for Engineering Fundamental Courses   | 31-38       |                         | 12  | 9        | 9         | 2                  | 0                    | 0                | 0            | 0           | 22       |  |
| Major Required Co             |   | /es  |             |                         | # <sup>12</sup>   | 3        | 9         | 3                  | 0                    | 0                | 0            |             | 33       | 4  |
| ENEG<br>ENEG                  | 2910<br>2990  | Industrial Training<br>Academic and Professional Development I   | 0           |                         |   |          | 0         |                    |                      |                  |              | 0           | 0        |  |
| ENEG                          | 3110  | Materials for Energy Technologies  | 3           |                         |   |          | Ì         |                    | 3                    |                  |              |             | 3        |  |
|                               | □<br>3220□<br>2210  | Note: ENEG 3220 OR PPOL 3210 □<br>Energy Initiatives Forging Future Engineers □  | 3           |                         |   |          | İ         |                    |                      | 3                |              |             | 3        |  |
|                               | 3210<br>3910  | Energy Policy<br>Sustainable Energy Laboratory   | 3           |                         |   |          | ļ         |                    |                      | 3                |              |             | 3        |  |
|                               | 4920<br>4990  | Final Year Design Project Academic and Professional Development II   | 6<br>0      |                         |   |          | <u>!</u>  |                    |                      |                  | 3            | 3           | 6        |  |
| CENG/MECH/SUST                | □<br>1700□  | Note: CENG 1700 OR MECH 1902 OR SUST 1000□<br>Introduction to Environmental Engineering□   | 3           |                         | 101   |          | 1         |                    |                      |                  |              |             |          | CENG1700 will be offered in the<br>Fall                                      |
| MECH                          | 1902<br>1000  | Energy Systems in a Sustainable World  | 3           |                         | [3]   | 3        | <u>.</u>  |                    |                      |                  |              |             | 3        |  |
|                               | □<br>2210□  | Note: CENG 2210 OR MECH 2310<br>Chemical and Biological Engineering Thermodynamics   | 3<br>3      |                         |   |          | i         | 3                  |                      |                  |              |             | 3        |  |
| MECH<br>CENG/MECH<br>CENG     | 2310<br>2220  | Thermodynamics<br>Note: CENG 2220 OR MECH 2210<br>Transport Phenomena I  | 3           |                         |   |          | i         | 3                  |                      |                  |              |             | 3        |  |
| MECH<br>CENG/MECH             | 2220<br>2210  | Fluid Mechanics<br>Note: CENG 3220 OR MECH 3310  | 3<br>3<br>3 |                         |   |          | i —       | 3                  |                      |                  |              |             | 3        |  |
| CENG                          |   | Transport Phenomena II⊡<br>Heat Transfer   | 3           |                         |   |          | ļ         |                    | 3                    |                  |              |             | 3        |  |
|                               | 2410<br>2420  | Environmental Assessment and Management<br>Basic Electronics   | 3           |                         |   |          | 3         | 3                  |                      |                  |              |             | 3        |  |
| ENGG                          | 2010  | Engineering Seminar Series   | 0           |                         |   |          | 0         |                    |                      |                  |              |             | 0        |  |
|                               | 3300<br>3630  | Energy Conversion Electrical Technology  | 3           |                         | -   |          | <u>!</u>  |                    | 3                    | 3                |              |             | 3        |  |
|                               | 4035  | Technical Communication II for Chemical and Biological Engineering   | 3           |                         |   |          |           |                    |                      | 3                |              |             | 3        |  |
| SENG                          |   | Area Electives (6 courses from the specified elective list, of which at least 1 course   | 18          |                         |   |          | <u> </u>  |                    |                      |                  |              |             |          |  |
|                               |   | should be taken from each area except Research)  |             | _                       |   |          |           |                    |                      |                  | 6            | 12          | 18       |  |
| Al Requireme                  |   | Required credits for Major Required Courses and Electives  | 60          |                         | 0   | 3        | 3         | 9                  | 9                    | 12               | 9            | 15          | 60       |  |
| Recommended Ba                | ackground Course  |  |             | _                       |   | -        |           |                    |                      | _                |              | _           |          |  |
| COMP/ISOM                     |   | Note: COMP 1021 OR COMP 1022P OR ISOM 3230   | 3           |                         |   |          | i –       |                    |                      |                  |              |             |          |  |
| COMP<br>COMP<br>ISOM          | 1021<br>1022P<br>3230   | Introduction to Computer Science<br>Introduction to Computing with Java  | 3           |                         |   | (3)      |           |                    |                      |                  |              |             | 0        |  |
| ISOM<br>MATH                  | 5230  | Business Applications Programming Note: MATH 1014 OR MATH 1020 OR MATH 1024  | 3<br>3-4    |                         |   |          |           |                    |                      |                  |              |             |          |  |
