Program Map: Mechanical Engineering Technology College of Engineering Technology and Computing

Name: SID: Advisor:
Start Date: Catalog Date: Expected Graduation Date:

Stai	Start Date: Catalog D		ait.	Expected Graduation Date:						
	Fall Courses				Spring Courses				Notes	
	Course	Name	Hours	Completed	Course	Name	Hours	Completed		
	ENGL 1101*	Composition I	3		ENGL 1102*	Composition II	3		*This course is meant to fulfill the core IMPACT	
	Area C	Pre-requisite: None			Area C	Pre-requisite: ENGL 1101			Area.	
	MATH 1113*	Pre-Calculus #	3		MATH 2101**	Calculus I#	4		**This course is meant to satisfy the Field of Study	
an	Area M	Pre-requisite: MATH 1111			Field of Study Area	Pre-requisite: MATH 1113			Area (Area F) requirement.	
22	CHEM 1211**	Principles of Chemistry I#	3		PHYS 1111K*	Introductory Physics I	4		•	
	Field of Study Area	Pre-requisite: None			Area T Lab	Pre-requisite: MATH 1113			# A grade of C or better must be earned for this course. Accumulate a maximum of 30 semester hours in yo freshman year.	
S	CHEM 1211L**	Principles of Chemistry I Lab#	1		ENGT 2101K**	Computer Graphics #	3			
14	Field of Study Area	Pre-requisite: None			Field of Study Area	Pre-requisite: MATH 1113				
1	CSCI 1130*	Computer & its Applications	3		POLS 1101*	American Government	3			
	Area T	Pre-requisite: None			Area P	Pre-requisite: None			C. I I MATH 2101 I DUDYC	
	COST 1103**	COST First Year Experience	2						Students must take MATH 2101 and PHYS 1111K to prevent delays in graduation	
	Field of Study Area	Pre-requisite: None							1111K to prevent delays in graduation	
	Total 15			Total 17						
	Suggested Summer C	Course Options: ENGT 2101K, ENGT 3								

	Fall Courses				Spring Courses				Notes
	Course	Name	Hours	Completed	Course	Name	Hours	Completed	
9	MATH 2111** Field of Study Area	Calculus II # Pre-requisite: MATH 2101	4		ENGT 3331K Major	Fluid Mechanics # Pre-requisite: ENGT 3101 or	4		*This course is meant to fulfill the core IMPACT Area.
Sophomore		Introductory Physics II Pre-requisite: PHYS 1111K	4		MECT 3411 Major	ENGR 2201 & MATH 2111 Thermodynamics # Pre-requisite: PHYS 1111K	4		**This course is meant to satisfy the Field of Study Area (Area F) requirement.
ŏ.	ENGT 3101	Statics # Pre-requisite: MATH 1113 & (PHYS 1111K or PHYS 2211K) [Or Pre-requisite: MATH 2111 & PHYS 2211K]	3		ENGT 3601 Major	Strength of Materials # Pre-requisite: ENGT 3101 or ENGR 2201 & MATH 2111	3		# A grade of C or better must be earned for this course. Accumulate a maximum of 60 semester hours in
		Computer Solid Modeling # Pre-requisite: MATH 1113	3		CSCI 1301 [Or CSCI 1371] Major	Computer Science I # Pre-requisite: MATH 1111 [Or Pre-requisite: MATH 1113]	3		your Sophomore Year. Students must take MATH 2111, ENGT 3101, ENGT 3601, MECT 3411, and CSCI 1301 to
		Engineering Materials # Pre-requisite: CHEM 1112 & CHEM 1112L	3						prevent delays in graduation.
	Total 17				Total 14				
	Suggested Summer Course Options: ENGT 3101, MATH 2111, PHYS 1112K, CSCI 1301, ELET 3101K								

