

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
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 18 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 4 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>Science Elective - 3 or 4 hours</b>						
			3		BYS 119, CH 123, PH 113, or 300/400 MA course	FSM
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
**	Class has required lab section			<b>Aerospace Engineering - 61 hours</b>		
		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; Prereq w/Con: MAE 211, 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	ENG 101	FSM
		MAE 330	3	Fundamentals of Aerodynamics	MAE 200, MAE 272, MA 238; Coreq: MAE 331	FS
		MAE 331	1	Aerodynamics Lab	Coreq: MAE 330	FS
		MAE 341	3	Thermodynamics I	CH 121, PH 112, MA 201	FSM
		MAE 343	3	Compressible Aerodynamics	MAE 200, MA 238, MAE 341	SM
		MAE 370	3	Mechanics of Materials	MAE/CE 271, MA 244, (MAE or CE 211); Coreq: MAE 375	FSM
		MAE 375	1	Mechanics of Materials Lab	Coreq: MAE 370	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	Senior Design I	ISE 321, MAE 311, MAE 330, MAE 331, MAE 341, MAE 343, MAE 371, MAE 375	FSM
		MAE 491	3	Senior Design II	Corresponding MAE 490 Section, or Instructor Approval	FS
<b>Technical Elective - 6 hours</b>						
			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.

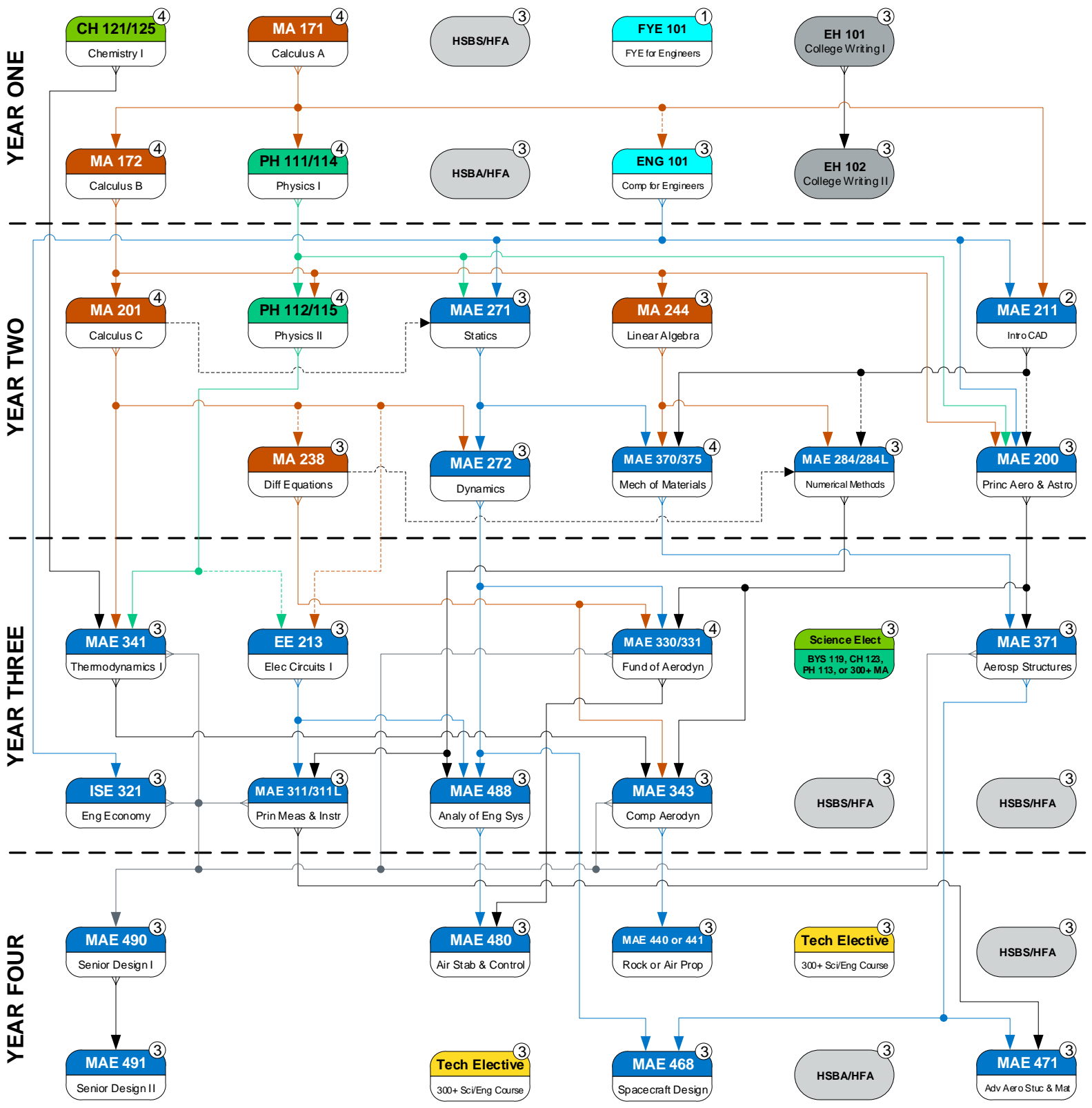
All prerequisite classes must be completed with a "C-" or higher grade.

The Catalog is the final authority for all degree requirements.

# Academic Flowchart



# Aerospace Engineering 2018/2019 (128 Hours)



<b>Legend</b> Updated: 8/2018	Mathematics	First-Year Engineering	Freshman Composition	Credit Hours
	Physics	Engineering	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
	Chemistry / Biology	Technical Elective	Offered only in semester listed	Prereq/concurrency

