(For students admitted in 2012-13 under the 4-year degree)

BEng in Mechanical Engineering

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 6 credits of these courses to count towards both Requirements.

Major Requirements

			Credit(s)
Engineering Fundamental Course(s)			
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 1022Q	3
COMP	1021	Introduction to Computer Science	3
COMP	1022P	Introduction to Computing with Java	3
COMP	1022Q	Introduction to Computing with Excel VBA	3
ENGG	1010	Academic Orientation	0
LANG	2030	Technical Communication I	3
MATH		Note: [(MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]	4-6
MATH	1013	Calculus I	3
MATH	1014	Calculus II	3
MATH	1020	Accelerated Calculus	4
MATH	1023	Honors Calculus I	3
MATH	1024	Honors Calculus II	3
PHYS		Note: PHYS 1112 OR PHYS 1152 OR PHYS 1312	2-3
PHYS	1112	General Physics I with Calculus	3
PHYS	1152	Accelerated General Physics I with Calculus	2
PHYS	1312	Honors General Physics I	3
CHEM/LIFS/ PHYS		Science 1000-level course (Any 1 course of the subject and level as specified)	3
Required Course(s)			
MECH	1990	Industrial Training	0
MECH	2020	Statics and Dynamics	3
MECH	2310	Thermodynamics	3
MECH	2410	Engineering Materials I	3
MECH	2520	Design and Manufacturing I	3
MECH	2907	Mechatronic Design and Prototyping	3
MECH	3010	Solid Mechanics I	3

MECH	3030	Mechanisms of Machinery	3
MECH	3210	Fluid Mechanics	3
MECH	3300	Energy Conversion	3
MECH	3310	Heat Transfer	3
MECH	3420	Engineering Materials II	3
MECH	3520	Design and Manufacturing II	4**
MECH	3610	Control Principles	4**
MECH	3630	Electrical Technology	3
MECH	3830	Laboratory I**	3**
MECH	4900	Final Year Design Project	12**
ELEC	2420	Basic Electronics	3

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.

Option(s)

Energy Option

Elective Course(s)

MECH		MECH Electives in Energy (3 courses from the specified elective list)	9
MECH	1902	Energy Systems in a Sustainable World	3
MECH	3020	Solid Mechanics II	3
MECH	3901	Green Building Technology	3
MECH	3902	Solar Energy Technology	3
MECH	4340	Air Conditioning Systems	3
MECH	4350	Indoor Air Quality in Buildings	3
MECH	4360	Introduction to Intelligent Building Systems	3

Engineering Design Option

Elective Course(s)

MECH		MECH Electives in Engineering Design (3 courses from the specified elective list)	9
MECH	1901	Automotive Engineering	3
MECH	3020	Solid Mechanics II	3
MECH	3510	CAD/CAM	3
MECH	3710	Manufacturing Processes and Systems	3
MECH	4710	Introduction to Robotics	3
MECH	4720	Introduction to Precision Engineering	3
MECH	4740	Numerical Methods in Engineering	3

Materials Option

Required Course(s)

MECH	3020	Solid Mechanics II	3

Elective Course(s)

MECH		MECH Electives in Materials (2 courses from the specified elective list)	6
MECH	4010	Materials Failure in Mechanical Applications	3
MECH	4430	Materials Characterization	3
MECH	4450	Introduction to Finite Element Analysis	3
MECH	4750	Mechanical Vibration	3

Research Option

Required Course(s)

MECH	4995	Research Project	6

***Remarks on course(s):*

-	MECH 3520:	The credit value will be changed to 3 starting from Fall, 2014-15.
-	MECH 3610:	The credit value will be changed to 3 starting from Spring, 2014-15.
-	MECH 3830:	The course title will be changed to "Laboratory" starting from Spring, 2014-15.
-	MECH 3830:	The credit value will be changed to 4 starting from Spring, 2014-15.
-	MECH 4900:	The credit value will be changed to 8 starting from Fall, 2015-16.