

| School:                                                                      |             |                                                                                                                               | School of Engineering and School of Business Management                                                                |             |               |             | acing major   |             | acing major   |             | BBA major     |             | Student's Pathway |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|-------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| Program:                                                                     |             |                                                                                                                               | Dual Degree Program (BEng in Industrial Engineering and Engineering Management and BBA in General Business Management) |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| Course Offering Dept. (course code prefix)                                   | Course Code | Course Title / Courses List                                                                                                   | Credits                                                                                                                | Year 1 Fall | Year 1 Spring | Year 2 Fall | Year 2 Spring | Year 3 Fall | Year 3 Spring | Year 4 Fall | Year 4 Spring | Year 5 Fall | Year 5 Spring     | Sub-Total | Remarks                                                                                                                                                                                  |  |  |  |  |  |  |  |
| BEng in Industrial Engineering and Engineering Management                    |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| Engineering Fundamental Courses                                              |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA/COMP                                                                    |             | Note: IEA 1102 OR COMP 1023 OR COMP 2011 OR COMP 2012H                                                                        | 3-5                                                                                                                    |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 1102        | Python for Analytics                                                                                                          | 3                                                                                                                      | 3           |               |             |               |             |               |             |               |             |                   | 3         | Students should take COMP 1023, COMP 2011 or COMP 2012H which will also be used to substitute ISOM 2010 and to waive ISOM 2020                                                           |  |  |  |  |  |  |  |
| COMP                                                                         | 1023        | Introduction to Python Programming                                                                                            | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| COMP                                                                         | 2011        | Programming with C++                                                                                                          | 4                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| COMP                                                                         | 2012H       | Introductory Object-Oriented Procedures and Data Structures                                                                   | 5                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| CHEMPHYS                                                                     |             | Note: CHEM1012 OR PHYS1112 OR PHYS1312                                                                                        | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| CHEM                                                                         | 1012        | General Chemistry B: Atomic Structure, Molecules, and Bonding Theories                                                        | 3                                                                                                                      | 3           |               |             |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| PHYS                                                                         | 1112        | General Physics I with Calculus                                                                                               | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| PHYS                                                                         | 1312        | Honors General Physics I                                                                                                      | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         |             | Note: (MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024) OR (MATH 1020)                                                    | 4-6                                                                                                                    |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1013        | Calculus I                                                                                                                    | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1014        | Calculus II                                                                                                                   | 3                                                                                                                      | 3           | 3             |             |               |             |               |             |               |             |                   | 6         | DDP students should take MATH 1013 or MATH 1020 or MATH 1023 to satisfy the requirements of both BEng and BBA degrees                                                                    |  |  |  |  |  |  |  |
| MATH                                                                         | 1020        | Accelerated Calculus                                                                                                          | 4                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1023        | Honors Calculus I                                                                                                             | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1024        | Honors Calculus II                                                                                                            | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 2011        | Introduction to Multivariable Calculus                                                                                        | 3                                                                                                                      |             |               |             | 3             |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 2111        | Matrix Algebra and Applications                                                                                               | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| Required Credits for Engineering Fundamental Courses                         |             |                                                                                                                               |                                                                                                                        | 16-20       | 9             | 3           | 3             | 3           | 0             | 0           | 0             | 0           | 0                 | 0         | 18                                                                                                                                                                                       |  |  |  |  |  |  |  |
| Major Required Courses and Electives                                         |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 1010        | Academic and Professional Development I                                                                                       | 0                                                                                                                      |             |               | 0           | 0             |             |               |             |               |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 1020        | Academic and Professional Development II                                                                                      | 0                                                                                                                      |             |               |             |               | 0           | 0             |             |               |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 1901        | Industrial Training and Experience                                                                                            | 0                                                                                                                      |             |               |             |               |             |               |             |               |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 2010        | Introduction of Industrial Engineering and Decision Analytics                                                                 | 3                                                                                                                      |             |               | 3           | 3             |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 2020        | Probability for Engineers                                                                                                     | 3                                                                                                                      |             |               | 3           |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 2040        | Statistics for Engineers                                                                                                      | 3                                                                                                                      |             |               | 3           |               |             |               |             |               |             |                   | 3         | This course will also be used to substitute ISOM2000                                                                                                                                     |  |  |  |  |  |  |  |
| IEDA                                                                         | 3010        | Prescriptive Analytics                                                                                                        | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 3250        | Engineering Economics and Accounting                                                                                          | 3                                                                                                                      |             |               | 3           |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 3260        | Stochastic Models                                                                                                             | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 3280        | Industrial Data Systems                                                                                                       | 3                                                                                                                      |             |               | 3           |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 4100        | Integrated Production Systems                                                                                                 | 3                                                                                                                      |             |               |             |               |             | 3             |             |               |             |                   | 3         | Substitute ISOM 2700                                                                                                                                                                     |  |  |  |  |  |  |  |