Fall Courses				Spring Courses				Notes
Course	Name	Hours	Completed	Course	Name	Hours	Completed	
ELET 3101K Major	Electric Circuit I # Pre-requisite: MATH 1113	4		MECT 4201K Major	Robotics Applications # Pre-requisite: CSCI 1301 or CSCI 1371	3		*This course is meant to fulfill the core IMPACT Area.
AFRS 1501* Area I	Survey African American History Pre-requisite: none	2		Area A Option*	Pre-requisite: Varies	3		# A grade of C or better must be earned for this course.
MECT 4101 Major	Machine Design # Pre-requisite: ENGT 3601	4		MECT 4901 Major	Propulsion Technology # Pre-requisite: MECT 3411	3		Apply for graduation. Accumulate a maximum of 90 semester hours
MECT 4301K Major	Heat and Mass Transfer # Pre-requisite: MECT 3411	4		ENGT 3501 Major	Dynamics # Pre-requisite: ENGT 3101 or ENGR 2201 & MATH 2101	2		in your Junior Year. Students must take ELET 3101K to prevent
				Area I Option*	Pre-requisite: Varies	3		delays in graduation. Students are encouraged to obtain a summer internship, which can be used for Major Technical Elective Credit.
	Total	14			Total	14		
Suggested Summe								

	Fall Courses				Spring Courses				Notes
	Course	Name	Hours	Completed	Course	Name	Hours	Completed	
	MECT 4211K	Introduction to Mechatronics #	3		MECT Elective	MECT Elective #	3		*This course is meant to fulfill the core IMPACT
	Major	Pre-requisite: ELET 3101K & (CSCI			Major	Pre-requisite: Varies			Area.
		1301 or CSCI 1371)							# A grade of C or better must be earned for this
0	MECT 4701K	Fundamentals of HVAC #	4		ENGT 3701	Engineering Economy #	3		course.
Senior	Major	Pre-requisite: MECT 3411			Major	Pre-requisite: MATH 1113			
	Area A Option*		3		ENGT 4401	Senior Design #	3		Does this Degree Program Require a Minor? No
		Pre-requisite: Varies			Major	Pre-requisite: Varies			100
	ENGT 3301	Quality Control #	3		HIST 2111 or 2112	U.S. History	3		Total Hours Required for this Degree Program:
	Major	Pre-requisite: MATH 1113			Area P*	Pre-requisite: None			122
	Area S Option*		3		Area S Option*		3		
	·	Pre-requisite: None				Pre-requisite: Varies			
		Total	16			Total	15		

Program Map: Mechanical Engineering Technology Department of Engineering Technology, College of Sciences and Technology

Core Curriculum (Program Preferred Options in Bold)

Area I - Institutional Options 5 hrs

- AFRS 1501 Survey of African American Experience 2 hrs Select one of the following:
- i. DATA 1501 Introduction to Data Science 3 hrs
- ii. POLS 2401 Global Issues 3 hrs
- iii. HUMN 1201 Critical Thinking & Communication 3 hrs
- iv. AFRS 2000 Introduction to Africana Studies 3 hrs

Area M - Mathematics & Quantitative Skills 3 hrs

Select one of the following:

- i. MATH 1001 Quantitative Reasoning 3hrs
- ii. MATH 1111 College Algebra 3hrs
- iii. MATH 1401 Elementary Statistics 3hrs
- iv. MATH 1113 Pre-Calculus 3hrs

Area P - Social Science 6 hrs

- i. POLS 1101 American Government 3 hrs
- 1. Select one of the following:
 - i. HIST 2111 U.S. History to the Post-Civil War Period 3 has
 - ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs

Area A - Humanities/Fine Arts, and Ethics 6 hrs

Select two of the following:

- i. ENGL 2111 World Literature I 3 hrs
- ii. ENGL 2112 World Literature II 3 hrs
- iii. ENGL 2121 British Literature I 3 hrs
- iv. ENGL 2122 British Literature II 3 hrs
- v. ENGL 2131 American Literature I 3 hrs
- vi. ENGL 2132 American Literature II 3 hrs
- vii. ENGL 2140 Introduction to African American Literature 3hrs
- viii. ENGL 2521 Introduction to Film 3hrs
- ix. PHIL 2010 Introduction to Philosophy 3 hrs
- x. PHIL 2030 Introduction to Ethics 3 hrs
- xi. ARTS 1101 Introduction to Visual Art 3 hrs
- xii. DNCE 2010 Dance Appreciation 3 hrs
- xiii. HUMN 2011 Humanities 3 hrs
- xiv. MUSC 1101 Introduction to Music 3 hrs
- xv. THEA 2101 Introduction to Theatre 3 hrs

