

SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE		CURRICULUM 201401	
Credits: 131			
Program: MECHANICAL ENGINEERING			
<p>Description: Mechanical engineers apply physical principles in the creation of useful devices, objects and machines. They design and develop everything that you may think of as a machine: from supersonic jets, to automobiles, to bicycles to toasters. The designs are analyzed using mathematics and physical principles of motion, energy, and force to ensure that the product functions reliably. In many cases the analyses are performed using impressive and exciting state-of-the-art computer aided design (CAD) software. Mechanical engineers also strive to create designs that can be manufactured at a competitive cost. Maintenance of the product after design and fabrication is also of concern to mechanical engineers. Practically every product or service in modern life has been touched in some way by a mechanical engineer. This makes mechanical engineering one of the oldest, one of the broadest, and one of the most exciting engineering disciplines.</p>			
Course Code	Course Title	Credits	Requisites
General Education Courses			
SPAN 152	Fundamentals of Reading and Writing	3	Placement Exam
SPAN 250	Writing Techniques	3	SPAN 152
ENGL 152	Fundamentals of Reading and Writing	3	Placement Exam
ENGL 153	Advanced Communicative English	3	ENGL 152
ENGL 231	Research and Writing	3	ENGL 153
MATH 152	Pre-Calculus II	4	Placement Exam
PHSC 215	Physics for Engineering I	4	MATH 221
CHEM 203	General Chemistry I	4	MATH 151 or MATH 152
HUMA 111	Universal Culture and Civilization I	3	
SOSC 111	Individual, Community, Government and Social Responsibility I	3	
SOSC 112	Individual, Community, Government and Social Responsibility II	3	SOSC 111
FSEN 105	Introduction to Engineering	3	
MATH 221	Calculus I	4	MATH 152
MATH 222	Calculus II	4	MATH 221
MATH 223	Calculus III	4	MATH 222
MATH 395	Differential Equations	3	MATH 222
PHSC 216	Physics for Engineering II	4	PHSC 215
Core Courses			
ENGI 122	Introduction to Computer Programming	3	MATH 152
ENGI 160	Engineering Graphics	3	MATH 152
ENGI 277	General Statics and Dynamics	3	PHSC 215
ENGI 280	Data Analysis	3	MATH 221
ENGI 478	Fundamentals of Engineering	3	ENGI 280/MEEN 420 or next-to-last semester status
ELEN 301	Electrical Networks I	3	PHSC 216
ELEN 302	Electrical Networks I Laboratory	1	[ELEN 301] Co-req.
Concentration Courses			
ENGI 244	Engineering Materials	3	CHEM 203 / PHSC 215
ENGI 305	Fluid Mechanics	3	ENGI 277/MATH 395
ENGI 318	Strength of Materials	3	ENGI 277
ENGI 319	Materials Testing Laboratory	1	ENGI 244 / ENGI 318
ENGI 333	Machine Shop Laboratory	1	ENGI 160/ENGI 244 /ENGI 318
MEEN 312	Kinematics of Mechanisms	3	ENGI 277
MEEN 320	Thermodynamics I	3	CHEM 203/ PHSC 216
MEEN 340	Computer Aided Design	3	ENGI 160/MATH 221
ENGI 406	Fluid Mechanics Laboratory	1	ENGI 305/MEEN 418

Course Code	Course Title	Credits	Requisites
MEEN 418	Experimental Methods	1	PHSC 216
MEEN 420	Heat Transfer	3	ENGI 305 / MEEN 320
MEEN 421	Thermodynamics II	3	ENGI 305 / MEEN 320
MEEN 425	Design of Machine Elements	3	ENGI 318
MEEN 475	Multidisciplinary Experience in Industry Laboratory	1	MEEN 418/MEEN 420/ MEEN 425 or last semester status
MEEN 460	Control of Dynamic Systems	3	ELEN 301/ELEN 302/ENGI 277/MATH 395
MEEN 461	Controls Laboratory	1	ELEN 301/ELEN 302/ENGI 277/MATH 395 / [MEEN 460] Co-req.
MEEN 481	Mechanical Systems Design	3	MEEN 340/MEEN 425 or last semester status
MEEN 485	Thermal Systems Design	3	MEEN 420 / MEEN 421 or last semester status
MEEN 464	Mechanical Vibrations	3	ENGI 277/MATH 395
Elective Courses (Select a minimum of 6 credits from below as indicated.) plus 3 credits for free elective			
MEEN 451	Process and Product Design	3	MEEN 425
MEEN 465	Vehicle Dynamics Fundamentals	3	MEEN 425
MEEN 474	Finite Element Analysis	3	MEEN425
MEEN 477	Solar Technologies	3	MEEN 420 / [MEEN 421 Co- req.]
MEEN 482	Failure of Materials in Mechanical Design	3	MEEN 425
MEEN 484	Corrosion in Metals	3	MEEN 425
MEEN 489	Air Conditioning	3	MEEN 420/ MEEN421
MEEN 497	Special Problems	3	Chairperson's Permission
MEEN 498	Undergraduate Research I	3	Chairperson's Permission
MEEN 499	Undergraduate Research II	3	Chairperson's Permission
IMEN 402	Work Measurement	3	Chairperson's Permission
MEEN 501	Finite Element Analysis	3	ENGI 318 / MEEN 340 / MATH 395
MEEN 503	Fundamentals of Aerospace Engineering	3	ENGI 305 / MEEN 425
MEEN 601	Advanced Mathematics	3	MATH 223 / MATH 395
MEEN 604	Aerodynamics 1	3	MATH 223 / ENGI 305
MEEN 641	Sustainable Energy	3	MEEN 420 / MEEN 421
MEEN 643	Energy Management	3	MEEN 420 / MEEN 421
MEEN 645	Wind Energy	3	MEEN 420 / MEEN 421
MEEN 651	Ocean Energy	3	MEEN 420 / MEEN 421