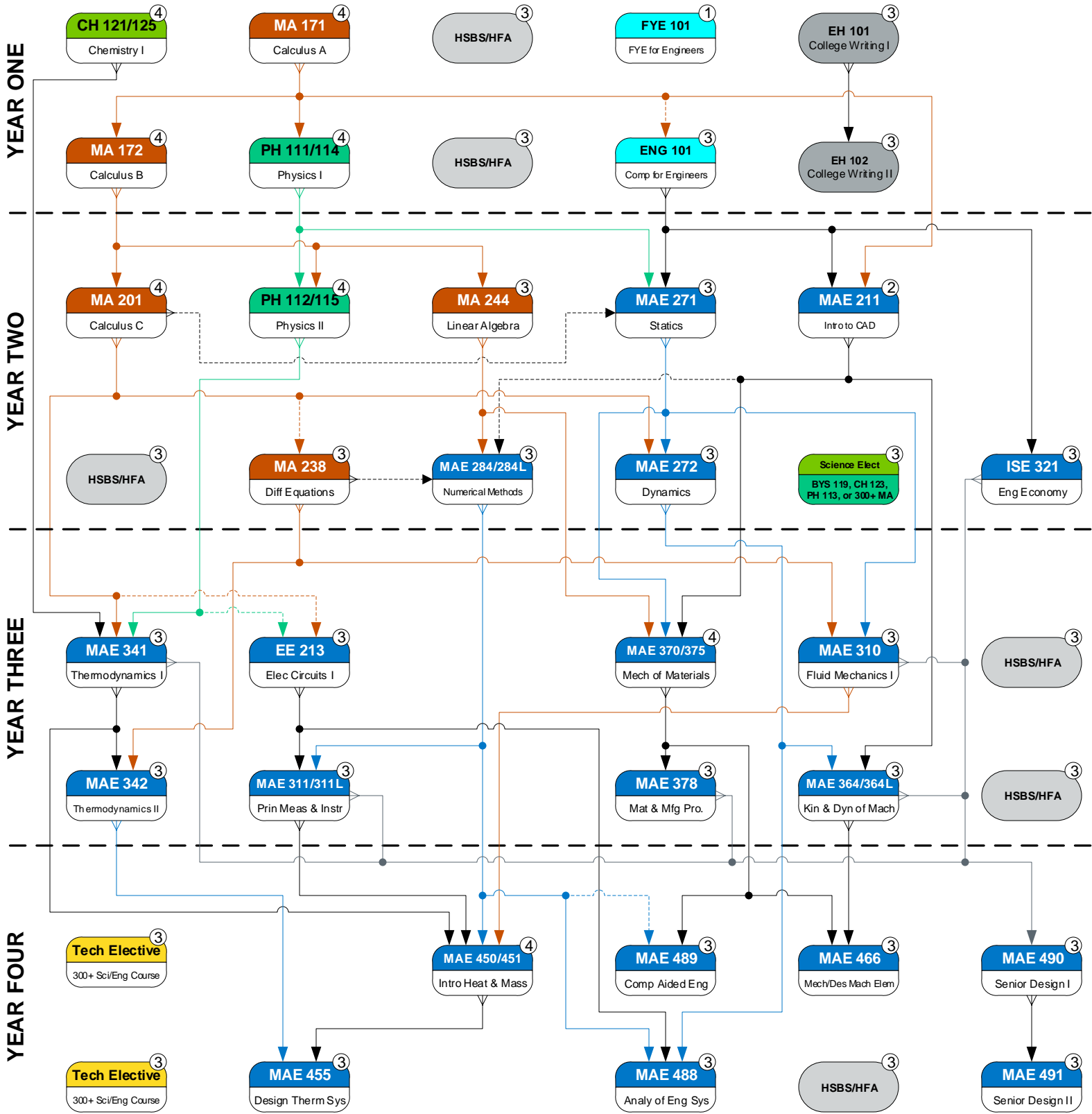
Student A#				Student Name (Last, First MI)		Offered:
Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency	F=Fall S=Spr M=Sum
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 18 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 4 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>Science Elective - 3 or 4 hours</b>						
			3		BYS 119, CH 123, PH 113, or 300/400 MA course	FSM
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
**	Class has required lab section			<b>Mechanical Engineering - 61 hours</b>		
		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; Prereq w/Con: MAE 211, MA 238; Coreq: MAE 284L	FSM
		ISE 321	3	Engineering Economy	ENG 101	FSM
		MAE 310	3	Fluid Mechanics I	MA 238, MAE/CE 271	FSM
**		MAE 311	3	Principles of Measurement & Instrumentation	EE 213, MAE 284; Coreq MAE 311L	FSM
		MAE 341	3	Thermodynamics I	CH 121, PH 112, MA 201	FSM
		MAE 342	3	Thermodynamics II	MA 238, MAE 341	FSM
**		MAE 364	3	Kinematics & Dynamics of Machines	MAE 211, MAE 272; Coreq MAE 364L	FS
		MAE 370	3	Mechanics of Materials	MAE/CE 271, MA 244, (MAE or CE 211); Coreq: MAE 375	FSM
		MAE 375	1	Mechanics of Materials Lab	Coreq: MAE 370	FSM
		MAE 378	3	Materials & Manufacturing Processes	MAE/CE 370	FSM
		MAE 450	3	Intro to Heat and Mass Transfer	MAE 284, MAE 311, MAE 341, (MAE 310 or MAE 330); Coreq: MAE 451	FS
		MAE 451	1	Heat and Mass Transfer Lab	Coreq: MAE 450	FS
		MAE 455	3	Design of Thermal Systems	MAE 342, MAE 450	SM
		MAE 466	3	Mechanics & Design of Machine Elements	MAE 364, MAE/CE 370	FM
		MAE 488	3	Analysis of Engineering Systems	EE 213, MAE/CE 272, MAE 284	FSM
		MAE 489	3	Computer-Aided Engineering Analysis	MAE/CE 370; Prereq w/Con: MAE 284	FSM
		MAE 490	3	Senior Design I	ISE 321, MAE 310, MAE 311, MAE 341, MAE 364, MAE 375, MAE 378	FSM
		MAE 491	3	Senior Design II	Corresponding MAE 490 Section, or Instructor Approval	FS
<b>Technical Elective - 6 hours</b>						
			3		300+ Level Science or Engineering course	
			3		May not take both MA 385 & ISE 390, or MAE 330 for credit	

All prerequisite classes must be completed with a "C-" or higher grade.

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# Academic Flowchart

# Mechanical Engineering 2018/2019 (128 Hours)



<b>Legend</b> Updated: 8/8/18	Mathematics	First-Year Engineering	Freshman Completion	Credit Hours
	Physics	Engineering	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
	Chemistry / Biology	Technical Elective	Offered only in semester listed	Prereq w/concurrency

