

<< 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 Economics)			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												

**BEng in Bioengineering**

**Major Requirements**

Engineering Fundamental Courses																	
COMP	1021	Note: [COMP 1021] OR [(COMP 1022P OR COMP 2011 OR COMP 2012H) AND COMP1029P]	3-6														Students should take COMP1021 which will also be used to substitute ISOM 2010 and to waive ISOM 2020
COMP	1022P	Introduction to Computer Science	3														
COMP	1029P	Introduction to Computing with Java	3														
COMP	2011	Python Programming Bridging Course	1		3												
COMP	2012H	Programming with C++	4														
COMP	2012H	Honors Object-Oriented Programming and Data Structures	5														
CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3														
CHEM	1052	Laboratory for General Chemistry B	1		1												
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												
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														
PHYS	1312	General Physics I with Calculus	3														
PHYS	1312	Honors General Physics I	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>			20-27														19

Major Required Courses and Electives																	
BIEN	1010	Note: BIEN 1010 OR CENG 1000	3		3												
CENG	1000	Introduction to Biomedical Engineering	3														
BIEN	2310	Introduction to Chemical and Biological Engineering	3														
BIEN	2410	Modeling for Chemical and Biological Engineering	3														
BIEN	2610	Cellular and Systems Physiology for Engineers	3														
BIEN	2610	Chemical Biology for Engineers	3														
BIEN	2990	Academic and Professional Development I	1														
BIEN	3300	Data Science for Molecular Engineering	3														
BIEN	3310	Note: BIEN 3310 OR BIEN 3320	3														
BIEN	3320	Data Science for Neural Engineering	3														
BIEN	3320	Data Science for Biology and Medicine	3														
BIEN	3410	Introduction to Bioinstrumentation and Bioimaging	3														
BIEN	3910	Bioengineering Laboratory	4														
BIEN	4920	Note: BIEN 4920 OR BIEN 4930 OR BIEN 4940	6														
BIEN	4930	Bioengineering Capstone Design	6														
BIEN	4940	Bioengineering Thesis Research	6														
BIEN	4940	Bioengineering Industrial Project	6														
BIEN	4990	Academic and Professional Development II	1														
CENG	2210	Chemical and Biological Engineering Thermodynamics	3														
CENG	2220	Transport Phenomena I	3														
CENG	3230	Chemical and Biological Reaction Engineering	3														
ENGG	2010	Engineering Seminar Series	0														
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														
<b>Required credits for Major Required Courses and Electives</b>			57														

**BBA in Economics**

**School Requirements**

ACCT	2010	Principles of Accounting I	3		3												
ACCT	2200	Principles of Accounting II	3														
ECON	2103	Note: ECON 2103 OR ECON 2113	3														
ECON	2113	Principles of Microeconomics	3														
ECON	2113	Microeconomics	3														
ECON	2123	Note: ECON 2123 OR ECON 3123	3														
ECON	3123	Macroeconomics	3														
ECON	3123	Macroeconomic Theory I	3														
FINA	2303	Financial Management	3														
ISOM	2010	Introduction to Information Systems	3														
ISOM	2020	Coding for Business	1														
ISOM	2500	Business Statistics	3														
ISOM	2600	Introduction to Business Analytics	1														
ISOM	2700	Operations Management	3														
MARK	2120	Marketing Management	3														
MGMT	2010	Business Ethics and the Individual	2														
MGMT	2110	Organizational Behavior	3														
MGMT	2130	Business Ethics and Social Responsibility	2														
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														
MATH	1020	Accelerated Calculus	4														
MATH	1023	Honors Calculus I	3														
<b>Required credits for School Requirements</b>			39-40														

**Major Requirements**

Major Required Courses and Electives																	
ECON	3014	Managerial Microeconomics	4														
ECON	3024	Managerial Macroeconomics	4														
ECON	3334	Introduction to Econometrics	4														
ECON		ECON 4000-level Electives (Any 3 courses of the subject and level as specified)	11														
<b>Required credits for Major Required Courses and Electives</b>			23														

**Additional Requirements**

**Requirements for Dual Degree Program**

Required Courses																	
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														
TEMG	4950	T&M Corporate Consulting Project	3-5														
<b>Required credits for Additional Requirements</b>			7														

**University CORE**

CORE	C3 - C9	U CORE - Others	21														
CORE	C1 & C2	U CORE - English Language	6														
HMAW	1905	Behavioral Foundations of University Education: Habits, Mindsets, and Wellness	3														
<b>Sub-total for University CORE</b>			30														

Term load (excl. free credits)											
17	20	16	18	17	19	17	18	10	15		
<b>167##</b>											

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( ) 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.