| IEDA                                                                         | 4130        | System Simulation                                                                                                             | 3                                                                                                                      |             |               |             |               |             | 3             |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         |             | Note: IEA 4901 OR IEA 4960 (Students taking the Research Option must take IEA 4901)                                           | 6                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 4901        | Final Year Thesis                                                                                                             | 6                                                                                                                      |             |               |             |               |             |               |             |               | 3           | 3                 | 6         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         | 4960        | Industrial Engineering and Engineering Management Final Year Project                                                          | 6                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         |             | Note: ECON 2103 OR ECON 2113                                                                                                  | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         | 2103        | Principles of Microeconomics                                                                                                  | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         | 2113        | Microeconomics                                                                                                                | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| IEDA                                                                         |             | Industrial Engineering Electives (Courses from the specified elective list)                                                   | 21                                                                                                                     |             |               |             |               | 3           | 6             | 6           | 6             |             |                   | 12        |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| BEng in Industrial Engineering and Engineering Management Major Requirements |             |                                                                                                                               |                                                                                                                        | 57          | 0             | 0           | 9             | 6           | 12            | 12          | 6             | 6           | 3                 | 3         | 57                                                                                                                                                                                       |  |  |  |  |  |  |  |
| BBA in General Business Management                                           |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| School Requirements                                                          |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ACCT                                                                         | 2010        | Principles of Accounting I                                                                                                    | 3                                                                                                                      | 3           |               |             |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ACCT                                                                         | 2200        | Principles of Accounting II                                                                                                   | 3                                                                                                                      |             |               |             |               |             |               | 3           |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         |             | Note: ECON 2103 OR ECON 2113                                                                                                  | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         | 2103        | Principles of Microeconomics                                                                                                  | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         | 2113        | Microeconomics                                                                                                                | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           | This course will be counted as an IE major required course.                                                                                                                              |  |  |  |  |  |  |  |
| ECON                                                                         |             | Note: ECON 2123 OR ECON 3123                                                                                                  | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         | 2123        | Macroeconomics                                                                                                                | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ECON                                                                         | 3123        | Macroeconomic Theory I                                                                                                        | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| FINA                                                                         | 2303        | Financial Management                                                                                                          | 3                                                                                                                      |             |               | 3           |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ISOM                                                                         | 2010        | Introduction to Information Systems                                                                                           | 3                                                                                                                      | -           | -             | -           | -             | -           | -             | -           | -             | -           | -                 | 0         | COMP 1023, COMP 2011 or COMP 2012H are more advanced computing courses as compared to ISOM 2010. Students SHOULD take COMP 1023, COMP 2011 or COMP 2012H instead of ISOM 2010.           |  |  |  |  |  |  |  |
| ISOM                                                                         | 2020        | Coding for Business                                                                                                           | 1                                                                                                                      | -           | -             | -           | -             | -           | -             | -           | -             | -           | -                 | 0         | ISOM 2020 is waived for DDP students who have taken and passed COMP 1023, COMP 2011 or COMP 2012H. These COMP courses are similar or more advanced coding (Python) courses as ISOM 2020. |  |  |  |  |  |  |  |
| ISOM                                                                         | 2500        | Business Statistics                                                                                                           | 3                                                                                                                      | -           | -             | -           | -             | -           | -             | -           | -             | -           | -                 | 0         | Substituted by IEA2540                                                                                                                                                                   |  |  |  |  |  |  |  |
| ISOM                                                                         | 2600        | Introduction to Business Analytics                                                                                            | 1                                                                                                                      |             |               |             |               |             |               |             |               |             |                   | 1         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| ISOM                                                                         | 2700        | Operations Management                                                                                                         | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           | Substituted by IEA 4100                                                                                                                                                                  |  |  |  |  |  |  |  |
