## B.S. IN AEROSPACE ENGINEERING AND B.S. IN MECHANICAL ENGINEERING DUAL DEGREE

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## **Curriculum Requirements**

CAE 210	Code	Title	Credit Hours
AEE 210   Mechanics of Solids   Size 210   Principles of Electrical Engineering—  Size 211   Applied Probability and Statistics   Size 211   Size 211		Title	Orealt Hours
ECE 205         Principles of Electrical Engineering-I         3           SE 311         Applied Probability and Statistics         3           MAE 112         Introduction to Engineering II         2           MAE 202         Dynamics         3           EGN 123         Computing and Digital Solutions for the future         3           or EGN 114         Global Challenges Addressed by Engineering and Technology         3           or EGN 110         Innovation and Entrepreneurship in Engineering           MAE 207         Mechanics of Solids II           MAE 208         Mechanics of Solids II           MAE 301         Engineering Materials Science         3           MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 309         Fluid Mechanics         3           MAE 301         Hear Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanical Design I         3           MAE 343         Mechanical Laboratory         2.00           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering         3           MAE 404         Experimental Engineering Laboratory         2.0     <		Mechanics of Solids I	3
SE 311         Applied Probability and Statistics         3           MAE 112         Introduction to Engineering II         2           MAE 202         Dynamics         3           EGN 123         Computing and Digital Solutions for the future         3           or EGN 114         Global Challenges Addressed by Engineering and Technology         3           or EGN 110         Innovation and Entrepreneurship in Engineering           MAE 207         Mechanics of Solids II         3           MAE 241         Measurements Laboratory         3           MAE 302         Mechanics Isscinee         3           MAE 303         Thermodynamics         3           MAE 303         Thermodynamics         3           MAE 301         Heat Transfer         3           MAE 303         Thermodynamics         3           MAE 304         Mechanical Design I         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanical Design I         3           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering         3           MAE 404         Experimental Engineering Laboratory         2.0           MAE 412         System Dynamics         3			
MAE 112         Introduction to Engineering II         2           MAE 202         Dynamics         3           ECN 123         Computing and Digital Solutions for the future         3           or EGN 114         Global Challenges Addressed by Engineering and Technology         3           or EGN 110         Innovation and Entrepreneurship in Engineering           MAE 207         Mechanics of Solids II         3           MAE 241         Measurements Laboratory         3           MAE 301         Engineering Materials Science         3           MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 304         Mechanical Behavior of Materials         3           MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design II         3           MAE 351         Mechanical Design II         3           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering         3           MAE 404         Experimental Engineering Laboratory         2.0           MAE 404         Experimental Engineering Laboratory         2.0           MAE 415         Automatic Contr			
MAE 202         Dynamics         3           EGN 123         Computing and Digital Solutions for the future         3           or EGN 114         Global Challenges Addressed by Engineering and Technology           or EGN 110         Innovation and Entrepreneurship in Engineering           MAE 207         Mechanics of Solids II         3           MAE 241         Measurements Laboratory         3           MAE 301         Engineering Materials Science         3           MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 351         Mechanical Design II         3           MAE 362         Mechanics Laboratory         2.0           MAE 363         Mechanics Laboratory         2.0           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.0           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 444         Capstone Aerospace Des			
ESN 123         Computing and Digital Solutions for the future           or ESN 114         Global Challenges Addressed by Engineering and Technology           or ESN 110         Innovation and Entrepreneurship in Engineering           MAE 207         Mechanics of Solids II           MAE 241         Measurements Laboratory         3           MAE 301         Engineering Materials Science         3           MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 304         Heat Transfer         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanical Design II         3           MAE 351         Mechanical Design II         3           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.0           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 444         Capstone Aerospace Design Project-1         3           MAE 445			
or EGN 114			
