MECHANICAL ENGINEERING (BS) - AEROSPACE TRACK

Degree Requirements

Code	Title	Hours
General Education Requirements		**54**
Major Requirements		
Engineering Course Requirements		
Complete the following:		
EG 101	Intro to Engineering & Design (or EG 201 for LINK students)	2
EG 220	Electrical Circuits	3
EG 231	Intro to Ethics and Economics	3
EG 270	Engineering Thermodynamics	3
EG 283	Statics	3
EG 284	Dynamics	3
EG 315	Mechanics of Materials	3
EG 360	Fluid Mechanics	3
Mechanical Engineering Course Requirements		
ME 135	Engr Graphics and Comm (Only two attempts are permitted to earn grade C or better. Failure to meet this requirement will result in dismissal from the program.)	3
ME 228	Computational Engineering	3
ME 312	Mech Engr Thermodynamics	3
ME 314	Machine Component Design	3
ME 316	Instrumentatn & Exp Method	3
ME 317	Heat Transfer	3
ME 326	Materials Science	3
ME 328	Numerical Methods	3-4
ME 336	Material Science Lab-W	1
ME 410	Principles of Eng Design-W	3
ME 426	Dynamic Systems and Control	3
ME 429	Controls & Instr. Lab	1
ME 472	Vibration Analysis-Synthesis	3
ME 414	Capstone Design	1
ME 416	Capstone Design Project	2
Science Elective		
Select one of the following (no Lab required):		3
BLY 121	General Biology I	
CH 132	General Chemistry II	
GY 111	Physical Geology	
MA 316	Linear Algebra II	
MA 354	Comp Assist Math Modeling - W	
MA 437	Complex Variables	
ST 315	Applied Probability-Statistics	
PH 303	Modern Physics (Lab required)	
Aerospace Track Requirements		
Complete the following:		
AE 361	Fundamentals of Aerodynamics	3
Approved AE Elective I (see Department list)		3
Approved AE Elective II (see Department list)		3
FE Exam		
All students must attempt the NCEES FE (Fundamentals of Engineering) examination.		
Minor Requirements		
A minor is not required for this degree program		0
Total Hours		**127-128**

General Education Requirements

Code	Title	Hours
Area I – Written Composition		
EH 101	English Composition I (Students who earn an English ACT score of 27, or a written SAT score of 610, can opt out of EH 101.)	3
EH 102	English Composition II	3
or EH 105	Honors Composition - H	
Area II – Humanities & Fine Arts		
CA 110	Public Speaking	3
A. Select one of the following:		3
EH 215	Brit Lit before 1785	
EH 216	Brit Lit after 1785	
EH 225	Am Lit before 1865	
EH 226	Am Lit after 1865	
EH 235	World Lit before 1650	
EH 236	World Lit after 1650	
B. Select one of the following:		3
ARH 100	Survey of Art	
ARH 103	Art History I	
ARH 123	Art History II	
ARS 101	Art Appreciation	
DRA 110	Introduction to Theatre	
MUL 101	Introduction to Music	
Area III – Natural Sciences & Mathematics		
MA 125	Calculus I	4
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	4
PH 201 & 201L	Calculus-Based Physics I and Calculus-Based Physics I Lab	4
Area IV – History, Social & Behavioral Sciences		
A. Select 3 hours from the following:		3
HY 101	HY of Western Civilization I	
HY 102	HY of Western Civilization II	
HY 135	US History to 1877	
HY 136	US History since 1877	
B. Select 3 hours from the following:		3
AN 100	Intro to Cultural Anthropology	
AN 101	Intro Archaeology-Bio Anthro	
CA 100	Intro to Communication	
CA 211	Interpersonal Comm	
CJ 105	Introduction to Criminal Justice	
ECO 215	Prin of Microeconomics	
ECO 216	Prin of Macroeconomics	
GEO 114	People, Places, Environment	

GEO 115	World Regional Geography	
GS 101	Intro to Gender Studies	
IS 100	Global Issues	
IST 201	Seasons of Life	
NAS 101	Intro Native American Studies	
PSC 130	Intro to US Government	
PSY 120	Introduction to Psychology	
PSY 250	Life Span Development	
SY 109	Introductory Sociology	
SY 112	Social Problems	
C. Select an additional 3 hours from either List A or List B above in Area IV		3
Area V - Pre-Professional, Major, Elective Courses		
Complete the following:		
MA 126	Calculus II	4
MA 227	Calculus III	4
MA 237	Linear Algebra I	3
MA 238	Differential Equations I	3
PH 202 & 202L	Calculus-Based Physics II and Calculus-Based Physics II Lab	4
Total Hours		**54**

Additional Information

It is important that students make adequate progress in the Mechanical Engineering program. Satisfactory completion of a set of fundamental courses is required before a student is allowed to take advanced courses. Professional Component Standing (PCS) is awarded by the Chair of the Department when the student completes the College of Engineering PCS requirements and the WBBJ MABE Departmental PCS requirements.