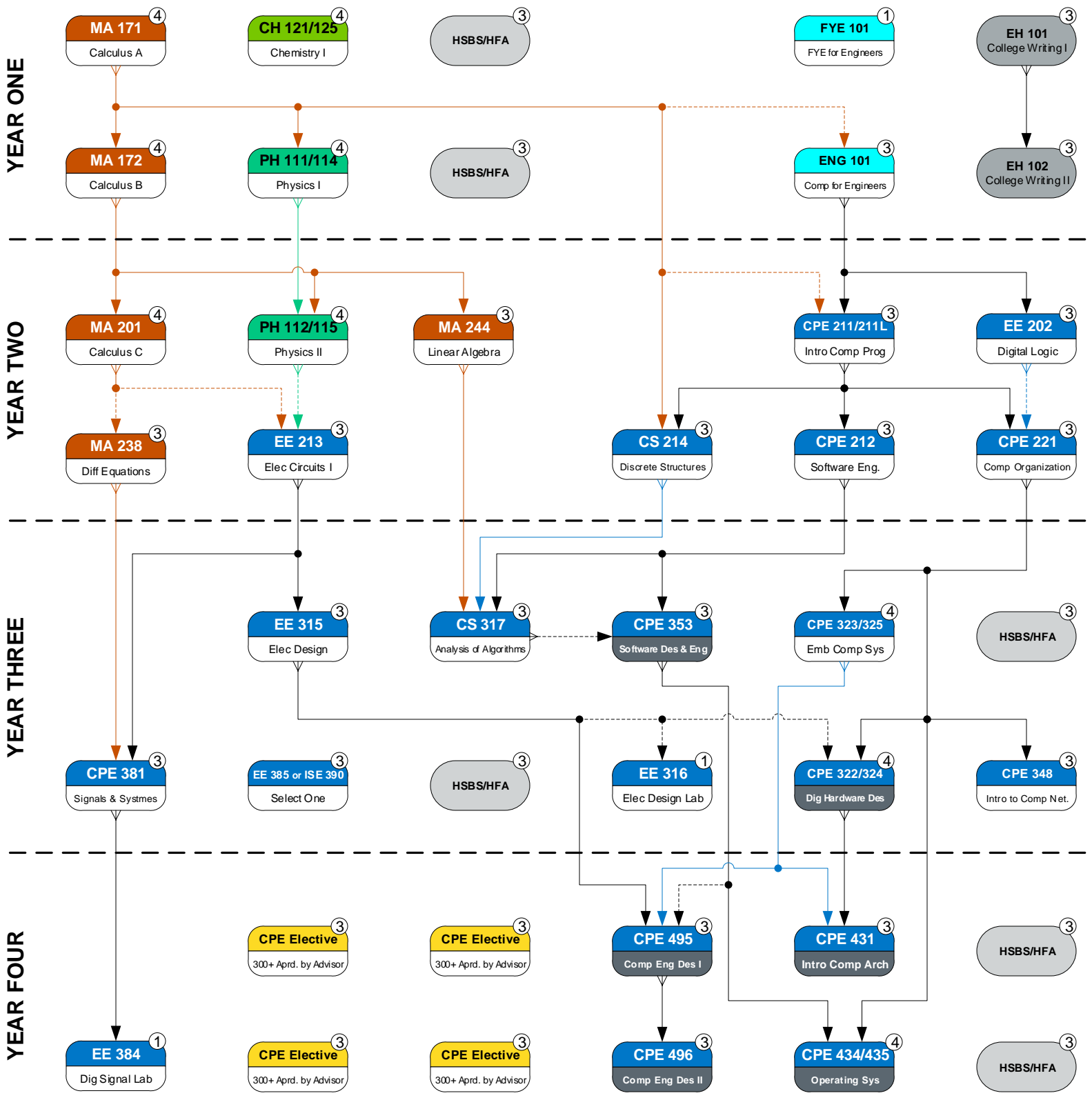
Student A#				Student Name (Last, First MI)		Offered:
Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency	F=Fall S=Spr M=Sum
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 18 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 4 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
			3			FSM
<b>Computer Science - 6 hours</b>						
		CS 214	3	Intro to Discrete Structures	MA 171, CPE 211	FSM
		CS 317	3	Design & Analysis of Algorithms	CS 214, CPE 212, MA 244	FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
**	<b>Class has required lab section</b>					
<b>Computer Engineering - 53 hours</b>						
**		EE 202	3	Intro to Digital Logic Design	ENG 101	FSM
		CPE 211	3	Intro to Computer Programming in Engineering	ENG 101, Prereq w/Con: MA 171; Coreq: CPE 211L	FSM
		CPE 212	3	Fundamentals of Software Engineering	CPE 211	FS
		EE 213	3	Electrical Circuit Analysis I	Prereq w/Con: PH 112, MA 201	FSM
		CPE 221	3	Computer Organization	CPE 211; Prereq w/Con: EE 202	FSM
		EE 315	3	Introduction to Electronic Analysis and Design	EE 213	FSM
		EE 316	1	Electronic Measurements & Devices Design Lab	Prereq w/Con: EE 315	FS
		CPE 322	3	Digital Hardware Design Fundamentals	CPE 221; Prereq w/Con: EE 315; Coreq: CPE 324	S
		CPE 324	1	Digital Hardware Design Lab	Coreq: CPE 322	S
		CPE 323	3	Intro to Embedded Computer Systems	CPE 221; Coreq: CPE 325	FS
		CPE 325	1	Lab Component of Intro of CE 323	Coreq: CPE 323	FS
		CPE 348	3	Introduction to Computer Networks	CPE 221	FS
		CPE 353	3	Software Design & Engineering	CPE 212; Prereq w/Con: CS 317	F
		CPE 381	3	Fundamentals of Signals & Sys for Comp Engrs	EE 213, MA 238	FS
		EE 384	1	Digital Signal Processing Laboratory	CPE 381 or Prereq w/Con:EE 383	FS
Select One		EE 385	3	Random Signals and Noise	CPE 381 or EE 382	FSM
		ISE 390	3	Probability & Engineering Statistics I	Prereq w/Con: MA 201	FSM
		CPE 431	3	Intro to Computer Architecture	CPE 322, CPE 323	F
		CPE 434	3	Operating Systems	CPE 221, (CS 307 or CPE 353); Coreq: CPE 435	S
		CPE 435	1	Operating Systems Lab	Coreq: CPE 434	S
		CPE 495	3	Computer Engineering Design I	EE 315, CPE 323; Prereq w/Con: CPE 353	F
		CPE 496	3	Computer Engineering Design II	CPE 495	S
<b>Computer Engineering Electives - 12 hours</b>						
			3		300+ Level course approved by advisor	
			3		List of Approved CPE Electives:	
			3		<a href="http://www.uah.edu/images/colleges/engineering/CUE2%20Files/Forms/CPE-Electives_20150415.pdf">http://www.uah.edu/images/colleges/engineering/CUE2%20Files/Forms/CPE-Electives_20150415.pdf</a>	
			3			

All prerequisite classes must be completed with a "C-" or higher grade.  
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# Academic Flowchart



# Computer Engineering 2018/2019 (129 Hours)



<b>Legend</b> Updated: 8/8/18	<span style="color: orange;">■</span> Mathematics	<span style="color: cyan;">■</span> First Year Engineering	<span style="background-color: grey; border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Freshman Comp	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span> Credit Hours
	<span style="color: green;">■</span> Physics	<span style="color: blue;">■</span> Engineering	<span style="background-color: lightgrey; border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> History, Social & Behavioral Science	<span style="color: black;">→</span> Prerequisite
	<span style="color: lightgreen;">■</span> Chemistry / Biology	<span style="color: yellow;">■</span> Engineering Electives	<span style="background-color: darkgrey; border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Offered only in semester listed	<span style="color: black;">- - - - -&gt;</span> Prereq w/concurrency

