The University of Alabama in Huntsville

Department of Mechanical and Aerospace Engineering

Approved Technical Electives

Requirement: Students must choose two-300+ Level Tech Electives

- *Students must meet all prerequisite requirements for any courses they wish to take as a Technical Elective. Exceptions may be made on a case by case basis. MAE 200 is NOT required for ME majors that wish to take courses like MAE 343 or MAE 371.*
- *Any MAE course that is not required for your degree program can be taken as a Technical Elective except: AE majors cannot take MAE 310 for credit and ME majors cannot take MAE 330 for credit.*
- *Science or Engineering courses that are cross-listed with courses from the College of Education, the College of Business or the College of Art, Humanities and Social Sciences are no longer allowed to serve as MAE Technical Electives without approval by the MAE Department.*
- *Engineering Technology (ET) courses cannot be used for electives.*
- *Students cannot take both MA 385 and ISE 390 for Technical Elective credit.*
- *Other courses may be reviewed by the Advisor or the MAE Department for approval.*

Course	**Title**	**Prerequisites**
AST 371	Intro to Astrophysics	PH 113, MA 201
CH 331	Organic Chemistry I	CH 123
CH 332	Organic Chemistry II	CH 331
CH 341	Physical Chemistry I	CH 123, PH 112/115, MA 201
CH 342	Physical Chemistry II	CH 341
CE 321	Intro to Transportation Engineering	MA 171, CE 284
CE 372	Soil Mechanics and Foundation	CE/MAE 370, MAE 310
CE 380	Civil Engineering Materials	CE/MAE 370
CE 381	Structural Analysis I	CE/MAE 370, CE/MAE 272
CE 422	Traffic Engineering Design	CE 321
CE 441	Hydraulic Engineering Design	MAE 310
CE 449	Intro Environmental Engineering	MAE 310, MAE 341

CE 456	Water Quality Control Processes	CE 449
CE 457	Hydrology	MAE 310
CE 481	Structural Analysis II	CE 381
CE 484	Steel Design	CE 381, MA 244
EE 307	Electricity and Magnetism	EE 213
EE 308	Electromagnetic Engineering	EE 307
EE 310	Solid State Fundamentals	PH 113
EE 315	Intro Electronic Analysis and Design	EE 213
EE 382	Analytical Methods CT Systems	EE 213, MA 238, MA 244
EE 383	Analytical Methods DT Systems	EE 383
EE 385	Random Signals and Noise	EE 382
EE 386	Intro Controls and Robotics Systems	EE 382
ISE 327	Management Systems Analysis	ISE 390
ISE 328	Intro Systems Engineering	ISE 327
ISE 340	Operations Research	ISE 390, MA 244
ISE 390	Probability and Engineering Statistics I	MA 201
ISE 391	Probability and Engineering Statistics II	ISE 390
MA 301	Intro Elementary Number Theory	MA 244
MA 330	Foundations of Math	MA 172, MA 201 or MA 244
MA 385	Intro to Probability and Statistics	MA 201
MA 420	Intermediate Differential Equations	MA 201, MA 244, MA 238
MA 442	Algebraic Structures with Applications	MA 244, MA 330
MA 452	Intro to Real Analysis	MA 330
MA 453	Intro to Complex Analysis	MA 201, MA 301 or MA 330

MA 456	Methods of PDEs	MA 238, MA 244
MA 458	Applied Linear Algebra	MA 238, MA 244
MA 460	Intro Fourier Analysis	MA 238, MA 244
MA 465	Intro to Math Modeling	MA 201, MA 244, MA 238
MA 487	Intro to Math Statistics	MA 244, MA 330
PH 301	Intermediate Mechanics	PH 111, MA 238