College of Engineering PCS Courses

Minimum Grade C is required in all the following courses:

Code	Title	Hours
EH 101	English Composition I (if not exempt)	3
EH 102	English Composition II	3
or EH 105	Honors Composition - H	
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	4
MA 125	Calculus I	4
MA 126	Calculus II	4
PH 201	Calculus-Based Physics I (+Lab)	4

Mechanical Engineering PCS Courses

Minimum Grade C is required in all the following courses:

Code	Title	Hours
EG 283	Statics	3
MA 227	Calculus III	4
MA 237	Linear Algebra I	3
ME 135	Engr Graphics and Comm (maximum 2 attempts)	3
PH 202	Calculus-Based Physics II	4

Graduation Plan

(127 Total Hours)

The Sample 4-year plan is designed as a guide for students preparing for their course selections. This information provides only a suggested schedule. Actual course selections should be made in consultation with an advisor. Courses listed as Milestones are required to obtain Professional Component Standing (PCS). Two designated writing (W) courses are required with at least one course chosen from offerings in the student's major or minor. Courses carrying this required credit are identified in the University Bulletin by a W after the course title.

Course	Title	Hours
First Year		
Fall		
EG 101	Intro to Engineering & Design	2
EH 101	English Composition I [1,2]	3
MA 125	Calculus I	4
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	4
General Education	Area II or IV [1,2]	3
Milestone Notes		
Must complete at least 12 hours with a 2.0 or higher GPA		
	Hours	**16**
Spring		
EH 102	English Composition II [1]	3
MA 126	Calculus II	4
PH 201 & 201L	Calculus-Based Physics I and Calculus-Based Physics I Lab	4
ME 135	Engr Graphics and Comm	3
CA 110	Public Speaking [1]	3
Milestone Notes		
MA 125	Calculus I	
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	
EH 101	English Composition I (if not exempt)	
	Hours	**17**
Second Year		
Fall		
MA 227	Calculus III	4
MA 237	Linear Algebra I	3
PH 202 & 202L	Calculus-Based Physics II and Calculus-Based Physics II Lab	4
EG 283	Statics	3
General Education	Area II or IV [1,2]	3
Milestone Notes		
PH 201 & 201L	Calculus-Based Physics I and Calculus-Based Physics I Lab	
MA 126	Calculus II	
EH 102 or EH 105	English Composition II or Honors Composition - H	
ME 135	Engr Graphics and Comm	
	Hours	**17**
Spring		
EG 270	Engineering Thermodynamics	3
EG 284	Dynamics	3
EG 315	Mechanics of Materials	3
MA 238	Differential Equations I	3
ME 228	Computational Engineering	3
General Education	Area II or IV [1,2]	3
Milestone Notes		
MA 227	Calculus III	
PH 202 & 202L	Calculus-Based Physics II and Calculus-Based Physics II Lab	
EG 283	Statics	

MA 237	Linear Algebra I	
	Hours	**18**
Third Year		
Fall		
EG 220	Electrical Circuits	3
EG 360	Fluid Mechanics	3
ME 312	Mech Engr Thermodynamics	3
ME 326	Materials Science	3
ME 328	Numerical Methods	3-4
Milestone Notes		
MA 238	Differential Equations I	
	Hours	**15-16**
Spring		
EG 231	Intro to Ethics and Economics	3
ME 314	Machine Component Design	3
ME 316	Instrumentatn & Exp Method	3
ME 317	Heat Transfer	3
ME 336	Material Science Lab-W	1
General Education	Area II or IV [1,2]	3
Milestone Notes		
Apply for graduation		
Apply to take FE Exam		
	Hours	**16**
Fourth Year		
Fall		
AE 361	Fundamentals of Aerodynamics	3
ME 410	Principles of Eng Design-W	3
ME 426	Dynamic Systems and Control	3
ME 472	Vibration Analysis-Synthesis	3
Science Elective	See Department List - lecture only	3
Milestone Notes		
FE Exam		
	Hours	**15**
Spring		
ME 414	Capstone Design	1
ME 416	Capstone Design Project	2
ME 429	Controls & Instr. Lab	1
AE Elective I	See Department List	3
AE Elective II	See Department List	3
General Education	Area II or IV [1,2]	3
	Hours	**13**
	Total Hours	**127-128**

1 Courses meet general education requirements.

2 Students who earn an English ACT score of 27, or a written SAT score of 610, can opt out of EH 101.

Note: Students not Term 1-Calculus I ready will exceed the number of hours required for this degree. If math is not started prior to Fall-Year 1, the four-year graduation timetable is likely to be extended. Students with ACT Math scores 21 and below should begin math courses in the summer before Fall-Year 1.