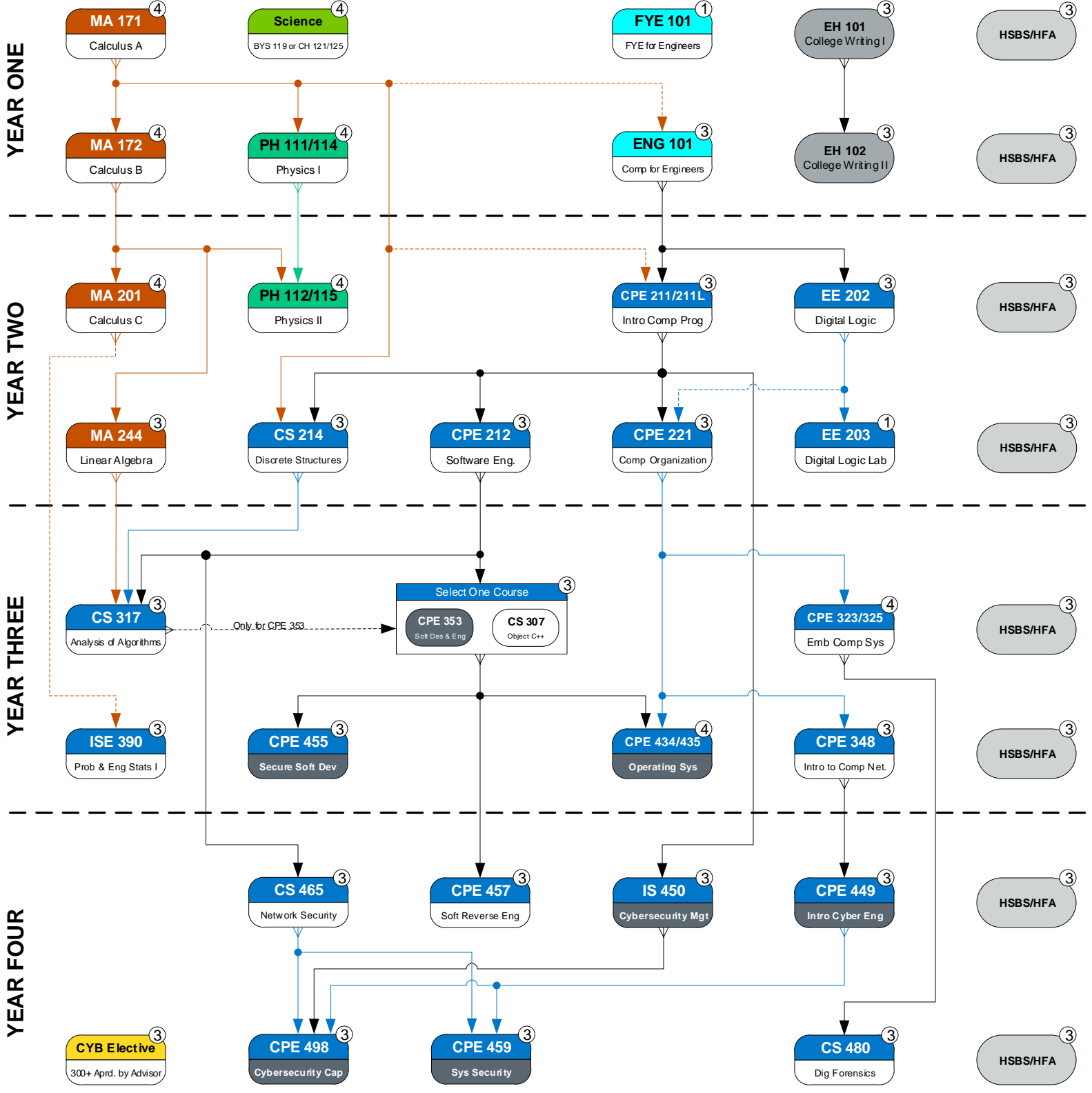
Student A#				Student Name (Last, First MI)		Offered:
Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency	F=Fall S=Spr M=Sum
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 15 hours</b>						
		MA 171	4	Calculus A	MA 113 or Level III Placement	FSM
		MA 172	4	Calculus B	MA 171	FSM
		MA 201	4	Calculus C	MA 172	FSM
		MA 244	3	Introduction to Linear Algebra	MA 172	FSM
<b>Science - 4 hours</b>						
			4		BYS 119 or CH 121/125	FSM
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 24 hours</b>						
			3	History	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Social & Behavioral Science		FSM
			3	Social & Behavioral Science		FSM
			3	Literature		FSM
			3	Fine Art		FSM
			3	Humanities		FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA Elective		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
**	<b>Class has required lab section Cybersecurity - 60 hours</b>					
		EE 202	3	Intro to Digital Logic Design	ENG 101	FSM
		EE 203	1	Digital Logic Design Lab	EE 202	FSM
**		CPE 211	3	Intro to Computer Programming in Engineering	ENG 101, Prereq w/Con: MA 171; Coreq: CPE 211L	FSM
		CPE 212	3	Fundamentals of Software Engineering	CPE 211	FS
		CS 214	3	Intro to Discrete Structures	MA 171, CPE 211	FSM
		CPE 221	3	Computer Organization	CPE 211; Prereq w/Con: EE 202	FSM
		CS 317	3	Design & Analysis of Algorithms	CS 214, CPE 212, MA 244	FSM
		CPE 323	3	Intro to Embedded Computer Systems	CPE 221; Coreq: CPE 325	FS
		CPE 325	1	Lab Component of Intro of CE 323	Coreq: CPE 323	FS
		CPE 348	3	Introduction to Computer Networks	CPE 221	FS
Select One		CS 307	3	Object Oriented Programming C++	CPE 212	FSM
		CPE 353	3	Software Design & Engineering	CPE 212; Prereq w/Con: CS 317	F
		ISE 390	3	Probability & Engineering Statistics I	Prereq w/Con: MA 201	FSM
		CPE 434	3	Operating Systems	CPE 221, (CS 307 or CPE 353); Coreq: CPE 435	S
		CPE 435	1	Operating Systems Lab	Coreq: CPE 434	S
**		CPE 449	3	Introduction to Cybersecurity Engineering	CPE 348; Coreq: CPE 449L	F
		IS 450	3	Cybersecurity Management	CPE 211	F
		CS 465	3	Network Security	CPE 212	FS
		CS 480	3	Digital Forensics for Mobile Devices	CPE 323	FS
		CPE 455	3	Secure Software Development	CS 307 or CPE 353	S
		CPE 457	3	Software Reverse Engineering	CS 307 or CPE 353	FS
		CPE 459	3	System Security	CS 465, CPE 449	S
		CPE 498	3	Cybersecurity Capstone	CS 465, CE 449, IS 450	S
<b>Cybersecurity Elective - 3-4 hours</b>						
			3		300+ Level course approved by advisor	

All prerequisite classes must be completed with a "C-" or higher grade.  
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# Academic Flowchart



# Cybersecurity 2018/2019 (124 Hours)



<b>Legend</b> Updated: 11/28/18	Mathematics	First Year Engineering	Freshman Comp	Credit Hours
	Physics	Cybersecurity	History, Social & Behavioral Science	Prerequisite
	Chemistry / Biology	Electives	Offered only in semester listed	Prereq w/concurrency



