

ME Major Cheat Sheet

Semester One:	Credits	Pre-requisites
ENGL 1120: Composition 2	3	ENGL 1110 or 1110Y
MATH 1512: Calculus I	4	MATH 1250 or MATH 1230 and 1240
ENG 130L: Intro to Engineering Computing	3	None (suggested MATH 1250 or higher)
CHEM 1215: General Chemistry I	3	MATH 1215
CHEM 1215L: General Chemistry I Lab	1	MATH 1215, co-req CHEM 1215
Creative and Fine Arts Gen Ed	3	None
Semester Two:		
Communications Gen Ed	3	None except for ENGL courses need 1120
MATH 1522: Calculus II	4	MATH 1512
PHYS 1310: Calc-based Physics I	3	Pre/co-req MATH 1512
PHYS 1310L: Calc-based Physics I Lab	1	Pre/co-req MATH 1512 and PHYS 1310
ME 160L: Mechanical Engr Design I	3	MATH 1220 or higher; co-req MATH 1250 or higher
Humanities A Gen Ed/Diversity or Cultures (CAC)	3	None
Semester Three:		
CE 202: Statics	3	Physics 1310 and MATH 1522
ME 260L: ME Design II	3	ME 160L; pre/co-req CHEM 1215/1215L
MATH 2531: Calculus III	4	MATH 1522
PHYS 1320: Calc-based Physics II	3	PHYS 1310 and pre/co-req MATH 1522
PHYS 1320L: Calc-based Physics II Lab	1	PHYS 1310L and co-req PHYS 1320
ME 217: Intro Env, Science and Tech	3	None
Semester Four:		
ME 306: Dynamics	3	CE 202 and MATH 2531
MATH 316: Differential Equations	3	MATH 1522 and pre/co-req MATH 2531
ECE 203: Circuit Analysis I	3	MATH 1522; pre/co-req PHYS 1320
ME 318L: Mechanical Engr Lab	4	MATH 2531, PHYS 1320; pre/co-req MATH 316 and ECE 203
Humanities B: Language Gen Ed	3	None
Semester Five:		
ME 357: Intro to Mech Vibrations	3	ME 306 and MATH 316
ME 317L: Fluid Mechanics Lab	4	ME 306, ME 318L, MATH 2531, and MATH 316
ME 301: Thermodynamics	3	CHEM 1215/1215L, MATH 2531, and PHYS 1320
CE 302: Mechanics of Materials	3	CE 202; pre/co-req MATH 316
Math Elect - 311, 312, 313, 314, or Stat 345	3	see catalog (MATH 314 needs MATH 1522 and ENG 130L)
Semester Six:		
ME 360L: ME Design III	3	ME 260L, CE 302, MATH 2531 and MATH 316
ME 370L: Engr Materials Science	4	ME 260L and CE 302
ME 380: Mech Control Systems	3	ME 357 and MATH 316
Design option: ME 300+ OR FSAE option ME 406L: FSAE Racecar Design	3 or 4	Requires Junior or Senior level classification
Semester Seven:		
ME320L: Heat Transfer	4	ME 301, ME 317L, and MATH 316
ME 459: ME Design IV	3	CE 302
ME Elective: ME 300+	3	Requires Junior or Senior level classification
Design option: ME Elective 300+ OR FSAE option: ME 407: Fabrication Lab	3	ME 300+: requires Junior or Senior level classification ME 407: ME 357 and B or higher in ME 406L
Semester Eight:		
ME 460: ME Design V OR FSAE option ME 408: Racecar Test Lab	4	ME 460: pre/co-req ME 320L, ME 380, and ME 459 ME 408: ME 407 with B or higher
ME Tech Elective* 300+	3	Requires Junior or Senior level classification
ME Elective: ME 300+	3	Requires Junior or Senior level classification
ME Elective: ME 300+	3	Requires Junior or Senior level classification

Linchpin class (Example: CE 202 prereq for ME 306 and CE 302 which are prereqs for most other ME 300+ courses)

ME Major Cheat Sheet

Pre-Admission Requirements for ME – highlighted in yellow

- Cumulative GPA 2.3
- English 1110 completed (or equivalent) or higher
- GPA of 2.75 for 18 credits of pre-admission coursework
- Pre-Admission Coursework must be completed with grade of C or higher: 14 Required Credits: MATH 1512, MATH 1522, PHYC 1310, ME 160L. 4 credits from: CHEM 1215/1215L, PHYS 1310L, ENG 130L (All courses are required for the degree, we just use the "highest" grades in the 4 credits for the GPA. Technically, a student can be moved to major and still need ENG 130L or PHYS 1310L, but to graduate they have to be completed and they are pre-requisites for later classes.

ME Math Electives

MATH 311: Vector Analysis (pre-req MATH 2531)

MATH 312: Partial Differential Equations (pre-req MATH 2531 and MATH 316)

MATH 313: Complex Variables (pre-req MATH 2531 and one 300 level Math)

MATH 314: Linear Algebra with Applications (for Math minor and non-math majors; cannot get credit for both MATH 314 and MATH 321) (Pre-req MATH 1522 and ENG 130L)

MATH 321: Linear Algebra (for Math majors – cannot get credit for both MATH 314 and 321) (pre-req MATH 2531)

STAT 345: Elements of Mathematical Statistics (pre-req MATH 1522)

ME Electives

Includes all Mechanical Engineering elective courses 300-level and above.

ME Technical Electives

May be selected from Mechanical Engineering Electives or from approved upper-division (300-level and above) courses from Mathematics/Statistics, Chemistry, Physics, Computer Science, and other departments in Engineering, and possibly MATH 150 or other lower division courses depending on catalog year.

ME Major Tracks

Senior Design Options

- Solar Splash: ME 461 Solar Splash in Fall; ME 460 Design 5 in spring with Dr. Vorobieff
- Lobo Launch: ME 461 Rocket Engineering in fall; ME 460 Design 5 in spring with Dr. Aguilar
- Group Project: ME 460 Design 5 in fall or spring

Formula SAE (Society of Automotive Engineers)

- ME 406L in spring, ME 407 the next fall, ME 408 the next spring (typically semester graduating) - courses are sequential

All major courses must be taken for a letter grade.

Taking courses at another institution while in the PreME or ME program will not guarantee you can take the next level course in the next semester. (Example: Courses through Straighterline must show complete with letter grade before you will be permitted to take the next course.)