or EGN 110         Innovation and Entrepreneurship in Engineering           MAE 207         Mechanics of Solids II           MAE 301         Engineering Materials Science           3 MAE 302         Mechanical Behavior of Materials           3 MAE 303         Thermodynamics           MAE 309         Fluid Mechanics           3 MAE 310         Heat Transfer           3 MAE 341         Mechanical Design I           3 MAE 342         Mechanical Design II           3 MAE 351         Mechanical Laboratory           2 Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 404         Experimental Engineering Laboratory         2.0           MAE 404         Experimental Engineering Laboratory         2.0           MAE 412         System Dynamics         3           MAE 413         Automatic Control         3           MAE 414         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-I         3           MAE 446         Aircraft Design         3           MAE 470			
MAE 207         Mechanics of Solids II         3           MAE 241         Measurements Laboratory         3           MAE 301         Engineering Materials Science         3           MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanical Design II         3           MAE 355         Mechanical Design II         3           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.0           MAE 412         System Dynamics         3           MAE 414         Design of Fluid and Thermal Systems         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-II         3           MAE 445         Capstone Aerospace Design Project-II         3           MAE 470         Introduction to Aerospace Structures         3			
MAE 241         Measurements Laboratory         3           MAE 301         Engineering Materials Science         3           MAE 303         Mechanical Behavior of Materials         3           MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanical Design II         3           MAE 351         Mechanics Laboratory         2.00           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 413         Automatic Control         3           MAE 444         Design of Fluid and Thermal Systems         3           MAE 443         Capstone Aerospace Design Project-I         3           MAE 444         Capstone Aerospace Design Project-II         3           MAE 445         Capstone Aerospace Structures         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Elight Dynamics         3 <td></td> <td></td> <td>3</td>			3
MAE 301         Engineering Materials Science         3           MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanical Design II         3           MAE 365         Mechanics Laboratory         2.00           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 413         Automatic Control         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-I         3           MAE 446         Aircraft Design         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Flight Dynamics         3	MAE 241	Measurements Laboratory	
MAE 302         Mechanical Behavior of Materials         3           MAE 303         Thermodynamics         3           MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanics Laboratory         2.00           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-II         3           MAE 446         Aircraft Design         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Flight Dynamics         3           MAE 472         Design of Aerospace Structures         3           MAE 773         Aerospace Propulsion         3 <t< td=""><td>MAE 301</td><td>· · · · · · · · · · · · · · · · · · ·</td><td>3</td></t<>	MAE 301	· · · · · · · · · · · · · · · · · · ·	3
MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanics Laboratory         2.00           MAE 351         Mechanics Laboratory         2.00           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-II         3           MAE 446         Aircraft Design         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Plight Dynamics         3           MAE 472         Design of Aerospace Structures         3           MAE 473         Aerospace Propulsion         3           Technical Elective         4           Math and Science Courses <td>MAE 302</td> <td></td> <td></td>	MAE 302		
MAE 309         Fluid Mechanics         3           MAE 310         Heat Transfer         3           MAE 341         Mechanical Design I         3           MAE 342         Mechanics Laboratory         2.00           MAE 351         Mechanics Laboratory         2.00           MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-II         3           MAE 446         Aircraft Design         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Plight Dynamics         3           MAE 472         Design of Aerospace Structures         3           MAE 473         Aerospace Propulsion         3           Technical Elective         4           Math and Science Courses <td>MAE 303</td> <td>Thermodynamics</td> <td></td>	MAE 303	Thermodynamics	
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MAE 341       Mechanical Design I       3         MAE 342       Mechanical Design II       3         MAE 351       Mechanics Laboratory       2.00         MAE 362       Computer Analysis of Mechanical and Aerospace Engineering Problems       3         MAE 371       Aerodynamics       3         MAE 404       Experimental Engineering Laboratory       2.00         MAE 412       System Dynamics       3         MAE 415       Automatic Control       3         MAE 441       Design of Fluid and Thermal Systems       3         MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE 473       Aerospace Propulsion       3         Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       5         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II <td< td=""><td>MAE 310</td><td>Heat Transfer</td><td></td></td<>	MAE 310	Heat Transfer	