Student A#				Student Name (Last, First MI)		Offered: F=Fall S=Spr M=Sum
Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency	
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 18 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 4 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
<b>Physics - 12 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
		PH 113	3	General Physics w/Calculus III	MA 172, PH 112, PH 115; Coreq: 116	FSM
		PH 116	1	General Physics Lab III	Coreq: PH 113	FSM
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
**	Class has required lab section			<b>Electrical Engineering - 52 hours</b>		
		EE 202	3	Intro to Digital Logic Design	ENG 101	FSM
		EE 203	1	Digital Logic Design Lab	EE 202	FSM
**		CPE 211	3	Intro to Computer Programming in Engineering	ENG 101, Prereq w/Con: MA 171; Coreq: CPE 211L	FSM
		EE 213	3	Electrical Circuit Analysis I	Prereq w/Con: PH 112, MA 201	FSM
		CPE 221	3	Computer Organization	CPE 211; Prereq w/Con: EE 202	FSM
		EE 223	3	Design and Analysis using Computing	EE 202, EE 213	FS
		EE 307	3	Electricity and Magnetism	PH 112, MA 201, EE 213	FSM
		EE 308	3	Electromagnetic Engineering	EE 307	FS
		EE 310	3	Solid State Fundamentals	PH 113; Prereq w/Con: MA 238	FS
		EE 315	3	Introduction to Electronic Analysis and Design	EE 213	FSM
		EE 316	1	Electronic Measurements & Devices Design Lab	Prereq w/Con: EE 315	FS
		ISE 321	3	Engineering Economy	ENG 101	FSM
		CPE 323	3	Intro to Embedded Computer Systems	CPE 221; Coreq: CPE 325	FS
		CPE 325	1	Lab Component of Intro of CE 323	Coreq: CPE 323	FS
		EE 382	3	Analytical Meth for Continuous Time Sys	EE 213, MA 238, MA 244	FSM
		EE 383	3	Analytical Meth for Mult and Discr Time Sys	EE 382	FSM
		EE 384	1	Digital Signal Processing Laboratory	CPE 381 or Prereq w/Con: EE 383	FS
		EE 385	3	Random Signals and Noise	CPE 381 or EE 382	FSM
		EE 386	3	Introduction to Control and Robotic Systems	CPE 381 or EE 382	FSM
		EE 494	3	EE Design Projects	EE 223, EE 308, EE 310, EE 315, EE 383, EE 385, EE 386, CPE 323, ISE 321	FS
<b>Electrical Engineering Electives - 12 hours</b>						
			3	T1	Track: _____	
			3	T2	(Must take a 2 course track in one area.)	
			3		300+ Level ECE course	
			3		300+ Level ECE course (May take CPE 212 for credit)	
<i>EE with Optics Concentration: T1 - OPT 341, T2 - OPT 342, choose 2: EE 416, EE 436, EE 453, EE 454</i>						
<b>Technical Elective - 3 hours</b>						
			3		200+ Level Science or Engineering course	

All prerequisite classes must be completed with a "C-" or higher grade.  
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# Academic Flowchart

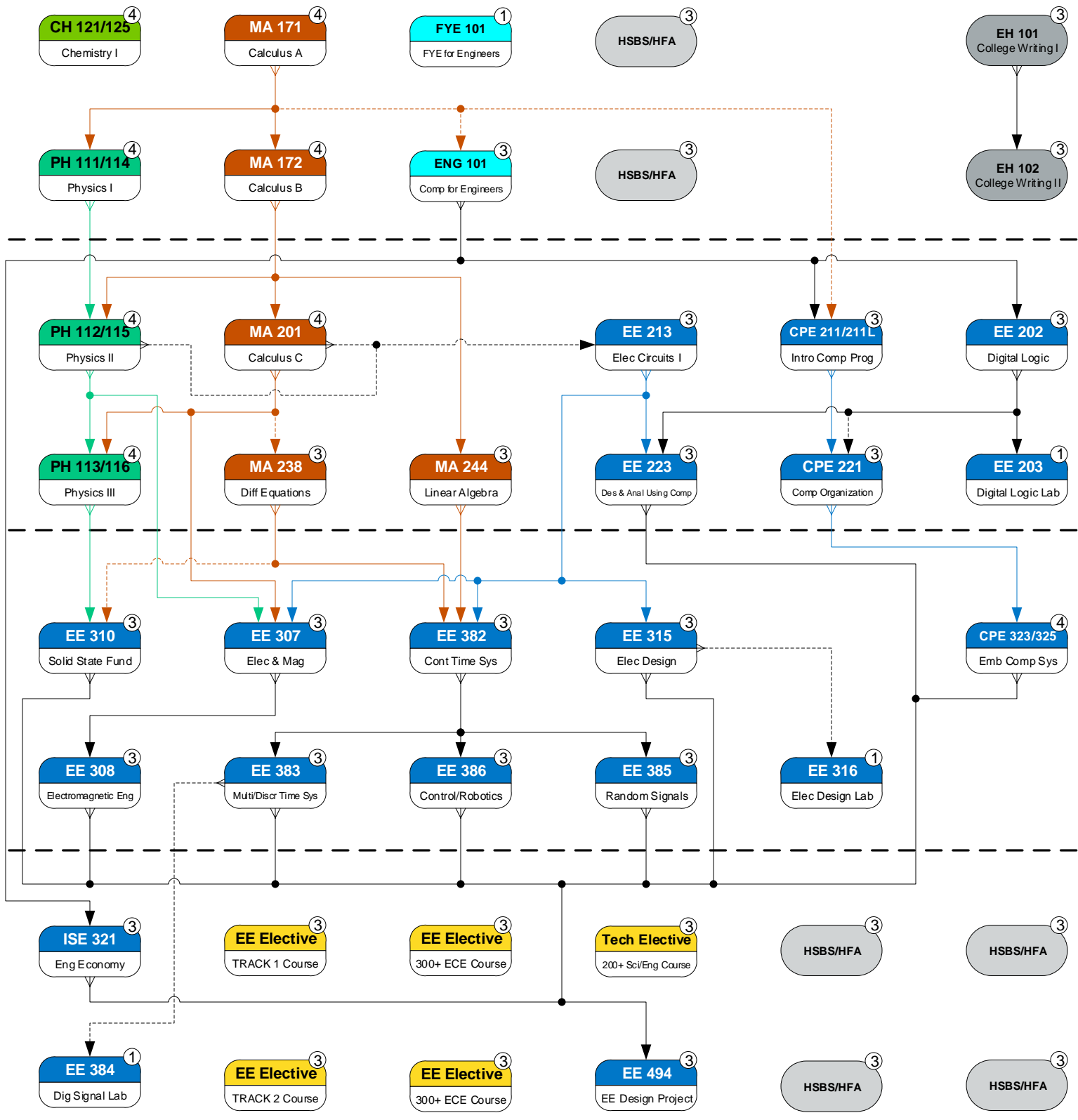
# Electrical Engineering 2018/2019 (129 Hours)

YEAR ONE

YEAR TWO

YEAR THREE

YEAR FOUR



<b>Legend</b> Updated: 8/8/18	Mathematics	First-Year Engineering	Freshman Composition	Credit Hours
	Physics	Engineering	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
	Chemistry	Engineering Electives		Prereq w/concurrency

