

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

School:		School of Engineering and School of Business Management			Student's Pathway										
Program:		Dual Degree Program (BEng in Bioengineering and BBA in Finance)													
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 Bioengineering**

**Major Requirements**

Engineering Fundamental Courses

COMP	1021	Note: [COMP 1021] OR [(COMP 1022P OR COMP 2011) AND COMP1029P]	3-5												
COMP	1022P	Introduction to Computer Science	3												
COMP	1029P	Introduction to Computing with Java	3		3									3	Students should take COMP1021 which will also be used to substitute ISOM 2010 and to waive ISOM 2020
COMP	2011	Python Programming Bridging Course	1												
COMP	2012H	Programming with C++	4												
COMP	2012H	Honors Object-Oriented Programming and Data Structures	5												
CHEM	1020	General Chemistry I	3	3										3	
CHEM	1050	Laboratory for General Chemistry I	1	1										1	
LANG	2030	Technical Communication I	3											0	Waived for DDP students
LIFS	1901	General Biology I	3	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									6	
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			3								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)									0	
<b>Required credits for Engineering Fundamental Courses</b>			23-29											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			3									
BIEN	2410	Modeling for Chemical and Biological Engineering	3						3						
BIEN	2610	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												
BIEN	3320	Data Science for Neural Engineering	3				3								
BIEN	3320	Data Science for Biology and Medicine	3												
BIEN	3410	Introduction to Bioinstrumentation and Biomedicine	3							3					
BIEN	3910	Introduction to Bioinstrumentation and Biomedicine	3								3				
BIEN	4920	Bioengineering Laboratory	4								4				
BIEN	4920	Note: BIEN 4920 OR BIEN 4930 OR BIEN 4940	6												
BIEN	4930	Bioengineering Capstone Design	6									3	3	6	
BIEN	4940	Bioengineering Thesis Research	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		3	
ENGG	2010	Engineering Seminar Series	0			0	0	0	0					0	
BIEN	3300	Data Science for Molecular Engineering	3						3						
LANG	4035	Technical Communication II for Chemical and Biological Engineering	3										3	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							3		6		6	15
<b>Required credits for Major Required Courses and Electives</b>			60-61											60	

**BBA in Finance**

**School Requirements**

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												
ECON	2113	Principles of Microeconomics	3			3									
ECON	2123	Note: ECON 2123 OR ECON 3123	3												
ECON	3123	Macroeconomics	3								3				
FINA	2303	Macroeconomic Theory I	3												
FINA	2303	Financial Management	3					3							FINA 2303 is a major prerequisite
ISOM	2010	Introduction to Information Systems	3											0	Substituted by COMP 1021/1022P/2011/2012H
ISOM	2020	Coding for Business	1											0	Waived for DDP students if they have taken and passed COMP1021 or COMP 1029P
ISOM	2500	Business Statistics	3		3										
ISOM	2600	Introduction to Business Analytics	1											0	Substituted by BIEN 3310/3320
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		
LANG	2061	Note: LANG 2061 OR 2062 OR 3060	3												
LANG	2062	Professional Writing for the Workplace	3												
LANG	3060	Professional Speaking for the Workplace	3												
LANG	3060	Advanced Academic Writing	3												Non DDP-ECON students take ONLY a 3-credit of SBM-specific English course, in which they can choose from one of the three LANG courses (LANG 2061, LANG 2062, or LANG 3060).
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	4												
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>			43-44											34	

**Major Requirements**

Major Required Courses and Electives

FINA	3001	Key Skills for Finance Professionals (A)	1							1					
FINA	3103	Intermediate Investments	3							3					
FINA	3203	Derivative Securities	3								3				
FINA	3303	Intermediate Corporate Finance	3									3			
FINA	3810	Bloomberg Market Concepts Certification	0											0	
ACCT	3010	Note: (ACCT 3010 AND ACCT 3020) OR ACCT 3030	3-6												
ACCT	3020	Financial Accounting I	3												
ACCT	3030	Financial Accounting II	3												
ACCT	3030	Intermediate Financial Accounting for Non-Accounting Majors	3												
ISOM	3230	Note: ISOM 3230 OR ISOM 3400	3												
ISOM	3400	Business Programming in VBA	3												
ISOM	3400	Business Applications Development in Python	3												
FINA		FINA 3000-level or above Electives (Any 3 courses of the subject and level as specified)	9									3	3	3	9
<b>Required credits for Major Required Courses and Electives</b>			23-28											25	

**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	
TEMG	3950	T&M Case Analysis and Product Innovation	3		3										3
TEMG	4950	T&M Corporate Consulting Project	3-5							4					4
<b>Required credits for Additional Requirements</b>			7												7

**University CORE**

CORE	C3 - C9	U CORE - Others	21			3	3	3	3			6	3		21
CORE	C1 & C2	U CORE - English Language	6	3	3										6
HMAW	1905	Behavioral Foundations of University Education: Habits, Mindsets, and Wellness	3	1	2										3
<b>Sub-total for University CORE</b>			36												30

Term load (excl. free credits)									
17	20	16	18	17	18	19	17	18	15
175##									

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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):