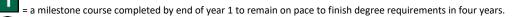


## Northwest Missouri State University Department of Natural Sciences

**Pre-Engineering** 

Term 1	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-120 OR	Calculus I OR	Calculus I: Precalculus OR	3-5	Calculus I requires
17-117 OR	Precalculus OR	Precalculus Algebra AND		minimum Math ACT 27
17-118	Precalculus Algebra	Trigonometry		If opt for Precalculus
		Precalculus: Minimum ACT		Algebra must also take
		22 or minimum high		Trigonometry (17-119).
		school GPA 3.5		
		Precalculus Algebra:		
		Minimum ACT math score		
		of 24 OR minimum high		
		school GPA 3.8 OR		
		minimum grade of C in		
		MATH 17082 OR		
		concurrent with MATH		
24-114/115	General Chemistry I & Lab	17017	4	General Chemistry & Lab
24-114/113	General Chemistry I & Lab		4	should be considered if
				rigorous high school
				chemistry is absent.
10-111	Composition I		3	chemistry is absent.
44-101 OR	Foundations of Computing OR		3	
44-130	Computers & Information Technology			
		Total Hours	14-15	
Term 2	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-121	Calculus II	Calculus I	5	
10-112	Composition II	Composition I	3	
52-150	Principles of Macroeconomics		3	
24-116/117	General Chemistry II & Lab	General Chemistry I	5	
		Total Hours	16	
Term 3	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-321	Calculus III	Calculus II	4	FALL ONLY
25-120/121	Classical Physics I & Lab	Calculus I	5	FALL ONLY
44-141	Computer Programming I		3	
		Total Hours	12	
Term 4	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-361	Differential Equations	Calculus II	3	SPRING ONLY
25-230/231	Classical Physics II & Lab	Classical Physics I & Lab	5	SPRING ONLY
25-322	Statics	Classical Physics I & Lab	3	
		AND Calculus II		
	American Experience		3	
	Total Hours			

Other courses will be taken besides those listed so that the student takes anywhere from 12 to 18 credit hours per semester. The other courses are generally chosen from the areas of Humanities and Social Sciences. The student should consult the Transfer Course Guides on the web sites of MST and UM-Columbia to determine what other courses they



= a milestone course completed by end of year 2 to remain on pace to finish degree requirements in four years.

= a milestone course completed by end of year 3 to remain on pace to finish degree requirements in four years.

= a milestone courses taken in final year to complete degree requirements.



## Northwest Missouri State University Department of Natural Sciences

**Pre-Engineering** 

should take for the particular engineering major that they are interested in. For the University of Missouri at Columbia consult the site: <a href="http://engineering.missouri.edu/prospective-students/">http://engineering.missouri.edu/prospective-students/</a>

For Missouri University of Science and Technology consult the site: http://futurestudents.mst.edu/

The courses recommended in the schedule given in this document are, for the most part, required of all engineering majors at all Universities with engineering programs. Exceptions are Composition II and Chemistry II. English Composition II is required of all engineering majors at UM-Columbia and required of most engineering majors at MST. Chemistry II is required of about half of all engineering programs. Since many pre-engineering students do not know which engineering major they want to pursue both Composition II and Chemistry II are recommended so as to keep their options open. Consult the Transfer Course Guide for the institution you are interested in to clarify course requirements.

Those students pursuing engineering programs related to chemistry or biology are usually required to take two semesters of Organic Chemistry during their sophomore year as well.

Most pre-engineering students are not ready to start with Calculus I. These students will usually start with Math 118, Precalculus Algebra, or Math 117, Precalculus. The single most important thing for any pre-engineering major to do is to take the appropriate math course every semester. These math courses are prerequisites to many of the engineering courses the student will take when they transfer to another institution.

For an excellent description of careers in engineering and the sciences as well as an outlook of job prospects in engineering and other science disciplines go to the U.S. Department of Labor, Bureau of Labor Statistics website at www.bls.gov

The Occupational Outlook Handbook can be accessed directly at http://stats.bls.gov/oco/home.htm



= a milestone course completed by end of year 1 to remain on pace to finish degree requirements in four years.



= a milestone course completed by end of year 2 to remain on pace to finish degree requirements in four years.



= a milestone course completed by end of year 3 to remain on pace to finish degree requirements in four years.

= a milestone courses taken in final year to complete degree requirements.