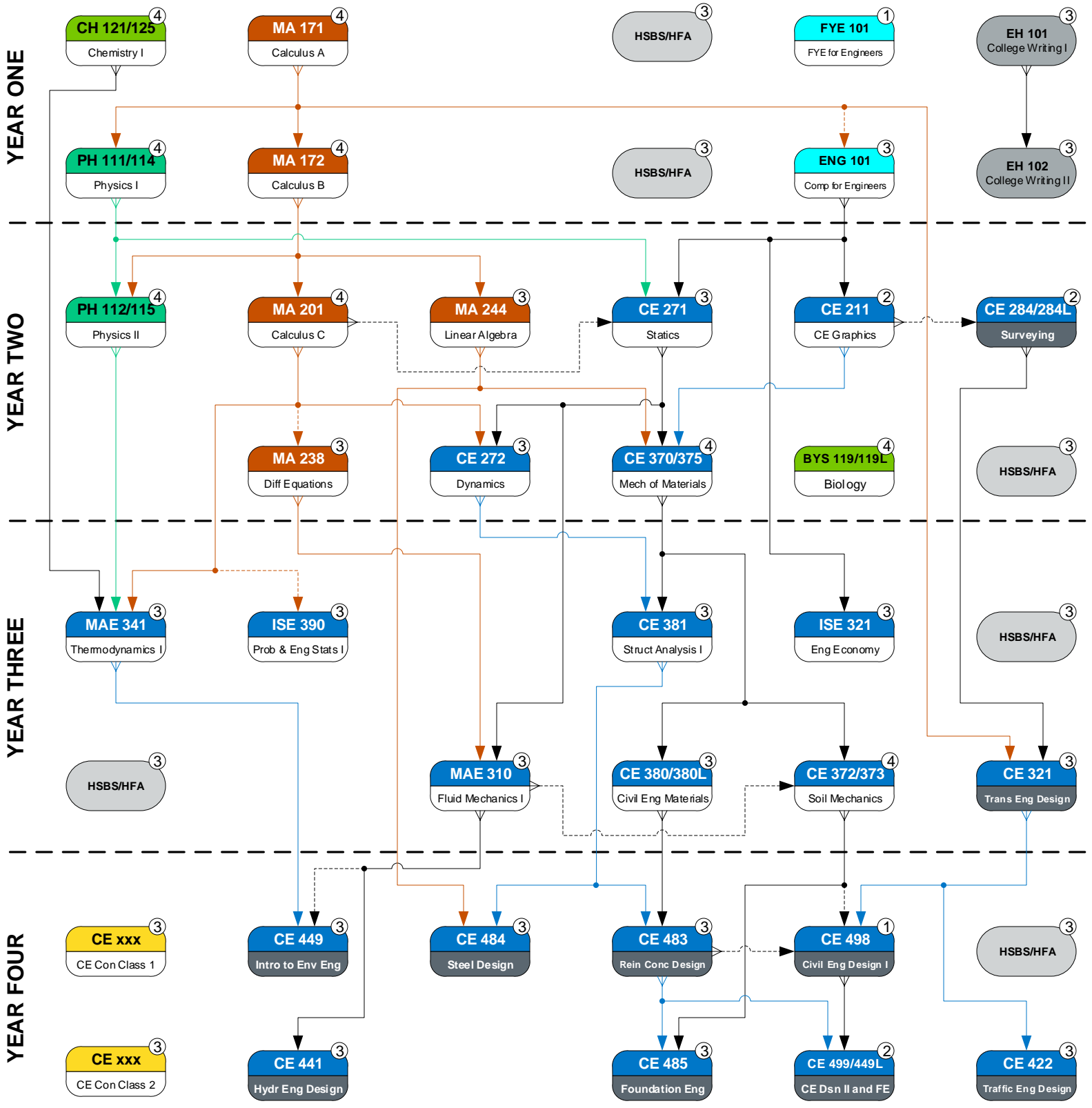
Student A#				Student Name (Last, First MI)		Offered: F=Fall S=Spr M=Sum
Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency	
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 18 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 4 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>Biology - 4 hours</b>						
		BYS 119	4	Principles of Biology	None	FSM
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
**	Class has required lab section			<b>Civil Engineering - 60 hours</b>		
		CE 211	2	Civil Engineering Graphics	ENG 101	FS
		CE 271	3	Statics	ENG 101, PH 111, Prereq w/Con: MA 201	FSM
		CE 272	3	Dynamics	MA 201, MAE/CE 271	FSM
**		CE 284	2	Surveying	Prereq w/Con: CE 211, or Instr/Advsr Approval; Coreq CE 284L	F
		MAE 310	3	Fluid Mechanics I	MA 238, MAE/CE 271	FSM
		CE 321	3	Transportation Engineering & Design	CE 284, MA 171	S
		ISE 321	3	Engineering Economy	ENG 101	FSM
		MAE 341	3	Thermodynamics I	CH 121, PH 112, MA 201	FSM
		CE 370	3	Mechanics of Materials	MAE/CE 271, MA 244, (MAE or CE 211); Coreq: CE 375	FSM
		CE 375	1	Mechanics of Materials Lab	Coreq: CE 370	FSM
		CE 372	3	Soil Mechanics	CE/MAE 370; Prereq w/Con: MAE 310; Coreq: CE 373	FS
		CE 373	1	Soil Mechanics Lab	Coreq: CE 372	FS
		CE 380	3	Civil Engineering Materials	CE/MAE 370; Coreq: CE 380L	FS
		CE 381	3	Structural Analysis I	CE/MAE 272, CE/MAE 370	FM
		ISE 390	3	Probability & Engineering Statistics I	Prereq w/Con: MA 201	FSM
		CE 422	3	Traffic Engineering Design	CE 321	S
		CE 441	3	Hydraulic Engineering Design	MAE 310	S
		CE 449	3	Intro to Environmental Engineering	MAE 341; Prereq w/Con: MAE 310	F
		CE 483	3	Reinforced Concrete Design	CE 380, CE 381	F
		CE 484	3	Steel Design	CE 381, MA 244	F
		CE 485	3	Foundation Engineering	CE 372, CE 483	S
		CE 498	1	Civil Engineering Design I	CE 321; Prereq w/Con: CE 372, CE 483, & Senior Standing	F
**		CE 499	2	Civil Engineering Design II	CE 483, CE 498; Coreq: CE 499L (FE Review)	S
<b>Civil Engineering Electives - 6 hours</b>						
Select One Concentration	Struc	CE 481	3	Structural Analysis II	CE 381	S
		CE 487	3	Bridge Design	CE 483	S
	Envr	CE 456	3	Water Quality Control Processes	CE 449	S
		CE 457	3	Hydrology	MAE 310	F
	Trans	CE 411	3	Intro to Geographical Information Systems	Senior Standing or Instructor Approval	F
		CE 420	3	Urban Transportation Planning	CE 321	F
Gen	CE	3	Choose from CE 411, CE 412, CE 420, CE 452, CE 456, CE 457, CE 458, CE 473, CE 481, CE 487			

All prerequisite classes must be completed with a "C-" or higher grade.  
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# Academic Flowchart



# Civil Engineering 2018/2019 (129 Hours)



<b>Legend</b> Updated: 8/8/18	Mathematics	First-Year Engineering	Freshman Composition	Credit Hours
	Physics	Engineering	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
	Chemistry / Biology	Engineering Electives	Offered only in semester listed	Prereq/w/concurrency

