

<< Declaration of BEng major << Declaration of BBA major

| School:  |             |   | School of Engineering and School of Business Management                             |   | Student's Pathway |               |             |               |             |               |             |               |             |               |                                | Remarks |    |    |    |    |    |    |    |    |
|--|-------------|---|---|---|-------------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|--------------------------------|---------|----|----|----|----|----|----|----|----|
| Program:   |             |   | Dual Degree Program (BEng in Bioengineering and BBA in General Business Management) |   | 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                      |         |    |    |    |    |    |    |    |    |
| Course Offering Dept (course code prefix)                        | Course Code | Course Title / Courses List   | Credits   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>BEng in Bioengineering</b>                                    |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Major Requirements</b>  |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Engineering Fundamental Courses</b>                           |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| COMP   | 1021        | Note: [COMP 1021] OR [(COMP 1022P OR COMP 2011) AND COMP1029P]  | 3-5   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| COMP   | 1022P       | Introduction to Computer Science  | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| COMP   | 1029P       | Python Programming Bridging Course  | 1   |   | 3                 |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| COMP   | 2011        | Programming with C++  | 4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| COMP   | 2012H       | Honors Object-Oriented Programming and Data Structures  | 5   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| CHEM   | 1020        | General Chemistry I   | 3   | 3 |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| CHEM   | 1050        | Laboratory for General Chemistry I  | 1   | 1 |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| LANG   | 2030        | Technical Communication I   | 3   | - | -                 | -             | -           | -             | -           | -             | -           | -             | -           | -             | -                              | 0       |    |    |    |    |    |    |    |    |
| LIFS   | 1901        | General Biology I   | 3   | 3 |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1012        | Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]   | 4-7   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1013        | Calculus IA   | 4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1014        | Calculus IB   | 3   | 3 | 3                 |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1020        | Accelerated Calculus  | 4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1023        | Honors Calculus I   | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1024        | Honors Calculus II  | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| PHYS   | 1112        | Note: PHYS 1112 OR PHYS 1312  | 3   | 3 |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| PHYS   | 1312        | General Physics I with Calculus   | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| SENG   |             | 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)               |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Required credits for Engineering Fundamental Courses</b>      |             |   | 23-29   |   |                   |               |             |               |             |               |             |               |             |               |                                | 19      |    |    |    |    |    |    |    |    |
| <b>Major Required Courses and Electives</b>                      |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 1010        | Note: BIEN 1010 OR CENG 1000  | 3   |   | 3                 |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| CENG   | 1000        | Introduction to Chemical and Biological Engineering   | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 2310        | Modeling for Chemical and Biological Engineering  | 3   |   |                   | 3             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 2410        | Cellular and Systems Physiology for Engineers   | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 2610        | Chemical Biology for Engineers  | 3   |   |                   | 3             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 2990        | Academic and Professional Development I   | 1   |   |                   | 1             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 3310        | Note: BIEN 3310 OR BIEN 3320  | 3   |   |                   |               | 3           |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 3320        | Data Science for Biology and Medicine   | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 3410        | Introduction to Bioinstrumentation and Bioimaging   | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 3910        | Bioengineering Laboratory   | 4   |   |                   |               |             |               |             | 4             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 4920        | Note: BIEN 4920 OR BIEN 4930 OR BIEN 4940   | 6   |   |                   |               |             |               |             |               |             | 3             | 3           |               |                                | 6       |    |    |    |    |    |    |    |    |
| BIEN   | 4930        | Bioengineering Capstone Design  | 6   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 4940        | Bioengineering Industrial Project   | 6   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 4990        | Academic and Professional Development II  | 1   |   |                   |               |             |               |             |               |             |               | 1           |               |                                | 1       |    |    |    |    |    |    |    |    |
| CENG   | 2210        | Chemical and Biological Engineering Thermodynamics  | 3   |   |                   |               | 3           |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| CENG   | 2220        | Transport Phenomena I   | 3   |   |                   |               |             |               |             |               |             | 3             |             |               |                                |         |    |    |    |    |    |    |    |    |
| CENG   | 3230        | Chemical and Biological Reaction Engineering  | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ENGG   | 2010        | Engineering Seminar Series  | 0   |   |                   | 0             | 0           | 0             | 0           |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| LIFS   | 3150        | Note: LIFS 3150 OR MATH 2411 OR BIEN 3300   | 3-4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 2411        | Biostatistics   | 3   |   |                   | 3             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| BIEN   | 3300        | Applied Statistics  | 4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| LANG   | 4035        | Data Science for Molecular Engineering  | 3   |   |                   |               |             |               |             |               |             |               | 3           |               |                                |         |    |    |    |    |    |    |    |    |
| SSCI/SENG  |             | Technical Communication II for Chemical and Biological Engineering  | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| SSCI/SENG  |             | Bioengineering Electives (5 courses from the specified elective list, of 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 4000-level) | 15  |   |                   |               |             |               |             |               |             | 6             | 3           | 6             |                                | 15      |    |    |    |    |    |    |    |    |
| <b>Required credits for Major Required Courses and Electives</b> |             |   | 60-61   |   |                   |               |             |               |             |               |             |               |             |               |                                | 60      |    |    |    |    |    |    |    |    |
