



THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE



Aerospace Engineering

Aerospace Engineers concentrate mainly on four areas of technology: aerodynamics, structures and materials, propulsion and flight mechanics which allows them to develop extraordinary machines. They design, develop and test aircraft, spacecraft, and missiles, and supervise the manufacturing of these products. They develop new technologies for use in aviation, defense systems, and space exploration, and can

specialize in a particular type of aerospace product, such as commercial aircraft, military fighter jets, spacecraft, or missiles and rockets.



Highlights

- Huntsville, Alabama has the #1 concentration of Aerospace engineering jobs in the United States.
- Also known as the "Rocket City," Huntsville is deeply rooted in our nation's aerospace industry.
- Students co-op with Boeing, GE, NASA, and many more.
- Average median salary in 2012: \$103,720.



"The work I have done at NASA is exciting and challenging. This experience has inspired me to pursue a career supporting space exploration, and also allows me to work on interesting projects like the Hexacopter in this photo."

Adam Dzuibanek // Decatur, Alabama
Senior, Aerospace **ENGINEERING**

**GO.
LEARN.
BE.**

Academic Checksheet



Aerospace Engineering 2015/2016 (128 Hours)

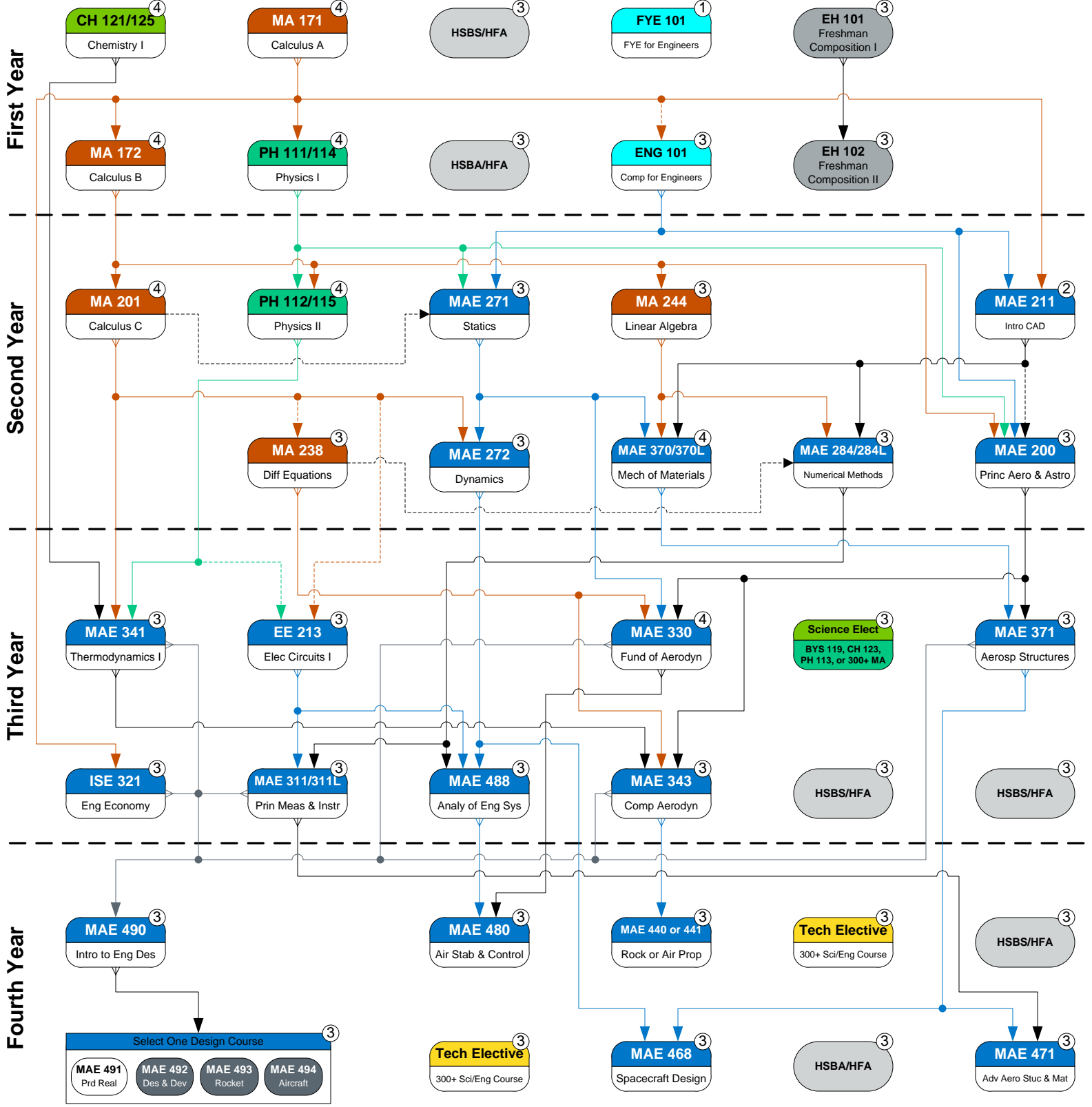
Student A#				Student Name (Last, First MI)			Offered:
Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency		F=Fall S=Spr M=Sum
English - 6 hours							
		EH 101	3	Freshman Composition I	Placement		FSM
		EH 102	3	Freshman Composition II	EH 101		FSM
Mathematics - 18 hours							
		MA 171	4	Calculus A	MA 113 or MA 115 or Level III Placement		FSM
		MA 172	4	Calculus B	MA 171		FSM
		MA 201	4	Calculus C	MA 172		FSM
		MA 238	3	Applied Differential Equations	Prereq w/Con: MA 201		FSM
		MA 244	3	Introduction to Linear Algebra	MA 172		FSM
Chemistry - 4 hours							
		CH 121	3	General Chemistry I	Plcmt or CH 101, MA 113 or 115, Prereq w/Con: MA 171, Coreq: CH 125		FSM
		CH 125	1	General Chemistry Lab I	Coreq: CH 121		FSM
Physics - 8 hours							
		PH 111	3	General Physics w/Calculus I	MA 171, Coreq: 114		FSM
		PH 114	1	General Physics Lab I	Coreq: PH 111		FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, Coreq: 115		FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112		FSM
Science Elective - 3 or 4 hours							
			3		BYS 119, CH 123, PH 113, or 300/400 MA course		FSM
