

<< 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 Economics)														
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		
BEng in Chemical Engineering																
Major Requirements																
Engineering Fundamental Courses																
COMP	1021	Note: COMP 1021 OR COMP 1022P OR COMP 2011	3-4													
COMP	1022P	Introduction to Computer Science	3	3										3	This course will also be used to substitute ISOM 2010	
COMP	2011	Introduction to Computing with Java Programming with C++	4													
ENGG	1010	Academic Orientation	0	0	0									0		
CHEM	1010	Note: CHEM1010 OR CHEM1020	3	3										3		
CHEM	1020	General Chemistry IA	3													
CHEM	1020	General Chemistry IB	3													
LANG	2030	Technical Communication 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	1013	Calculus IB	3													
MATH	1014	Calculus II	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	3	3										3		
PHYS	1312	General Physics I with Calculus	3													
PHYS	1312	Honors General Physics I	3													
Required credits for Engineering Fundamental Courses			19-23											21		
Major Required Courses and Electives																
CENG	1000	Note: CENG1000 OR CENG1500	3	3										3		
CENG	1500	Introduction to Chemical and Biological Engineering A First Course on Materials Science and Applications	3													
CENG	1600	Note: CENG1600 OR CENG1700 OR BIEN1010	3		3									3		
CENG	1700	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	0	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	Process Fluid Mechanics	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: CENG4920 OR CENG4930 OR CENG4940	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				3							3		
BIEN	2610	Cellular and Systems Physiology for Engineers	3													
LIFS	1901	Chemical Biology for Engineers	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 Economics																
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	3		3									3	ECON 2103/2113/2123 is a major prerequisite	
ECON	2113	Principles of Microeconomics	3													
ECON	2113	Microeconomics	3													
ECON	2123	Note: ECON 2123 OR ECON 3123	3			3								3		
ECON	3123	Macroeconomics	3													
ECON	3123	Macroeconomic Theory I	3													
FINA	2303	Financial Management	3				3							3		
ISOM	2010	Introduction to Information Systems	3											0	Substituted by COMP 1021/1022P/COMP2011	
ISOM	2020	Coding for Business	1			1								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	2130	Business Ethics and Social Responsibility	2									2		2		
SBMT	1111	Business Student Induction	0											0	Waived for DDP students	
LABU	2040	Business Case Analyses	3							3				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	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													
Required credits for School Requirements			45-46											39	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																
ECON	3014	Managerial Microeconomics	4					4						4		
ECON	3024	Managerial Macroeconomics	4						4					4		
ECON	3334	Introduction to Econometrics	4							4				4		
ECON	4670	Economics Research and Communication	0									0		0		
ECON		ECON 4000-level Electives (Any 3 courses of the subject and level as specified)	11								4	4	3	11		
Required credits for Major Required Courses and Electives			23											23		
Additional Requirements																
Requirements for Dual Degree Program																
Required Courses																
TEMG	1010	Technology and Management Professional Activities	0	0	0	0	0	0	0	0	0	0	0	0		
TEMG	3950	Case-based Problem Solving	3		3									3		
Required credits for Additional Requirements			3											3		
University CORE																
CORE	C3 - C12	U CORE - Others	30					3		3	9	6	9	30		
CORE	C1 & C2	U CORE - English Language	6	3	3									6		
Sub-total for University CORE			36											36		
Term load (excl. free credits)																
18 19 20 19 20 19 20 18 18																
190##																

Notes:

- () indicates the reuse of the same course to fulfill more than one requirement.
- [] denotes the course is also offered in other terms as indicated and students may take the course in one of these subject to advice by the program office.
- * 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.