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

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

Freshman

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
ENGL 1101* Core Area A	Composition I Pre-requisite: None	3	ENGL 1102* Core Area A	Composition II Pre-requisite: ENGL 1101	3	*A grade of C or better must be earned for this course Accumulate minimum of 30 semester hours in your Freshmen Year.
MATH 1113* Core Area A	Pre-Calculus Pre-requisite: MATH 1111	3	MATH 2101* Area F	Calculus I Pre-requisite: MATH 1113	4	
CHEM 1211* Area F	Principles of Chemistry I Pre-requisite: None	3	PHYS 1111K* Area D Lab	Introductory Physics I Pre-requisite: MATH 1113	4	
CHEM 1211L* Area F	Principles of Chemistry I Lab Pre-requisite: None	1	POLS 1101 Core Area E	American Government Pre-requisite: None	3	
COST 1103 Area F	COST First Year Experience Pre-requisite: None	2	ENGT 2101K* Area F	Computer Graphics Pre-requisite: MATH 1113	3	
CSCI 1130 Area D (non-lab)	Computer & its Applications Pre-requisite: None	3				
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take MATH 1113 to prevent delay in graduation		15	Students must take ENGT 2101K & PHYS 1111K to prevent delay in graduation		17	

Sophomore

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
MATH 2111* Area F	Calculus II Pre-requisite: MATH 2101	4	MECT 3411* Major	Thermodynamics Pre-requisite: PHYS 1111K	4	*A grade of C or better must be earned for this course Accumulate minimum of 60 semester hours in your Sophomore Year.
PHYS 1112K* Area D Lab	Introductory Physics II Pre-requisite: PHYS 1111K	4	ELET 3101K* Major	Electric Circuit I Pre-requisite: MATH 1113	4	
ENGT 3101* Or ENGR 2201* Major	Statics Pre-requisite: MATH 1113; PHYS 1111K or PHYS 2211K Pre-requisite: MATH 2111; PHYS 2211K	3	ENGT 3601* Major	Strength of Materials Pre-requisite: ENGT 3101; MATH 2111	3	
MECT 3101K* Major	Engineering Materials Pre-requisite: CHEM 1112 & CHEM 1112L	3	CSCI 1301* Major	Computer Science I Pre-requisite: MATH 1111	3	
			AFRS 1501 Core Area B	Survey African American History Pre-requisite: none	2	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take MATH 2111 to prevent delay in graduation.		14	Students must take CSCI 1301 and MECT 3411 to prevent delay in graduation.		16	

Junior

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
MECT 3301K* Major	Fluid Mechanics Pre-requisite: ENGT 3101 or ENGR 2201 & MATH 2111	4	MECT 4201K* Major	Robotics Applications Pre-requisite: CSCI 1301or CSCI 1371	3	*A grade of C or better must be earned for this course Accumulate minimum of 90 semester hours in your Junior Year. Apply for graduation.
MECT 3001K* Major	Computer Solid Modeling Pre-requisite: ENGT 2101K	3	MECT 4301K* Major	Heat and Mass Transfer Pre-requisite: MECT 3301K; MECT 3411	4	
MECT 4101* Major	Machine Design Pre-requisite: ENGT 3601 & MECT 3101K	4	MECT 4901* Major	Propulsion Technology Pre-requisite: MECT 3411	3	
Core Area C Option	Pre-requisite: Varies	3	ENGT 3501* Major	Dynamics Pre-requisite: ENGT 3101 or ENGR 2201 & MATH 2101	2	
			Area E Social Sci. Option	Pre-requisite: None	3	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take MECT 3301K to prevent delay in graduation.		14	Students must take MECT 4301K to prevent delay in graduation.		15	