| МАТН                          | 1014  | Calculus II  | 3           |                         |   | (3)      |           |                    |                      |                  |              |             | 0        |  |
| MATH<br>MATH                  | 1020<br>1024  | Accelerated Calculus<br>Honors Calculus II   | 4<br>3      |                         |   |          |           |                    |                      |                  |              |             |          |  |
| ISOM/MATH                     |   | Note: ISOM 2500 OR MATH 2411   | 3-4         |                         |   |          |           | 3                  |                      |                  |              |             | 3        |  |
| ISOM<br>MATH                  | 2500<br>2411  | Business Statistics<br>Applied Statistics  | 3<br>4      |                         |   |          |           | 3                  |                      |                  |              |             | 3        |  |
| Major Required Co             |   | Required credits for Al Recommended Background Courses   | 9-11        |                         | 0   | 0        | 0         | 3                  | 0                    | 0                | 0            | 0           | 3        |  |
| EMIÁ                          | 2010A   | Cross-disciplinary Seminar in Artificial Intelligence  | 0           |                         |   |          | 0         |                    |                      |                  |              |             | 0        |  |
| EMIA<br>COMP                  | 2020  | Cross-disciplinary Design Thinking<br>Note: COMP 2011 OR COMP 2012 OR COMP 2012H   | 3<br>4-5    |                         |   |          |           |                    | 3                    |                  |              |             | 3        |  |
| COMP                          | 2011  | Programming with C++   | 4           |                         |   |          | 4         |                    |                      |                  |              |             | 4        |  |
| COMP<br>COMP                  | 2012<br>2012H   | Object-Oriented Programming and Data Structures<br>Honors Object-Oriented Programming and Data Structures  | 4<br>5      |                         |   |          |           |                    |                      |                  |              |             |          |  |
| COMP<br>COMP                  | 2211  | Note: COMP2211 OR COMP3211<br>Exploring Artificial Intelligence  | 3           |                         |   |          |           |                    | 3                    |                  |              |             | 3        |  |
| COMP<br>COMP/EMIA/MATH        | 3211  | Fundamentals of Artificial Intelligence<br>Note: COMP 4211 OR EMIA 4110 OR MATH 4432   | 3           |                         |   |          |           |                    |                      |                  |              |             |          |  |
| COMP<br>EMIA                  | 4211<br>4110  | Machine Learning<br>Practical Machine Learning   | 3           |                         |   |          |           |                    |                      | 3                |              |             | 3        |  |
| MATH                          | 4432  | Statistical Machine Learning   | 3           |                         |   |          | i l       |                    |                      |                  |              |             |          |  |
| EMIA                          | 4000  | Note: EMIA 4990 OR EMIA 4991   | 0-3         |                         |   |          |           |                    |                      |                  |              | 0           | o        |  |
| EMIA<br>EMIA                  | 4990<br>4991  | Interdisciplinary Capstone Project<br>Interdisciplinary Capstone Project   | 0<br>3      |                         |   |          | i i       |                    |                      |                  |              | 0           | 0        |  |
| SBM/SENG/<br>SSCI/IPO         |   | Note: Students taking EMIA4990 should take a minimum of 9 credits; students taking<br>EMIA4991 should take a minimum of 6 credits                                  | 6-9         |                         |   |          |           |                    |                      |                  |              |             |          |  |
|                               |   | Al Electives   |             |                         |   |          |           |                    |                      | 6                | 3            |             | 9        |  |
|                               |   | Required credits for AI Required Courses and Electives   | 22-23       |                         | 0   | 0        | 4         | 0                  | 6                    | 9                | 3            | 0           | 22       |  |
| University CO                 | RE (Revampe   | d)<br>IU CORE - Others   | 24          |                         |   | 1        |           | 1                  |                      |                  |              |             |          | The credit load of CORE1905  |
|                               | 50 - 0 IZ   | Source - Sumo  | 24          |                         | 1   | 5        | 3         | 3                  | 3                    |                  | 6            | 3           | 24       | (HMW) will usually be spread in the<br>following pattern: Fall: 1; Spring: 2 |
| CORE                          | C1 & C2   | U CORE - English Language  | 6           | 6                       | 3   | 3        | i —       |                    |                      |                  |              |             | 6        |  |
|                               | •   | Sub-total for University CORE  |             |                         | 4   | 8        | 3         | 3<br>ferm load (ex | 3                    | 0                | 6            | 3           | 30       |  |
|                               |   |  |             | 6                       | 16  | 20       | T<br>19   | erm load (e)<br>18 | ccl. free cred       | lits)<br>21      | 18           | 18          | ł        |  |
|                               |   |  |             |                         |   |          |           | 1                  | 48#                  |                  |              |             |          |  |
| Note:                         | 146#<br><b>&lt; Declaration of major</b><br>Its should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement. |  |             |                         |   |          |           |                    |                      |                  |              |             |          |  |

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2022-23 SUSEE+AI (4Y) (2022-23 intake)