| MARK                                                                         | 2120        | Marketing Management                                                                                                          | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MGMT                                                                         | 2010        | Business Ethics and the Individual                                                                                            | 2                                                                                                                      |             |               |             |               |             | 2             |             |               |             |                   | 2         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MGMT                                                                         | 2110        | Organizational Behavior                                                                                                       | 3                                                                                                                      |             |               |             |               | 3           |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MGMT                                                                         | 2130        | Business Ethics and Social Responsibility                                                                                     | 2                                                                                                                      |             |               |             |               |             |               |             | 2             |             |                   | 2         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         |             | Note: MATH 1003 OR MATH 1013 OR MATH 1020 OR MATH 1023                                                                        | 3-4                                                                                                                    |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1003        | Calculus and Linear Algebra                                                                                                   | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1013        | Calculus I                                                                                                                    | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1020        | Accelerated Calculus                                                                                                          | 4                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| MATH                                                                         | 1023        | Honors Calculus I                                                                                                             | 3                                                                                                                      |             |               |             |               |             |               |             |               |             |                   |           | DDP students should take MATH 1013 and MATH 1023 or MATH 1020 to satisfy the requirements of both BEng and BBA degrees                                                                   |  |  |  |  |  |  |  |
| Required Credits for School Requirements                                     |             |                                                                                                                               |                                                                                                                        | 30-40       | 3             | 0           | 0             | 9           | 3             | 2           | 0             | 3           | 2                 | 1         | 23                                                                                                                                                                                       |  |  |  |  |  |  |  |
| Major Required Courses and Electives                                         |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| SBAM                                                                         |             | SBAM Electives (Any 9 courses offered by the departments under SBAM, of which at least 4 courses are of 3000-level or above.) | 29                                                                                                                     |             |               |             |               | 3           | 7             | 4           | 6             | 6           | 3                 | 29        |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| Required Credits for Major Required Courses and Electives                    |             |                                                                                                                               |                                                                                                                        | 29          | 0             | 0           | 0             | 0           | 3             | 7           | 4             | 6           | 6                 | 3         | 29                                                                                                                                                                                       |  |  |  |  |  |  |  |
| Additional Requirement for Dual Degree                                       |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| Requirements for Dual Degree Program                                         |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 1011        | TEMG Professional Activities I                                                                                                | 0                                                                                                                      | 0           | 0             |             |               |             |               |             |               |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 1012        | TEMG Professional Activities II                                                                                               | 0                                                                                                                      |             |               | 0           | 0             |             |               |             |               |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 1013        | TEMG Professional Activities III                                                                                              | 0                                                                                                                      |             |               |             |               | 0           | 0             |             |               |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 1014        | TEMG Professional Activities IV                                                                                               | 0                                                                                                                      |             |               |             |               |             |               | 0           | 0             |             |                   | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 1015        | TEMG Professional Activities V                                                                                                | 0                                                                                                                      |             |               |             |               |             |               |             |               | 0           | 0                 | 0         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 3950        | TEMG Case Analysis and Product Innovation                                                                                     | 3                                                                                                                      |             |               | 3           |               |             |               |             |               |             |                   | 3         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| TEMG                                                                         | 4950        | TEMG Corporate Consulting Project                                                                                             | 3-5                                                                                                                    |             |               |             |               |             |               | 4           |               |             |                   | 4         |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| Required Credits for Additional Requirements                                 |             |                                                                                                                               |                                                                                                                        | 7           | 0             | 3           | 0             | 0           | 0             | 0           | 4             | 0           | 0                 | 0         | 7                                                                                                                                                                                        |  |  |  |  |  |  |  |
| University Common Core Requirement                                           |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| CORE                                                                         | C3 - C10    | U CORE - Others                                                                                                               | 21                                                                                                                     | 3           | 3             | 3           |               |             |               |             | 3             | 3           | 3                 | 3         | 21                                                                                                                                                                                       |  |  |  |  |  |  |  |
| CORE                                                                         | C1 & C2     | U CORE - English Language                                                                                                     | 6                                                                                                                      | 3           | 3             |             |               |             |               |             |               |             |                   |           | 6                                                                                                                                                                                        |  |  |  |  |  |  |  |
| HBAW                                                                         | 1905        | Behavioral Foundations of University Education: History, Morality, and Wellness                                               | 3                                                                                                                      | 1           | 2             |             |               |             |               |             |               |             |                   |           | 3                                                                                                                                                                                        |  |  |  |  |  |  |  |
| Sub-total for University CORE                                                |             |                                                                                                                               |                                                                                                                        | 30          | 7             | 8           | 3             | 0           | 0             | 0           | 3             | 3           | 3                 | 3         | 30                                                                                                                                                                                       |  |  |  |  |  |  |  |
| Term based (each row credits)                                                |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |
| 19 14 15 18 18 21 17 18 14 10 164                                            |             |                                                                                                                               |                                                                                                                        |             |               |             |               |             |               |             |               |             |                   |           |                                                                                                                                                                                          |  |  |  |  |  |  |  |