Area C - Communicating in Writing 6 hrs

- i. ENGL 1101 English Composition I 3 hrs
- ii. ENGL 1102 English Composition II 3hrs

Area T - Natural Sciences, Math & Technology 11 hrs

- 1. Select one of the following:
 - i. CSCI 1130 Computer Applications 3 hrs
 - ii. CSCI 1301 Computer Science I 3 hrs
 - iii. CILS 1130 Introduction to Computer Applications 3hrs
 - iv. ASTR 1000 Introduction to the Universe 3hrs
 - v. ISCI 1101 Integrated Science I 3hrs
 - vi. BIOL 1103 General Biology 3hrs
 - vii. BIOL 1104 Human Biology 3hrs
 - viii. DATA 1501 Introduction to Data Science 3 hrs
 - ix. ENVS 1140 Environmental Issues 3 hrs
 - x. FSCI 1101 Introduction to Molecular Forensic Science 3hrs
 - xi. MATH 1111 College Algebra 3hrs
- xii. MATH 1401 Elementary Statistics 3 hrs
- xiii. MATH 1113 Pre-Calculus 3 hrs
- 2. Select two of the following lab sciences in sequence:
 - i. PHYS 1111K Introductory Physics I 4 hrs
 - ii. PHYS 1112K Introductory Physics II 4 hrsiii. PHYS 2211K Principles of Physics I 4 hrs
 - iv. PHYS 2212K Principles of Physics II 4 hrs
 - v. BIOL 1103/1103L General Biology 4 hrs
 - vi. BIOL 1104/1104L Human Biology 4 hrs
 - vii. BIOL 1107/1107L Principles of Biology I 4 hrs
 - viii. BIOL 1108/1108L Principles of Biology II 4 hrs
 - ix. CHEM 1101K Introductory Chemistry 4hrs
 - x. CHEM 1211/1211L Principles of Chemistry I4 hrs
 - xi. CHEM 1212/1212L Principles of Chemistry II 4 hrs
 - xii. ISCI 1111K Integrated Science II 4hrs
 - xiii. MSCI 1501K Introduction to Marine Biology 4hrs
 - xiv. PHSC 1011K Physical Science I 4hrs

- xv. PHSC 1012K Physical Science II 4hrs
- xvi. CISM 1130 Computer Applications 3 hrs
- xvii. ENVS 1140 Environmental Issues 3 hrs

Area S - Social Science 6 hrs

Select two of the following:

- i. AFRS 2000 Introduction to Africana Studies 3 hrs
- ii. ANTH 1101 Introduction to Anthropology 3 hrs
- iii. ECON 2105 Principles of Macro-Economics 3 hrs
- iv. GEOG 1101 Introduction to Human Geography 3 hrs
- v. HIST 1111 World Hist to Early Modern Times 3 hrs
- vi. HIST 1112 World History Early Modern Times to Pres 3 hrs
- vii. POLS 2401 Global Issues 3 hrs
- viii. PSYC 1101 Intro to General Psychology 3 hrs
- ix. PSYC 2103 Human Growth & Development 3 hrs
- x. SOCI 1101 Introduction to Sociology 3 hrs
- xi. SOCI 1160 Social Problems 3 hrs

Mechanical Engineering Technology Major Technical Electives (3 hrs.)

Select one from the following:

MECT 3201K	Manufacturing Processes	3 credits
MECT 4611	Lean Engineering	3 credits
MECT 4621	Operations Research	3 credits
MECT 4911	Renewable Energy Concepts	3 credits
ENGT 4901	Engineering Technology Internship	3 credits

Mechanical Engineering Technology

The Mechanical Engineering Technology program curriculum provides students with the foundation to design, develop, test, troubleshoot, and manufacture mechanical devices, including tools, engines, and machines. Emphasis is placed on a broad range of courses, including the properties and processes of engineering materials, thermal-fluid-energy sciences and applications, computer-aided design and analysis, mechanical design and analysis, robotics, mechatronics, and manufacturing and industrial engineering areas.

Students learn to apply basic engineering principles and utilize technical skills in the diversified mechanical and manufacturing fields.

Graduates work with the latest technologies in a broad range of fields like automotive, logistics, materials, maintenance, quality assurance, reliability and testing, manufacturing, robotics, supply chain, aerospace, alternative/clean energies, nanotechnology, biomedical, and more.