# Academic Checksheet



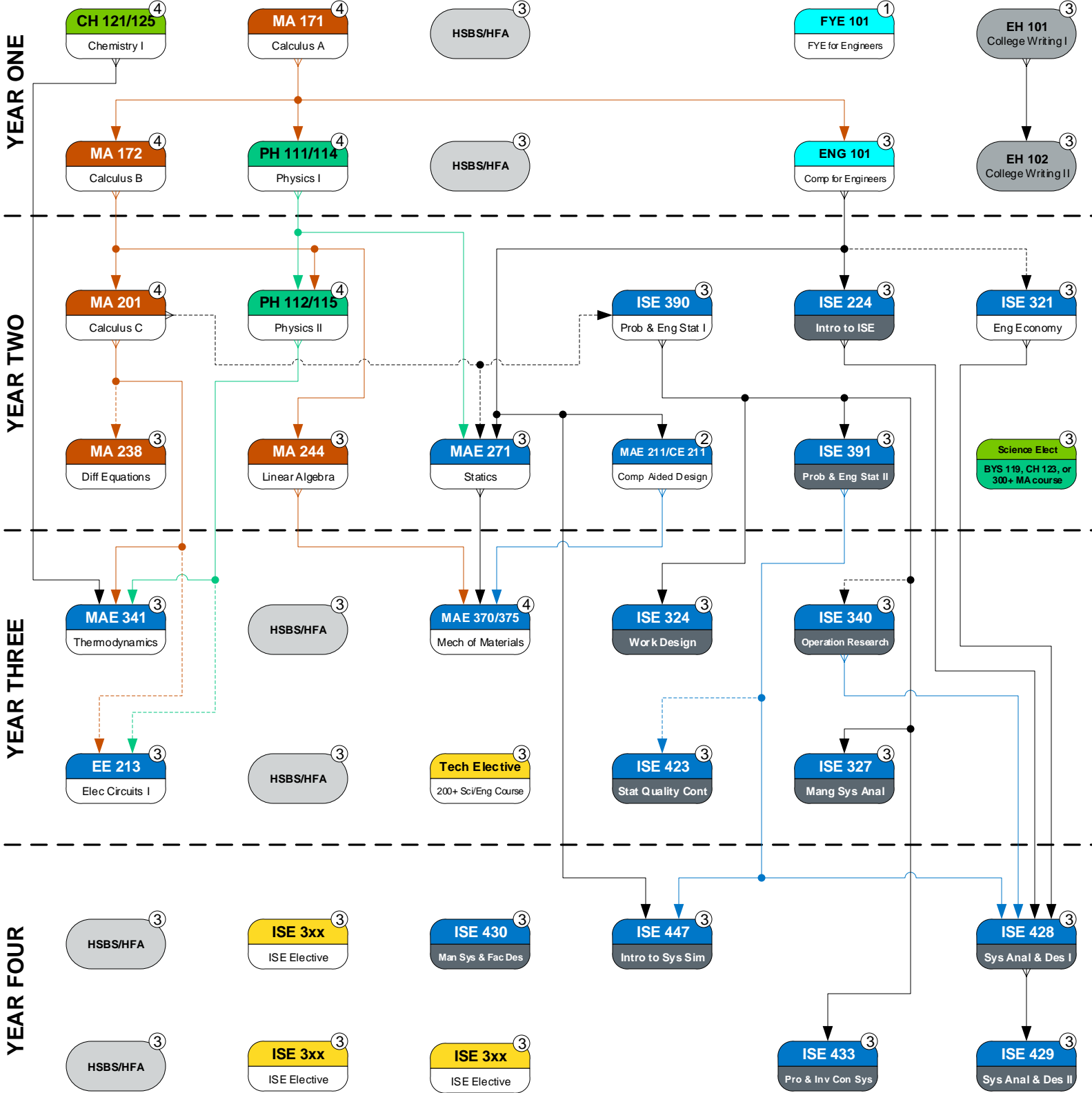
# Industrial & Systems Engineering 2018/2019 (127 Hours)

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
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 18 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 4 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>Science Elective - 3 hours</b>						
			3		BYS 119, CH 123, PH 113, or 300/400 MA course	
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
<b>** Class has required lab section Industrial &amp; System Engineering - 54 hours</b>						
Select One		ISE 224	3	Intro to Industrial & Systems Engineering	ENG 101	F
		CE 211	2	Civil Engineering Graphics	ENG 101	FS
		MAE 211	2	Introduction to Computer Aided Design	ENG 101, MA 171	FSM
		MAE 271	3	Statics	ENG 101, PH 111; Prereq w/Con: MA 201	FSM
		EE 213	3	Electrical Circuit Analysis I	Prereq w/Con: PH 112, MA 201	FSM
		ISE 321	3	Engineering Economy	ENG 101	FSM
		ISE 324	3	Work Design	ISE 390	F
		ISE 327	3	Management Systems Analysis	ISE 390	S
		ISE 340	3	Operations Research	Prereq w/Con: ISE 390	F
		MAE 341	3	Thermodynamics I	CH 121, PH 112, MA 201	FSM
		MAE 370	3	Mechanics of Materials	MAE/CE 271, MA 244, (MAE or CE 211); Coreq: MAE 375	FSM
		MAE 375	1	Mechanics of Materials Lab	Coreq: MAE 370	FSM
		ISE 390	3	Probability & Engineering Statistics I	Prereq w/Con: MA 201	FSM
		ISE 391	3	Probability & Engineering Statistics II	ISE 390	S
		ISE 423	3	Statistical Quality Control	Prereq w/Con: ISE 391	S
		ISE 428	3	Systems Analysis & Design I	ISE 224, ISE 321, ISE 391, Instructor Approval	F
		ISE 429	3	Systems Analysis & Design II	ISE 428	S
		ISE 430	3	Manufacturing Systems and Facilities Design	ISE 324 or MAE 378	F
		ISE 433	3	Production & Inventory Control Systems	ISE 390	S
		ISE 447	3	Intro to Systems Simulation	ENG 101, ISE 391	F
<b>Industrial &amp; Systems Engineering Electives - 9 hours</b>						
			3	Choose from MA 385, ISE 402, ISE 403, ISE 426, ISE 437, or other upper-level courses approved by the Department.		
			3	May select a maximum of 6 hours from the following: EH 301, ACC 211, MKT 301, MGT 363, or MGT 462.		
<b>Technical Elective - 3 hours</b>						
			3	200+ Level Science or Engineering course		

All prerequisite classes must be completed with a "C-" or higher grade.

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# Academic Flowchart



<b>Legend</b> Updated: 8/8/18	Mathematics	First Year Engineering	Freshman Composition	Credit Hours
	Physics	Engineering	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
	Chemistry / Biology	Electives	Offered only in semester listed	Prereq w/concurrency

