

<< 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 Marketing)			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 Chemical Engineering</b>																
<b>Major Requirements</b>																
Engineering Fundamental Courses																
COMP	1021	Note: COMP1021 OR COMP1022P OR COMP2011 OR COMP2012H	3-5													
COMP	1022P	Introduction to Computer Science	3	3											3	Students should take COMP1021 which will also be used to substitute ISOM 2010 and to waive ISOM 2020
COMP	2011	Introduction to Computing with Java	3													
COMP	2012H	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
		Note: (MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024) OR (MATH 1020)	4-7													
MATH	1012	Calculus IA	4													
MATH	1013	Calculus IB	3	3	3										6	
MATH	1014	Calculus II	3													
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	3													
PHYS	1312	General Physics I with Calculus	3		3										3	
PHYS	1312	Honors General Physics I	3													
<b>Required credits for Engineering Fundamental Courses</b>			19-24												18	
<b>Major Required Courses and Electives</b>																
CENG	1000	Note: CENG1000 OR CENG1500	3	3												
CENG	1500	Introduction to Chemical and Biological Engineering	3													
CENG	1600	A First Course on Materials Science and Applications	3													
CENG	1700	Note: CENG1600 OR CENG1700 OR BIEN1010	3		3										3	
BIEN	1010	Biotechnology and its Business Opportunities	3													
BIEN	1010	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	3330	Data Science for Molecular 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)	6									3	3		6	
CENG	4930	Chemical Engineering Capstone Design	6													
CENG	4940	Chemical Engineering Thesis Research	6													
CENG	4940	Chemical Engineering Industrial Project	6													
ENGG	2010	Engineering Seminar Series	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	3													
BIEN	2610	Cellular and Systems Physiology for Engineers	3				3								3	
LIFS	1901	Chemical Biology for Engineers	3													
LIFS	1901	General Biology I	3													
CENG/CHEM		CENG Elective (9 credits from specified elective list)	9			3			3	3					9	
<b>Required credits for Major Requirements Courses and Electives</b>			68												68	
<b>BBA in Marketing</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													
ECON	2113	Principles of Microeconomics	3			3									3	
ECON	2123	Note: ECON 2123 OR ECON 3123	3													
ECON	3123	Macroeconomics	3							3					3	
ECON	3123	Macroeconomic Theory I	3													
FINA	2303	Financial Management	3													
ISOM	2010	Introduction to Information Systems	3					3								
ISOM	2020	Coding for Business	1													
ISOM	2500	Business Statistics	3	3												
ISOM	2800	Introduction to Business Analytics	1						1							
ISOM	2700	Operations Management	3									3			3	
MARK	2120	Marketing Management	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	
LANG	2061	Note: LANG 2061 OR 2062 OR 3060	3										3			
LANG	2062	Professional Writing for the Workplace	3													
LANG	3060	Professional Speaking for the Workplace	3													
LANG	3060	Advanced Academic Writing	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													
MATH	1020	Accelerated Calculus	4													
MATH	1023	Honors Calculus I	3													
<b>Required credits for School Requirements</b>			45-46												35	
<b>Major Requirements</b>																
Major Required Courses and Electives																
MARK	3220	Marketing Research	4						4							
MARK	3420	Consumer Behavior	4							4						
MARK	4210	Strategic Marketing	4								4					
MARK		MARK 3000-level or above Electives (Any 3 courses of the subject and level as specified)	12									4	4	4	12	
<b>Required credits for Major Required Courses and Electives</b>			24												24	
<b>Additional Requirements</b>																
<b>Requirements for Dual Degree Program</b>																
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
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		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>			30													30
Term load (excl. free credits)																
19 21 18 19 20 18 17 17 18 15																
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):

>> 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.