

← Declaration of major

School: School of Engineering and School of Business Management		Students Pathways (i.e. Study Pattern)																
Department: Dual Degree Program (BEng in Chemical and Biomolecular Engineering and BBA in General Business Management)		Program 1																
Course Offering Dept (Course code prefix)		Course Code		Course Title / Courses List		Background HRDSE 4 Core + 2 Elec (incl. 1.2x PHY5) Profile: Normative. Students to graduate in (BEng & BBA) CBRGM track. w.r.t. CBME pathway for students who decide to choose CBME early on and have CENG 1000 and CHEM 1010/1020 in Year 1												
						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	Subtotal	Remarks	
BEng in Chemical and Biomolecular Engineering																		
Major Requirements																		
Engineering Fundamental Courses																		
COMP	1021	New: COMP 1021 OR COMP 1022P OR COMP 1022Q OR COMP 2011		3	4													
COMP	1022P	Introduction to Computer Science		3				3										
COMP	1022Q	Introduction to Computing with Java		3														
COMP	2011**	Introduction to Computing with level 1BA Introduction to Object-oriented Programming		4														
ENGG	1010	Academic Orientation		0	0	0												
CHEM	1010	New: CHEM 1010 OR CHEM 1020		2	3													
CHEM	1020	General Chemistry IA General Chemistry IB		3	3													
LANG	3000	Technical Communication I		3						3								
MATH		New: MATH 1012 OR MATH 1013 OR MATH 1023 AND MATH 1014 OR MATH 1024 OR MATH 1020		4	6													
MATH	1012	Calculus IA		4														
MATH	1013	Calculus IB		4		3	3											
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										
MATH		New: MATH011 OR MATH050		3														
MATH	2111	Matrix Algebra and Applications		3				3										
MATH	2200	Applied Linear Algebra and Differential Equations		3														
PHYS		New: PHYS 1111 OR PHYS1112 OR PHYS 1312		3														
PHYS	1111	General Physics I		3		3												
PHYS	1112	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											
Required credits for Engineering Fundamental Courses				24	29													27
Major Required Courses and Electives																		
CENG	1000	Introduction to Chemical and Biomolecular Engineering		3				3										
CENG	1010	Academic and Professional Development I		0					3	0								
CENG	1000	Mechanics and Business Opportunities		3					3	0								
CENG	1000	Industrial Training		0				0*	0*	0*			0*					
CENG	2110	Process Principles and Engineering Economics		3					3									
CENG	2210	Chemical Engineering Thermodynamics		3					3									
CENG	2020	Process Fluid Mechanics		3					3									
CENG	3120	Process Design and Integration		3					3									
CENG	3210	Separation Processes		3					3									
CENG	3200	Heat and Mass Transfer		3					3									
CENG	3230	Reaction and Reactor Engineering		3					3									
CENG	3010	Chemical Engineering Laboratory I		3							3							
CENG	3000	Biomolecular Engineering Laboratory		3							3							
CENG	4120	Process Dynamics and Control		3							3							
CENG	4020	Bioprocess and Processing		3							3							
CENG	4040	Biomolecular Engineering		3							3							
CENG	4010*	Chemical and Biomolecular Engineering Project		7										4	3	7		
ENGG	2010	Engineering Seminar Series		0				0	0	0	0	0	0	0	0	0	0	
CHEM	2111	Fundamentals of Organic Chemistry		3							3							
CHEM	2100	Laboratory for General Chemistry I		1		1												
CHEM	2111	Fundamentals of Organic Chemistry		3							3							
CHEM	2100	Laboratory for General Chemistry I		1														
CHEM	2105	New: CHEM 2105 OR CHEM 2305		1							1							
CHEM	2105	Fundamental Organic Chemistry Laboratory		1							1							
CHEM	2105	Fundamental Analytical Chemistry Laboratory		1							1							
CHEM	2311	Analytical Chemistry		3							3							
LIFS		New: LIFS 1001 OR LIFS 1002 OR LIFS 2040 OR LIFS 2210		3														
LIFS	1001	General Biology I		3														
