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* Area C	Composition I Pre-requisite: None	3	ENGL 1102* Area C	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* Area M	Pre-Calculus Pre-requisite: MATH 1111	3	MATH 2101* Field of Study Area	Calculus I Pre-requisite: MATH 1113	4	
CHEM 1211* Field of Study Area	Principles of Chemistry I Pre-requisite: None	3	PHYS 1111K* Area T Lab	Introductory Physics I Pre-requisite: MATH 1113	4	
CHEM 1211L* Field of Study Area	Principles of Chemistry I Lab Pre-requisite: None	1	POLS 1101 Area P	American Government Pre-requisite: None	3	
COST 1103 Field of Study Area	COST First Year Experience Pre-requisite: None	2	ENGT 2101K* Field of Study Area	Computer Graphics Pre-requisite: MATH 1113	3	
CSCI 1130 Area T	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 MATH 2101 & PHYS 1111K to prevent delay in graduation		17	

Sophomore

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
MATH 2111* Field of Study Area	Calculus II Pre-requisite: MATH 2101	4	ENGT 3331K*	Fluid Mechanics Pre-requisite: ENGT 3101 or ENGR 2201 & MATH 2111	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 T Lab	Introductory Physics II Pre-requisite: PHYS 1111K	4	MECT 3411* Major	Thermodynamics Pre-requisite: PHYS 1111K	4	
ENGT 3101* [Or ENGR 2201*] Major	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	
MECT 3101K* Major	Engineering Materials Pre-requisite: CHEM 1112 & CHEM 1112L	3	CSCI 1301* [Or CSCI 1371*] Major	Computer Science I Pre-requisite: MATH 1111 [Or Pre-requisite: MATH 1113]	3	
AFRS 1501 Area I	Survey African American History Pre-requisite: none	2				
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
Students must take MATH 2111 & ENGT 3101 to prevent delay in graduation.		16	Students must take ENGT 3331K and MECT 3411 to prevent delay in graduation.		14	

Junior

Fall Courses			Spring Courses			Notes
Course	**Name**	**Hours**	**Course**	**Name**	**Hours**	
ELET 3101K* Major	Electric Circuit I Pre-requisite: MATH 1113	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	Area A Option	Pre-requisite: Varies	3	
MECT 4101* Major	Machine Design Pre-requisite: ENGT 3601	4	MECT 4901* Major	Propulsion Technology Pre-requisite: MECT 3411	3	
MECT 4301K* Major	Heat and Mass Transfer Pre-requisite: ENGT 3331K & MECT 3411	4	ENGT 3501* Major	Dynamics Pre-requisite: ENGT 3101 or ENGR 2201 & MATH 2101	2	
			Area I Option	Pre-requisite: None	3	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
		15			14	

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	MECT Elective* 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: ENGT 3331K & MECT 3411	4	ENGT 3701* Major	Engineering Economy Pre-requisite: MATH 1113	3	
Area A Option	Pre-requisite: Varies	3	ENGT 4401* Major	Senior Project / Capstone Pre-requisite: Varies	3	
ENGT 3301* Major	Quality Control Pre-requisite: MATH 2111	3	Area S Option	Pre-requisite: Varies	3	
Area S Option	Pre-requisite: None	3	HIST 2111 or 2112 Area P	U.S. History Pre-requisite: None	3	
Fall Milestones		**Total**	**Spring Milestones**		**Total**	
		16			15	

Program Map: Mechanical Engineering Technology
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Core Curriculum (Programmed Preferred Options in Bold)

Area I – Institutional Priority 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 and Quantitative Skills 3 hrs.
i. MATH 1001 Quantitative Reasoning 3 hrs.
ii. MATH 1111 College Algebra 3 hrs.
iii. MATH 1401 Elementary Statistics 3 hrs.
iv. MATH 1113 Pre-Calculus 3 hrs.

Area P – Social Science and U.S. History 6 hrs.
POLS 1101 American Government 3 hrs.
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.

Area A – Arts, Humanities, 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 3 hrs.
viii. ENGL 2521 Introduction to Film 3 hrs.
ix. ARTS 1101 Introduction to Visual Art 3 hrs.
x. HUMN 2011 Humanities 3 hrs.
xi. MUSC 1101 Introduction to Music 3 hrs.
xii. THEA 2101 Introduction to Theatre 3 hrs.
xiii. DNCE 2010 Dance Appreciation 3 hrs.
xiv. PHIL 2010 Introduction to Philosophy 3 hrs.
xv. PHIL 2030 Introduction to Ethics 3 hrs.

Area C – Communications in Writing 6 hrs.
i. ENGL 1101 English Composition I 3 hrs.
ii. ENGL 1102 English Composition II 3 hrs.

Area T – Technology, Mathematics and Sciences 11 hrs.
1. Select one of the following:
i. CSCI 1130 Computer and its Applications 3 hrs.
ii. CSCI 1301 Computer Science I 3 hrs.
iii. CILS 1130 Introduction to Computer Applications 3 hrs.
iv. ASTR 1000 Introduction to the Universe 3 hrs.
v. ISCI 1101 Integrated Science I 3 hrs.
vi. BIOL 1103 General Biology 3 hrs.
vii. BIOL 1104 Human Biology 3 hrs.
viii. DATA 1501 Introduction to Data Science 3 hrs.
ix. ENVS 1140 Environmental Issues 3 hrs.
x. FSCI 1101 Introduction to Molecular Forensic Science 3 hrs.
xi. MATH 1111 College Algebra 3 hrs.
xii. MATH 1401 Elementary Statistics 3 hrs.
xiii. MATH 1113 Pre-Calculus 3 hrs.

2. Select two of the following lab sciences:
i. BIOL 1103/1103L General Biology 4 hrs.
ii. BIOL 1104/1104L Human Biology 4 hrs.
iii. CHEM 1101K Introductory Chemistry 4 hrs.
iv. ISCI 1111K Integrated Science II 3 hrs.
v. MSCI 1501K Introduction to Marine Biology 4 hrs.
vi. PHSC 1011K Physical Science 1 4 hrs.
vii. PHSC 1012K Physical Science II 4 hrs.
viii. PHYS 1111K Introductory Physics I 4 hrs.
ix. PHYS 1112K Introductory Physics II 4 hrs.
x. PHYS 2211K Principles of Physics I 4 hrs.
xi. PHYS 2212K Principles of Physics II 4 hrs.
xii. BIOL 1107/1107L Principles of Biology I 4 hrs.
xiii. BIOL 1108/1108L Principles of Biology II 4 hrs.
xiv. CHEM 1211/1211L Principles of Chemistry 4 hrs.
xv. CHEM 1212/1212L Principles of Chemistry 4 hrs.

Area S – Social Sciences 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 Introduction 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.