| <b>BBA in General Business Management</b>                        |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>School Requirements</b>                                       |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ACCT   | 2010        | Principles of Accounting I  | 3   |   |                   | 3             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ACCT   | 2200        | Principles of Accounting II   | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ECON   | 2103        | Note: ECON 2103 OR ECON 2113  | 3   |   |                   | 3             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ECON   | 2113        | Principles of Microeconomics  | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ECON   | 2123        | Note: ECON 2123 OR ECON 3123  | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ECON   | 3123        | Microeconomics  | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| FINA   | 2303        | Macroeconomic Theory I  | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| FINA   | 2303        | Financial Management  | 3   |   |                   |               | 3           |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| ISOM   | 2010        | Introduction to Information Systems   | 3   | - | -                 | -             | -           | -             | -           | -             | -           | -             | -           | -             | -                              | 0       |    |    |    |    |    |    |    |    |
| ISOM   | 2020        | Coding for Business   | 1   | - | -                 | -             | -           | -             | -           | -             | -           | -             | -           | -             | -                              | 0       |    |    |    |    |    |    |    |    |
| ISOM   | 2500        | Business Statistics   | 3   | - | -                 | -             | -           | -             | -           | -             | -           | -             | -           | -             | -                              | 0       |    |    |    |    |    |    |    |    |
| ISOM   | 2600        | Introduction to Business Analytics  | 1   | - | -                 | -             | -           | -             | -           | -             | -           | -             | -           | -             | -                              | 0       |    |    |    |    |    |    |    |    |
| ISOM   | 2700        | Operations Management   | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MARK   | 2120        | Marketing Management  | 3   |   |                   |               | 3           |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MGMT   | 2010        | Business Ethics and the Individual  | 2   |   |                   | 2             |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MGMT   | 2110        | Organizational Behavior   | 3   |   |                   |               | 3           |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MGMT   | 2130        | Business Ethics and Social Responsibility   | 2   |   |                   |               |             | 2             |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| LABU   | 2040        | Business Case Analyses  | 3   | - | -                 | -             | -           | -             | -           | -             | -           | -             | -           | -             | -                              | 0       |    |    |    |    |    |    |    |    |
| LABU   | 2060        | Effective Communication in Business   | 3   |   |                   |               |             |               |             | 3             |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1003        | Note: MATH 1003 OR MATH 1012 OR MATH 1013 OR MATH 1020 OR MATH 1023   | 3-4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1012        | Calculus and Linear Algebra   | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1013        | Calculus IA   | 4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1013        | Calculus IB   | 3   |   |                   | (3)           |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1020        | Accelerated Calculus  | 4   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| MATH   | 1023        | Honors Calculus I   | 3   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Required credits for School Requirements</b>                  |             |   | 43-44   |   |                   |               |             |               |             |               |             |               |             |               |                                | 31      |    |    |    |    |    |    |    |    |
| <b>Major Requirements</b>  |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Major Required Courses and Electives</b>                      |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| SB&M   |             | SB&M Electives (Any 9 courses offered by the departments under SB&M, of which at least 4 courses are of 3000-level or above.)   | 29  |   |                   |               |             |               |             | 3             | 3           | 4             | 6           | 7             | 6                              | 29      |    |    |    |    |    |    |    |    |
| <b>Required credits for Major Required Courses and Electives</b> |             |   | 29  |   |                   |               |             |               |             |               |             |               |             |               |                                | 29      |    |    |    |    |    |    |    |    |
| <b>Additional Requirements</b>                                   |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Requirements for Dual Degree Program</b>                      |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Required Courses</b>  |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| TEMG   | 1010        | T&M Professional Activities   | 0   | 0 | 0                 | 0             | 0           | 0             | 0           | 0             | 0           | 0             | 0           | 0             | 0                              | 0       |    |    |    |    |    |    |    |    |
| TEMG   | 3950        | T&M Case Analysis and Product Innovation  | 3   |   | 3                 |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| TEMG   | 4950        | T&M Corporate Consulting Project  | 3-5   |   |                   |               |             |               | 4           |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| <b>Required credits for Additional Requirements</b>              |             |   | 7   |   |                   |               |             |               |             |               |             |               |             |               |                                | 7       |    |    |    |    |    |    |    |    |
| <b>University CORE</b>   |             |   |   |   |                   |               |             |               |             |               |             |               |             |               |                                |         |    |    |    |    |    |    |    |    |
| CORE   | C3 - C9     | U CORE - Others   | 21  |   |                   |               | 3           |               |             | 6             | 6           |               |             | 6             |                                | 21      |    |    |    |    |    |    |    |    |
| CORE   | C1 & C2     | U CORE - English Language   | 6   | 3 | 3                 |               |             |               |             |               |             |               |             |               |                                | 6       |    |    |    |    |    |    |    |    |
| CORE   | 1905        | Behavioral Foundations of University Education: Habits, Mindsets, and Wellness  | 3   | 0 | 3                 |               |             |               |             |               |             |               |             |               |                                | 3       |    |    |    |    |    |    |    |    |
| <b>Sub-total for University CORE</b>                             |             |   | 36  |   |                   |               |             |               |             |               |             |               |             |               |                                | 30      |    |    |    |    |    |    |    |    |
|  |             |   |   |   |                   |               |             |               |             |               |             |               |             |               | Term load (excl. free credits) |         |    |    |    |    |    |    |    |    |
|  |             |   |   |   |                   |               |             |               |             |               |             |               |             |               | 16                             | 18      | 18 | 18 | 18 | 18 | 17 | 18 | 19 | 16 |
|  |             |   |   |   |                   |               |             |               |             |               |             |               |             |               | 176##                          |         |    |    |    |    |    |    |    |    |

Notes:

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

--- denotes the course/requirement is either waived or substituted

## To graduate, students should complete all requirements specified for DDP.

\*\*Remarks on course(s):

>> 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/UG Curriculum Handbook for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.