History, Social & Behavioral Sciences, Humanities & Fine Arts - 18 hours							
			3	History	HY 103, HY 104, HY 221, or HY 222		FSM
			3	Literature	EH 207 or EH 208		FSM
			3	Fine Art	ARH 100, ARH 101, ARH 103, CM 122, MU 100, or ARS 160		FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: http://www.uah.edu/images/colleges/engineering/CUE2%20Files/Forms/HSBS_HFA_Requirements_05202014.pdf		FSM
			3	Sequence Course (HY or EH)			FSM
			3	HSBS/HFA			FSM
First-Year Engineering - 4 hours							
		FYE 101	1	First-Year Experience for Engineers	None		FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171		SM
**	Class has required lab section			Aerospace Engineering Option - 61 hours			
		MAE 200	3	Principles of Aeronautics & Astronautics	ENG 101, MA 172, PH 111, Prereq w/Con MAE 211		FS
		MAE 211	2	Introduction to Computer Aided Design	ENG 101, MA 171		FSM
		EE 213	3	Electrical Circuit Analysis I	Prereq w/Con: PH 112, MA 201		FSM
		MAE 271	3	Statics	ENG 101, PH 111, Prereq w/Con: MA 201		FSM
		MAE 272	3	Dynamics	MA 201, MAE/CE 271		FSM
**		MAE 284	3	Numerical Methods	MA 244, MAE 211; Prereq w/Con: MA 238 & Coreq: MAE 284L		FSM
**		MAE 311	3	Principles of Measurement & Instrumentation	EE 213, MAE 284; Coreq MAE 311L		FSM
		ISE 321	3	Engineering Economy	MA 171		FSM
		MAE 330	4	Fundamentals of Aerodynamics	MAE 200, MAE 271, MA 238		FM
		MAE 341	3	Thermodynamics I	MA 201, CH 121, CH 125, PH 112		FSM
**		MAE 343	3	Compressible Aerodynamics	MAE 200, MA 238, MAE 341		FS
**		MAE 370	4	Mechanics of Materials	MAE/CE 271, MA 244 & (MAE 211 or CE 111), Coreq: MAE 370L		FSM
		MAE 371	3	Aerospace Structures	MAE 200, MAE/CE 370		FS
Select One		MAE 440	3	Rocket Propulsion I	MAE 343		FM*
		MAE 441	3	Airbreathing Propulsion	MAE 343		FM*
		MAE 468	3	Elements of Spacecraft Design	MAE/CE 272, MAE 371		FS
		MAE 471	3	Advanced Aero Structure & Materials	MAE 311, MAE 371		FS
		MAE 480	3	Aircraft Stability & Control	MAE 330, MAE 488		FS
		MAE 488	3	Analysis of Engineering Systems	EE 213, MAE/CE 272, MAE 284		FSM
		MAE 490	3	Intro to Engineering Design	ISE 321 & MAE 311, 341 & (MAE 310, 364, & 378) or (MAE 330, 343, & 371)		FSM
Select One		MAE 491	3	Product Realization	MAE 490 & Senior Standing		FS
		MAE 492	3	Mission Design & Development	MAE 490 & Senior Standing		S
		MAE 493	3	Rocket Design	MAE 490 & Senior Standing		S
		MAE 494	3	Aircraft Design	MAE 490 & Senior Standing		S
Technical Elective - 6 hours							
			3		300+ Level Science or Engineering course		
			3		May not take both MA 385 & ISE 390, or MAE 310 for credit		

