

<< 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 Chemical Engineering and BBA in 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														
BEng in Chemical Engineering																	
Major Requirements																	
Engineering Fundamental Courses																	
COMP	1021	Note: COMP1021 OR COMP1022P OR COMP2011 OR COMP2012H Introduction to Computer Science	3-5														
COMP	1022P	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	Programming with C++	4														
COMP	2012H	Honors Object-Oriented Programming and Data Structures	5														
CHEM	1020	General Chemistry I	3	3											3		
LANG	2030	Technical Communication I	3	-	-	-	-	-	-	-	-	-	-	-	0	Waived for DDP students	
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														
MATH	2011	Introduction to Multivariable Calculus	3						3						3		
PHYS	1112	Note: PHYS 1112 OR PHYS 1312 General Physics I with Calculus	3		3										3		
PHYS	1312	Honors General Physics I	3														
Required credits for Engineering Fundamental Courses			19-24												18		
Major Required Courses and Electives																	
CENG	1000	Note: CENG1000 OR CENG1500 Introduction to Chemical and Biological Engineering	3	3											3		
CENG	1500	A First Course on Materials Science and Applications	3														
CENG	1600	Note: CENG1600 OR CENG1700 OR BIEN1010 Biotechnology and Its Business Opportunities	3		3										3		
CENG	1700	Introduction to Environmental Engineering	3														
BIEN	1010	Introduction to Biomedical Engineering	3														
CENG	1010	Academic and Professional Development I	0			0									0		
CENG	1980	Industrial Training	0										0		0		
CENG	2110	Process and Product Design Principles	3			3									3		
CENG	2210	Chemical and Biological Engineering Thermodynamics	3				3								3		
CENG	2220	Transport Phenomena I	3				3								3		
CENG	2310	Modeling for Chemical and Biological Engineering	3				3								3		
CENG	3110	Process Dynamics and Control	3							3					3		
CENG	3150	Integrated Chemical Process & Product Design	5							5					5		
CENG	3210	Separation Processes	3						3						3		
CENG	3220	Heat and Mass Transfer	3						3						3		
CENG	3230	Chemical and Biological Reaction Engineering	3						3						3		
CENG	3950	Chemical and Environment Engineering Laboratory	4									4			4		
CENG	4020	Academic and Professional Development II	0										0		0		
CENG	4920	Note: CENG 4920 OR CENG 4930 OR CENG 4940 (Students 6 taking the Research Option must take CENG 4930) Chemical Engineering Capstone Design	6										3	3	6		
CENG	4930	Chemical Engineering Thesis Research	6														
CENG	4940	Chemical Engineering Industrial Project	6														
ENGG	2010	Engineering Seminar Series	0			0	0	0	0	0					0		
CHEM	1050	Laboratory for General Chemistry I	1		1										1		
CHEM	2111	Fundamentals of Organic Chemistry	3				3								3		
CHEM	2155	Fundamental Organic Chemistry Laboratory	1				1								1		
LANG	4035	Technical Communication II for Chemical and Biological Engineering	3										3		3		
BIEN	2410	Note: BIEN2410 OR BIEN2610 OR LIFS1901 Cellular and Systems Physiology for Engineers	3														
BIEN	2610	Chemical Biology for Engineers	3				3								3		
LIFS	1901	General Biology I	3														
SENG/SSCI/ENVR		CENG Elective (12 credits from specified elective list)	12						3	3	3	3			12		
Required credits for Major Requirements Courses and Electives			68												68		
BBA in Management																	
School Requirements																	
ACCT	2010	Principles of Accounting I	3			3									3		
ACCT	2200	Principles of Accounting II	3							3					3		
ECON	2103	Note: ECON 2103 OR ECON 2113 Principles of Microeconomics	3			3									3		
ECON	2113	Microeconomics	3														
ECON	2123	Note: ECON 2123 OR ECON 3123 Macroeconomics	3								3				3		
ECON	3123	Macroeconomic Theory I	3														
FINA	2303	Financial Management	3				3								3		
ISOM	2010	Introduction to Information Systems	3														
ISOM	2020	Coding for Business	1														
ISOM	2500	Business Statistics	3			3									3		
ISOM	2600	Introduction to Business Analytics	1			1									1		
ISOM	2700	Operations Management	3										3		3		
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 2110 is a major pre-requisite	
MGMT	2130	Business Ethics and Social Responsibility	2											2	2		
LABU	2040	Business Case Analyses	3														
LABU	2060	Effective Communication in Business	3											3	3		
MATH	1003	Note: MATH 1003 OR MATH 1012 OR MATH 1013 OR MATH 1020 OR MATH 1023 Calculus and Linear Algebra	3-4														
MATH	1012	Calculus IA	4														
MATH	1013	Calculus IB	3														
MATH	1020	Accelerated Calculus	4														
MATH	1023	Honors Calculus I	3														
Required credits for School Requirements			45-46												35	DDP students should take MATH 1012 or MATH 1013 or MATH 1020 or MATH 1023 to satisfy the requirements of both BEng and BBA degrees	
Major Requirements																	
Major Required Courses and Electives																	
MGMT	3110	Note: MGMT 3110 OR MGMT 3120 (For students in the Consulting Option, they will use MGMT 3110 to fulfill the Option Requirements and should take MGMT 3120 to fulfill this requirement.) Human Resources Management	4						4						4	Students in the Consulting Option must take MGMT 3120	
MGMT	3120	Managerial Leadership	4														
MGMT	3130	Note: MGMT 3130 OR MGMT 3140 (Students in the Consulting Option must take MGMT 3140 to fulfill this requirement.) Judgement and Decision Making in Organizations	4							4					4	Students in the Consulting Option must take MGMT 3140	
MGMT	3140	Negotiation	4														
MGMT	4210	Note: MGMT 4210 OR MGMT 4220 (Students in the Consulting Option or in the Corporate Social Responsibility and Sustainability Option must take MGMT 4210 to fulfill this requirement.) Corporate Strategy	3-4								3				3	Students in the Consulting Option must take MGMT 4210 Students in the CSR Option must take MGMT 4210	
MGMT	4220	Entrepreneurship and Innovation	4														
MGMT		MGMT 3000-level or above Electives (Any 3 courses of the subject and level as specified. Courses taken as Option Required Courses may not be counted towards the elective requirement.)	9										3	3	3	9 Students in the Consulting Option are recommended to take MGMT 4220 and a new course in Simulating Strategy to fulfill the major elective requirement	
Required credits for Major Required Courses and Electives			20-21												24		
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		
TEMG	3950	T&M Case Analysis and Product Innovation	3		3										3		
TEMG	4950	T&M Corporate Consulting Project	3-5								4				4		
Required credits for Additional Requirements			7												7		
University CORE																	
CORE	C3 - C9	U CORE - Others	21									6	6	3	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		
Sub-total for University CORE			30												30		
Term load (excl. free credits)																	
15 19 19 19 19 18 19 16 17 17																	
182##																	

Notes:
 () indicates the reuse of the same course to fulfill more than one requirement.
 * Courses offered in winter term
 ^ Courses offered in summer term
 --- denotes the course/requirement is either waived or substituted
 ## To graduate, students should complete all requirements as specified for DDP.

**Remarks on course(s):