Senior

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
MECT 4211K* Major	Introduction to Mechatronics Pre-requisite: ELET 3101K & CSCI 1301 or CSCI 1371	3	MAJOR*	MECT Elective Pre-requisite: Varies	3	*A grade of C or better must be earned for this course Does this Degree Program Require a Minor? No Total Hours Required for this Degree Program: 122
MECT 4701K* Major	Fundamentals of HVAC Pre-requisite: MECT 4301K	4	ENGT 3701* Major	Engineering Economy Pre-requisite: MATH 1113	3	
Core Area C Option	Pre-requisite: Varies	3	ENGT 4401* Major	Senior Project / Capstone Pre-requisite: MECT 3001K/MECT 3101K/MECT 3301K/MECT 3411/MECT 4101/MECT 4201K/MECT 4211K/MECT 4301K/MECT 4701K/MECT 4901K	3	
ENGT 3301* Major	Quality Control Pre-requisite: MATH 1113	3	Area E Social Sci. Option	Pre-requisite: Varies	3	
HUMN 1201 Core Area B	Critical Thinking & Communications Pre-requisite: None	3	HIST 2111 or 2112 Core Area E	U.S. History Pre-requisite: None	3	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
		16			15	

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Core Curriculum (Programmed Preferred Options in Bold)

Area B – Institutional Options 5 hrs
- i. AFRS 1501 Survey of African-American Experience 2 hrs
- ii. HUMN 1201 Critical Thinking & Communication 3 hrs

Area C – Humanities/Fine Arts, and Ethics 6 hrs,

1. Select one 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 2222 African American Literature 3 hrs
   - viii. PHIL 2010 Introduction to Philosophy 3 hrs
   - ix. PHIL 2030 Introduction to Ethics 3 hrs
2. Select one of the following:
   - i. ARTS 1101 Introduction to Visual Art 3 hrs
   - ii. DNCE 2010 Dance Appreciation 3 hrs
   - iii. ENGL 2521 Introduction to Film 3 hrs
   - iv. HUMN 2011 Humanities 3 hrs
   - v. MUSC 1101 Introduction to Music 3 hrs
   - vi. THEA 2101 Introduction to Theatre 3 hrs

Area D – Natural Sciences, Math & Technology 11 hrs

1. Select one of the following:
   - i. BIOL 1107 Principles of Biology I 3 hrs
   - ii. BIOL 1108 Principles of Biology II 3 hrs
   - iii. CHEM 1211 Principles of Chemistry I 3 hrs
   - iv. CHEM 1212 Principles of Chemistry II 3 hrs
   - v. CISM 1130 Computer Applications 3 hrs
   - **vi. CSCI 1130 Computer Applications 3 hrs**
   - vii. CSCI 1301 Computer Science I 3 hrs
   - viii. ENVS 1140 Environmental Issues 3 hrs
2. Select two of the following lab sciences:
   - i. BIOL 1107/1107L Principles of Biology I 4 hrs
   - ii. BIOL 1108/1108L Principles of Biology II 4 hrs
   - iii. CHEM 1211/1211L Principles of Chemistry 4 hrs
   - iv. CHEM 1212/1212L Principles of Chemistry 4 hrs
   - **v. PHYS 1111K Introductory Physics I 4 hrs**
   - **vi. PHYS 1112K Introductory Physics II 4 hrs**
   - **vii. PHYS 2211K Principles of Physics I 4 hrs**
   - **viii. PHYS 2212K Principles of Physics II 4 hrs**

Area E – Social Science 12 hrs
- i. POLS 1101 American Government 3 hrs

2. Select one of the following:
   - i. HIST 2111 U.S. History to the Post-Civil War Period 3 hrs
   - ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs
3. 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-hours)
Select 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

Distinctive Courses/Descriptions

Mechanical Engineering Technology

The curriculum of Mechanical Engineering Technology program 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, properties and processes of engineering materials, thermal-fluid-energy sciences and applications, computer aided design and analysis, mechanical design and analysis, robotics, mechatronics, manufacturing and industrial engineering areas.

Students learn how to apply the basic engineering principles and utilize technical skills to 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.

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