Minimum grade required: All courses of the program must be approved with a minimum grade of C.

Revised August, 2016.

SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE		PLAN OF STUDY 201401	
Credits: 131			
Program: MECHANICAL ENGINEERING			
Course Code	Course Title	Credits	Requisites
FIRST YEAR - FIRST SEMESTER			
FSEN 105	Introduction to Engineering	3	
MATH 152	Precalculus II	4	Placement Exam
SOSC 111	Individual, Community, Government and Social Responsibility I	3	
ENGL 152	Fundamentals of Reading and Writing	3	Placement Exam
SPAN 152	Fundamentals of Reading and Writing	3	Placement Exam
		16	
FIRST YEAR - SECOND SEMESTER			
ENGI 160	Engineering Graphics	3	MATH 152
MATH 221	Calculus I	4	MATH 152
CHEM 203	General Chemistry I	4	MATH 151
ENGL 153	Advanced Communicative English	3	ENGL 152
SPAN 250	Writing Techniques	3	SPAN 152
		17	
SECOND YEAR - FIRST SEMESTER			
ENGI 122	Introduction to Computer Programming	3	MATH 152
ENGI 280	Data Analysis	3	MATH 221
MATH 222	Calculus II	4	MATH 221
PHSC 215	Physics for Engineering I (includes Lab)	4	MATH 221
ENGL 231	Research and Writing	3	ENGL 153
		17	
SECOND YEAR - SECOND SEMESTER			
ENGI 244	Engineering Materials	3	CHEM 203/PHSC 215
ENGI 277	General Statics and Dynamics	3	PHSC 215
MATH 223	Calculus III	4	MATH 222
MATH 395	Differential Equations	3	MATH 222
PHSC 216	Physics II for Engineering (includes Lab)	4	PHSC 215
		17	
THIRD YEAR - FIRST SEMESTER			
ELEN 301	Electrical Networks I	3	PHSC 216
ELEN 302	Electrical Networks I Laboratory	1	[ELEN 301]Co-req.
ENGI 305	Fluid Mechanics	3	ENGI 277/MATH 395
ENGI 318	Strength of Materials	3	ENGI 277
MEEN 312	Kinematics of Mechanisms	3	ENGI 277
MEEN 320	Thermodynamics I	3	CHEM 203/PHSC 216
MEEN 418	Experimental Methods	1	PHSC 216
		17	
THIRD YEAR - SECOND SEMESTER			
ENGI 319	Materials Testing Laboratory	1	ENGI 244/ENGI 318
ENGI 333	Machine Shop Laboratory	1	ENGI 160/ENGI 244/ ENGI 318
ENGI 406	Fluid Mechanics Laboratory	1	ENGI 305/ MEEN 418
MEEN 340	Computer Aided Design	3	ENGI 160/MATH 221
MEEN 420	Heat Transfer	3	ENGI 305/MEEN 320

Course Code	Course Title	Credits	Requisites
MEEN 421	Thermodynamics II	3	ENGI 305/MEEN 320
MEEN 425	Design of Machine Elements	3	ENGI 318
		15	
FOURTH YEAR - FIRST SEMESTER			
ENGI 478	Fundamentals of Engineering	3	ENGI 280 / MEEN 420 or next-to-last semester status
MEEN 464	Mechanical Vibrations	3	ENGI 277/MATH 395
MEEN 460	Control of Dynamic Systems	3	ELEN 301/ELEN 302/ ENGI 277 / MATH 395
MEEN 461	Controls Lab	1	[MEEN 460] Co-Req
	Mechanical Engineering Elective I	3	Depends on Selected Elective
HUMA 111	Universal Culture and Civilization	3	
		16	
FOURTH YEAR - SECOND SEMESTER			
MEEN 475	Multidisciplinary Experience in Industry	1	MEEN 418 / MEEN 420 / MEEN 425 OR LAST SEMESTER STATUS. Requires an approved proposal prior to registration.
MEEN 481	Mechanical Systems Design (Capstone)	3	MEEN 425/MEEN 340 or Last semester status
MEEN 485	Thermal Systems Design	3	MEEN 420/MEEN 421 or Last semester status
	Mechanical Engineering Elective II	3	Depends on Selected Elective
SOSC 112	Social Sciences or Humanistic Elective I	3	Depends on Selected Elective
	Free Elective	3	
		16	

Minimum grade required: All courses of the program must be approved with a minimum grade of C.