



MECHANICAL ENGINEERING

Degree Options:

-Associate of Pre-Engineering

Program Description:

The Associate of Pre-Engineering (APE) degree is offered to students who plan to transfer to a university and pursue a baccalaureate degree in any of the traditional fields of engineering. This degree requires an emphasis of course work in engineering, mathematics, and science, with fewer general education requirements than the Associate of Science/Arts degree. It is anticipated that the balance of general education requirements necessary for a bachelor's degree will be taken during the summer semester or as a junior and/or senior at the 4-year transfer institution. This program is consistent with recent Accreditation Board for Engineering and Technology (ABET) standards. Course work for the APE degree must include the completion of at least 68 to 76 semester hours.

The recommended course of study is as follows:

TWO-YEAR PLAN

First Year:

<u>Fall Semester</u>	
ENGN 1000	Intro to Engineering 2*
ENGN 1005	Intro to Engineering Lab . 1*
MATH 1210	Calculus I 4*
MATH 2270	Linear Algebra 3*
PHYS 2210	Physics for Scientists & Engineers 4*
PHYS 2215	Physics for Scientists & Engineers Lab 1*
Gen. Education or Technical Electives	. 3*
Semester Total 18

<u>Spring Semester</u>	
MATH 1220	Calculus II 4*
MATH 2280	Ordinary Diff. Equations . 3*
ENGL 1010	Introduction to Writing . . . 3
PHYS 2220	Physics for Scientists & Engineers 4*
PHYS 2225	Physics for Scientists & Engineers Lab 1*

Numerical Methods, General Education, or Technical Elective(s)***	3*
Semester Total	18

Second Year:

<u>Fall Semester</u>	
CHEM 1210	General Chemistry I 4*
CHEM 1215	General Chemistry I Lab . 1*
ENGN 2010	Statics 3*
ENGN 2270	Circuits 5*
ENGN 2275	Circuits Lab 1*
MATH 2210	Multivariable Calculus . . 3*
Semester Total	17

<u>Spring Semester</u>	
ENGL 2010	Intermediate Writing 3
ENGN 2030	Dynamics** 3*
ENGN 2140	Strength of Materials . . . 3*
ENGN 2300	Thermodynamics I 3*
-or-	
Gen. Education or Technical Electives***	5
Semester Total	17

Program Total 70

THREE-YEAR PLAN

First Year:

<u>Fall Semester</u>	
ENGN 1000	Intro to Engineering 2*
ENGN 1005	Intro to Engineering Lab . 1*
MATH 1060	Trigonometry 3*
ENGL 1010	Introduction to Writing . . . 3
Gen. Education or Technical Elective***	9*
Semester Total	18

<u>Spring Semester</u>	
MATH 1210	Calculus I 4*
CHEM 1210	General Chemistry I 4*
CHEM 1215	General Chemistry I Lab . 1*
ENGL 2010	Intermediate Writing 3*
Gen. Education or Technical Elective(s)***6*	6*
Semester Total	18

Second Year:

<u>Fall Semester</u>		
MATH 2270	Linear Algebra	3*
PHYS 2210	Physics for Scientists & Engineers I	4*
PHYS 2215	Physics for Scientists & Engineers I Lab	1*
Gen. Education or Technical Elective***		9*
Semester Total		17

<u>Spring Semester</u>		
MATH 1220	Calculus II	4*
MATH 2280	Ordinary Differential Equations	3*
PHYS 2220	Physics for Scientists & Engineers II	4*
PHYS 2225	Physics for Scientists & Engineers II Lab	1*
EDDT 1400	CAD Level 1**	3*
Computer Science Programming Lang.**		3*
Semester Total		18

Third Year:

<u>Fall Semester</u>		
MATH 2210	Multivariable Calculus . .	3*
ENGN 2270	Circuits	5*
ENGN 2275	Circuits Lab	1*
ENGN 2010	Statics	3*
CS 1400	Fundamentals of Programming (Depending on transfer university), Numerical Methods, Gen. Education or Technical Elective(s)***6*	
Semester Total		18

<u>Spring Semester</u>		
ENGN 2140	Strength of Materials . . .	3*
ENGN 2030	Dynamics	3*
ENGN 2300	Thermodynamics I**	3*
CHEM 1220	General Chemistry II & CHEM 1225 General Chemistry II Lab, BCIS 2550 Fortran (Depending on transfer university), Gen. Education or Technical Elective(s)***9*	
Semester Total		18

Program Total 107

*means class has pre-requisite(s) and/or corequisite(s)

or technical elective*

***can be chosen from approved classes in Physics, Chemistry, Engineering, Mathematics, Life Science, Electronics, Computer Science, and others

Note: MATH 2210 Multivariable Calculus is required at some four-year colleges/universities in the second year. It is

strongly recommended that it be taken here to ensure better success at the transfer school.

For more information contact:

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