* These courses are offered in alternating summers. Please consult the MAE 5 year plan.
All prerequisite classes must be completed with a "C-" or higher grade.
The Catalog is the final authority for all degree requirements.

Academic Flowchart



Aerospace Engineering 2015/2016 (128 Hours)



Legend
Updated: 5/7/15

Mathematics	First-Year Engineering	Freshman Composition	Credit Hours
Physics	Aerospace Engineering Option	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
Chemistry / Biology	Technical Elective	Offered only in semester listed	Prereq w/concurrency

Mechanical and Aerospace Engineering Department: 4-Year Rolling Class Schedule, Fall 2015 - Spring 2019*

	Fall 2015	Anticipated Sections	Spring 2016	Anticipated Sections	Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019
MAE 100 ** Intro to Mech Eng	Y	1	N	0	N	N	N	N	N	N
MAE 111 Intro to Comp Tools	Y	2	Y	2	N	N	N	N	N	N
MAE 115 Machining	Y	2	Y	2	Y	Y	Y	Y	Y	Y
MAE 200 Principles of Aero/Astro	Y	1	Y	1	Y	Y	Y	Y	Y	Y
MAE 211 Intro to Comp Tools	N	0	N	0	Y	Y	Y	Y	Y	Y
MAE 271 Statics	Y	4	Y	3	Y	Y	Y	Y	Y	Y
MAE 272 Dynamics	Y	2	Y	2	Y	Y	Y	Y	Y	Y
MAE 284 ** Numerical Methods	Y	1	Y	1	Y	Y	Y	Y	Y	Y
MAE 310 Fluid Mechanics I	Y	2	E	2	Y	E	Y	E	Y	E
MAE 311 ** Prin of Measurement/Instr	E	1	Y	1	E	Y	E	Y	E	Y
MAE 330 Fund of Aerodynamics	N	0	N	0	Y	N	Y	N	Y	N