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
<b>English - 6 hours</b>						
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
<b>Mathematics - 15 hours</b>						
		MA 171	4	Calculus A	MA 113 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
<b>Chemistry - 18 hours</b>						
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
		CH 123	3	General Chemistry II	CH 121; Prereq w/Con: CH 126	FSM
		CH 126	1	General Chemistry Lab II	CH 125, Prereq w/Con: CH 123	FSM
		CH 331	3	Organic Chemistry I	CH 123	FSM
		CH 335	1	Organic Chemistry Lab I	CH 126, Prereq w/Con: CH 331	FSM
		CH 332	3	Organic Chemistry II	CH 331	FSM
		CH 341	3	Physical Chemistry I	CH 123, MA 201, PH 112, PH 115	S
<b>Physics - 8 hours</b>						
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
<b>Biology - 3 hours</b>						
		BYS 311	3	Intro to Molecular Biological Systems	CH 331	S
<b>History, Social &amp; Behavioral Sciences, Humanities &amp; Fine Arts - 18 hours</b>						
			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, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: <a href="http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms">http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms</a>	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
<b>First-Year Engineering - 4 hours</b>						
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	FSM
<b>Chemical Engineering - 46 hours</b>						
		CHE 201	2	Intro to Chemical Engineering Processes	Prereq w/Con: ENG 101, CH 123	F
		CHE 244	3	Intro to Chemical Engineering Systems	PH 111, CH 123, CHE 201, MA 201	S
		MAE 271	3	Statics	ENG 101, PH 111; Prereq w/Con: MA 201	FSM
		CHE 294	3	Nature & Properties of Materials	CH 121, PH 111	F
		CHE 295	1	Nature & Properties of Materials Lab	Coreq: CHE 294	F
		CHE 342	3	Transport Phenomena	CH 341, CHE 244; Prereq w/Con: MAE 310	S
		CHE 344	3	Chemical Engineering Thermodynamics	CH 341, CHE 244	F
		MAE 310	3	Fluid Mechanics I	MA 238, MAE/CE 271	FSM
		CHE 347	3	Quantitative Modeling for Chemical Engrs	CHE 244, MA 238	F
		CHE 439	2	Unit Operations Lab I	CHE 295; Prereq w/Con: CHE 441	S
		CHE 440	2	Unit Operations Lab II	CHE 439, CHE 441; Prereq w/Con: CHE 443	F
		CHE 441	3	Chemical Kinetics & Reactor Design	CHE 344, CHE 347	S
		CHE 443	3	Mass Transfer Operations	CHE 342, CHE 344, MAE 310	F
		CHE 445	3	Chemical Process Control	CHE 441, CHE 446	S
		CHE 446	3	Analysis & Design of Transport Equipment	CHE 342; Prereq w/Con: CHE 443	F
		CHE 448	3	Chemical Engineering Design	CHE 441, CHE 443, CHE 446; Prereq w/Con: CHE 445	S
		CHE 485	3	Process Safety and Toxicology	CHE 441, CHE 443, CHE 446	S
<b>Chemical Engineering Electives - 9 hours</b>						
		CH 361	3	General Biochemistry I	BYS 311, CH 332, CH 335	FSM
		CHE 460	3	Introduction to Bioprocess Engineering	CH 361	F
		CHE 461	3	Bioseparations	CHE 460	S
		CH 440	3	Polymer Synthesis & Characterization	CH 332	F
		CHE 494	3	Applied Materials Engineering	CHE 294, CHE 344	S
		CHE 495	3	Polymer Engineering	CH 341, CH 440	F
<b>Technical Elective - 3 hours</b>						
			3		EE 213, ISE 390, CE 449, or course approved by Department	

All prerequisite classes must be completed with a "C-" or higher grade.

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# Academic Flowchart

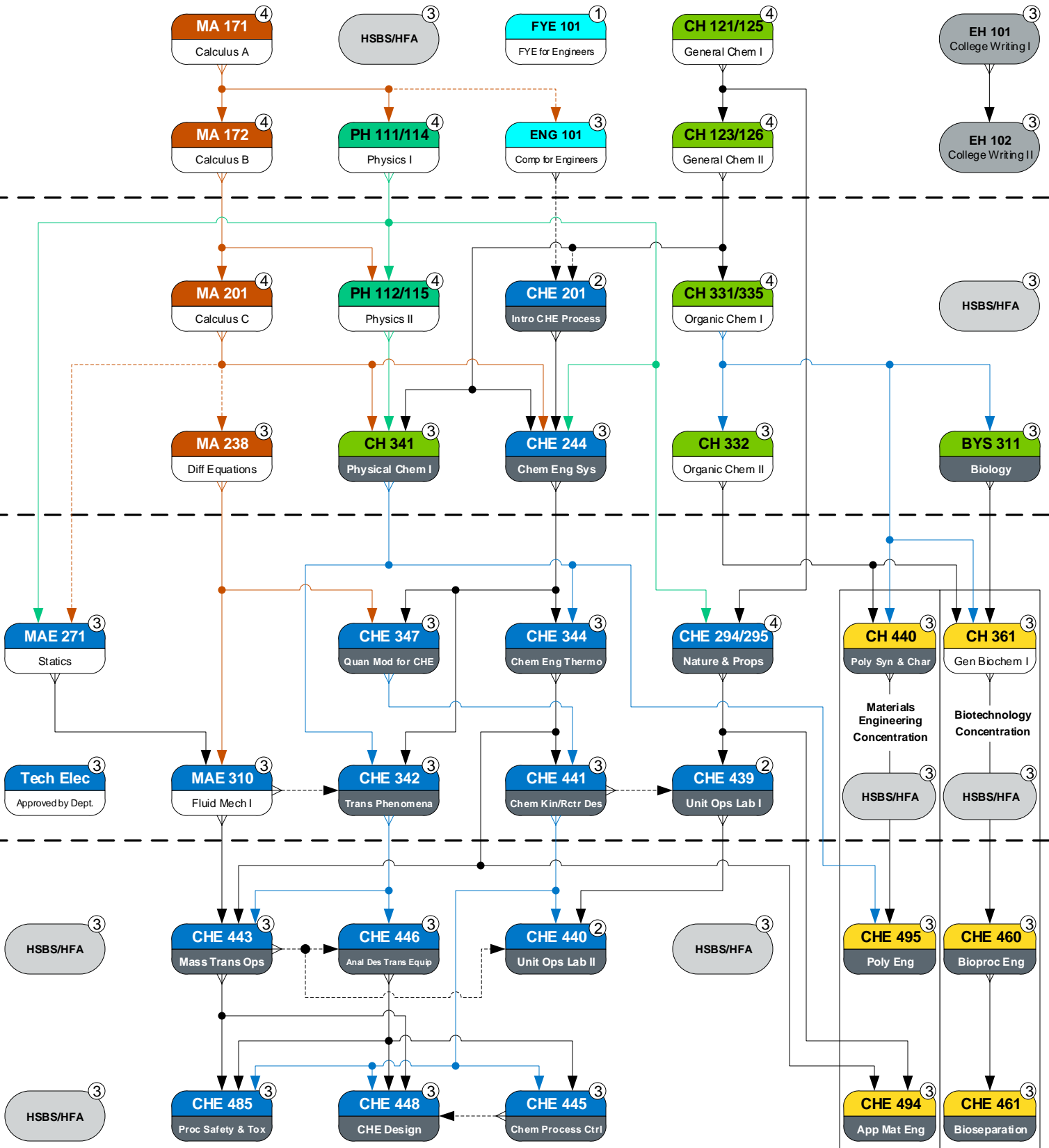
# Chemical Engineering 2018/2019 (130 Hours)

YEAR ONE

YEAR TWO

YEAR THREE

YEAR FOUR



<b>Legend</b> Updated: 8/8/18	Mathematics	First Year Engineering	Freshman Comp	Credit Hours
	Physics	Chemical Engineering	History, Social & Behavioral Science Humanity & Fine Art	Prerequisite
	Chemistry / Biology	Concentration Electives	Offered only in semester listed	Prereq w/concurrency