LIFS	1002	General Biology II		3					3									
LIFS	2040	Cell Biology		3														
LIFS	2210	Biochemistry I		3														
CENG		CBME Depth Elective (1 course from the specified elective list)		3											3	3		
Required credits for Major Requirements Courses and Electives				63														69
BBA in General Business Management																		
School Requirements																		
ACCT	2010	Principles of Accounting I		3				3										
ACCT	2000	Principles of Accounting II		3							3							
ECON	2100	New: ECON 2103 OR ECON 2113		3							3							
ECON	2103	Principles of Microeconomics		3							3							
ECON	2113	Principles of Microeconomics		3							3							
ECON		New: ECON 2123 OR ECON 3123 (Students who wish to pursue BSc: ECON must take ECON 3123)		3							3							
ECON	2123	Macroeconomics		3							3							
ECON	3123	Macroeconomic Theory I		3														
FIN	2000	Financial Management		3														
ISOM	2010	Introduction to Information Systems		3														
ISOM	2000	Business Statistics		3							3							
ISOM	2700	Operations Management		3							3							
MARK	2120	Marketing Management		3							3							
MGMT	2110	Organizational Behavior		3							3							
MGMT	2130	Business Ethics and Social Responsibility		2														
SBMT	1111	Business Student Involvement		0														
SBMT	2010	Business Ethics and the Individual		2														
LABU	2020**	Effective Communication in Business**		2							2							
LABU		New: LABU 2050 OR LABU 2051 AND LABU 2052 (Students who wish to pursue BBA: CBRGM must take LABU 2050 while others must take LABU 2051 and LABU 2052)		3	4													
LABU	2050	Business Case Analysis		3														
LABU	2051**	Business Case Analysis I		2				2	2									
LABU	2052**	Business Case Analysis II		2														
MATH		New: MATH 1023 OR MATH 1012 OR MATH 1013 OR MATH 1020 OR MATH 1023		3	4													
MATH	1003	Calculus and Linear Algebra		3														
MATH	1012	Calculus IA		4		-3												
MATH	1013	Calculus IB		3														
MATH	1020	Accelerated Calculus		4														
MATH	1023	Honors Calculus I		3														
Required credits for School Requirements				42	44													37
Major Requirements																		
Major Required Courses and Electives																		
SBEM		SBEM Electives (Any 9 courses offered by the departments under SBEM, of which at least 4 courses are at 2000 level or above)		20				3			3			5	3	8	7	20
Required credits for Major Required Courses and Electives				20														20
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
Required credits for Additional Requirements				0														0
University CORE																		
CORE	C3 - C12	U-CORE -Others		30	6	3								3	0	6	6	30
CORE	C1 & C2	U-CORE -English Language		6	3	3												6
Sub-total for University CORE				36														36
Term load (incl. free credits)																		
19 18 20 20 20 20 19 19 18 20 19																		
120hw																		
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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 courses:
 MATH 2060: This is a new course subject to replace MATH 2111, (effective from Fall 2015/16 and applicable to students admitted in and after 2015/16)
 CENG 4013: The course title will be changed to "Chemical and Biomolecular Engineering Project", (effective from Fall 2015/16)
 CENG 4013: The credit value will be changed to 7, (effective from Fall 2015/16)
 LABU 2051, 2052, 2050: LABU2051, 2052, 2050 will be deleted soon, replacements are LABU2040, 2060. (Detailed timeline to be announced)
 LABU 2060: This is a new course subject to replace LABU2051 + LABU2052, (effective from 2016/17 and applicable to students admitted in and after 2016/17)
 LABU 2060: This is a new course subject to replace LABU2050, (effective from 2016/17 and applicable to students admitted in and after 2016/17)
 ** 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.