COLLEGE OF ENGINEERING
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

MAE 341 Thermodynamics I	Y	3	E	3	Y	E	Y	E	Y	E
MAE 342 Thermodynamics II	E	1	Y	1	E	Y	E	Y	E	Y
MAE 343 Compress. Aerodynamics	N	0	N	0	N	Y	N	Y	N	Y
MAE 364 ** Kinematics/Dyn of Mach	E	2	Y	2	E	Y	E	Y	E	Y
MAE 370 ** Mechanics of Materials	Y	2	Y	2	Y	Y	Y	Y	Y	Y
MAE 371 Aerospace Structures	Y	1	E	1	Y	E	Y	E	Y	E
MAE 378 Materials/Manuf Processes	E	1	Y	1	E	Y	E	Y	E	Y
MAE 420 Compress. Aerodynamics	N	0	Y	1	N	N	N	N	N	N
MAE 430 Fund of Aerodynamics	Y	1	N	0	N	N	N	N	N	N
MAE 440 Rocket Propulsion I	Y	1	N	0	Y	N	Y	N	Y	N
MAE 441 Airbreathing Propulsion	Y	1	N	0	Y	N	Y	N	Y	N
MAE 450 ** Intro to Heat/ Mass Transfer	Y	2	E	2	Y	E	Y	E	Y	E
MAE 455 Design of Thermal Systems	N	0	Y	1	N	Y	N	Y	N	Y



COLLEGE OF ENGINEERING
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

MAE 461 Vibrations of Elastic Sys	Y	1	D	0	D	D	D	D	D	D
MAE 463 Intermediate Dynamics	N	0	D	0	D	D	D	D	D	D
MAE 466 Mech/Design of Mach Elmts	Y	1	N	0	Y	N	Y	N	Y	N
MAE 468 Spacecraft Design	Y	1	Y	1	E	Y	E	Y	E	Y
MAE 471 Adv Aerospace Structures	Y	1	Y	1	E	Y	E	Y	E	Y
MAE 474 Appl Mechanics of Solids	N	0	D	0	D	D	D	D	D	D
MAE 476 Mech/Fab of Compos Mats	N	0	D	0	D	D	D	D	D	D
MAE 477 Exp Tech in Solid Mech	N	0	D	0	D	D	D	D	D	D
MAE 480 Aircraft Stability/Control	Y	1	E	1	Y	E	Y	E	Y	E
MAE 488 Analysis of Eng Systems	Y	2	Y	1	E	Y	E	Y	E	Y
MAE 489 Comp-Aided Eng Analysis	Y	1	E	2	Y	E	Y	E	Y	E
MAE 490 Intro to Eng Design	Y	4	E	2	Y	E	Y	E	Y	E
MAE 491 Product Realization	Y	1	Y	1	E	Y	E	Y	E	Y



COLLEGE OF ENGINEERING
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

MAE 492 Mission Dev/Design	Y	1	Y	1	E	Y	E	Y	E	Y
MAE 493 Rocket Design	N	0	Y	1	N	Y	N	Y	N	Y
MAE 494 Aircraft Design	N	0	Y	1	N	Y	N	Y	N	Y

Legend

Y	Course will be offered in designated term.
E	Course will likely be offered in designated term, but availability will be determined by faculty availability and budget.
N	Course will not be offered in designated term.
D	Course may be made available given appropriate demand or interest.

* UAH College of Engineering will make every effort to adhere to the class plan schedule, but it reserves the right to make necessary adjustments based on budget and faculty availability.

** Course has a required lab section.



COLLEGE OF ENGINEERING

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

Center for Undergraduate Engineering Education

Engineering Building 157

(256) 824-6877 // engineering@uah.edu

uah.edu/engineering