MAE 351       Mechanics Laboratory       2.00         MAE 362       Computer Analysis of Mechanical and Aerospace Engineering Problems       3         MAE 371       Aerodynamics       3         MAE 404       Experimental Engineering Laboratory       2.00         MAE 412       System Dynamics       3         MAE 415       Automatic Control       3         MAE 441       Design of Fluid and Thermal Systems       3         MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE 473       Aerospace Propulsion       3         Technical Elective       3         MAE 473       Aerospace Propulsion       3         Technical Elective       3         MATH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equ	MAE 341	Mechanical Design I	3
MAE 362         Computer Analysis of Mechanical and Aerospace Engineering Problems         3           MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-II         3           MAE 446         Aircraft Design         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Flight Dynamics         3           MAE 472         Design of Aerospace Structures         3           MAE 473         Aerospace Propulsion         3           Technical Elective         3           MAT 4nd Science Courses         5           MTH 151         Calculus II for Engineers         5           MTH 211         Calculus III         4           MTH 311         Introduction to Ordinary Differential Equations         3           CHM 153         Chemistry for Engineers         1	MAE 342	Mechanical Design II	3
MAE 371         Aerodynamics         3           MAE 404         Experimental Engineering Laboratory         2.00           MAE 412         System Dynamics         3           MAE 415         Automatic Control         3           MAE 441         Design of Fluid and Thermal Systems         3           MAE 444         Capstone Aerospace Design Project-I         3           MAE 445         Capstone Aerospace Design Project-II         3           MAE 446         Aircraft Design         3           MAE 470         Introduction to Aerospace Structures         3           MAE 471         Flight Dynamics         3           MAE 472         Design of Aerospace Structures         3           MAE 473         Aerospace Propulsion         3           Technical Elective         3           MAE 473         Aerospace Propulsion         3           Technical Elective         3           MTH 151         Calculus I for Engineers         5           MTH 162         Calculus II         4           MTH 211         Calculus III         4           MTH 311         Introduction to Ordinary Differential Equations         3           CHM 153         Chemistry Laboratory for Engineers         1 </td <td>MAE 351</td> <td>Mechanics Laboratory</td> <td>2.00</td>	MAE 351	Mechanics Laboratory	2.00
MAE 404       Experimental Engineering Laboratory       2.00         MAE 412       System Dynamics       3         MAE 415       Automatic Control       3         MAE 441       Design of Fluid and Thermal Systems       3         MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE 473       Aerospace Propulsion       3         Technical Elective       9         MAth and Science Courses       5         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 153       Chemistry Laboratory for Engineers       1         CHM 153       Chemistry Laboratory for Engineers       1	MAE 362		3
MAE 412       System Dynamics       3         MAE 415       Automatic Control       3         MAE 441       Design of Fluid and Thermal Systems       3         MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE 173       Aerospace Propulsion       3         ME 164       Aerospace Propulsion       3         MAE 473       Aerospace Propulsion       3         MATH 151       Calculus I for Engineers       5         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 371	Aerodynamics	3
MAE 415       Automatic Control       3         MAE 441       Design of Fluid and Thermal Systems       3         MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         MATH and Science Courses       5         MTH 151       Calculus I for Engineers       5         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 404	Experimental Engineering Laboratory	2.00
MAE 441       Design of Fluid and Thermal Systems       3         MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-III       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 412	System Dynamics	3
MAE 444       Capstone Aerospace Design Project-I       3         MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       3         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 415	Automatic Control	3
MAE 445       Capstone Aerospace Design Project-II       3         MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       5         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 441	Design of Fluid and Thermal Systems	3
MAE 446       Aircraft Design       3         MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       3         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 444	Capstone Aerospace Design Project-I	3
MAE 470       Introduction to Aerospace Structures       3         MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       3         MTH 151       Calculus I for Engineers       5         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 445	Capstone Aerospace Design Project-II	3
MAE 471       Flight Dynamics       3         MAE 472       Design of Aerospace Structures       3         MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       WITH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 446	Aircraft Design	3
MAE 472 Design of Aerospace Structures 3 MAE Technical Elective 9 MAE 473 Aerospace Propulsion 3 Technical Elective 3 Math and Science Courses MTH 151 Calculus I for Engineers 5 MTH 162 Calculus II 4 MTH 211 Calculus III 3 MTH 311 Introduction to Ordinary Differential Equations 3 CHM 151 Chemistry for Engineers 3 CHM 153 Chemistry Laboratory for Engineers 1	MAE 470	Introduction to Aerospace Structures	3
MAE Technical Elective       9         MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       5         MTH 151       Calculus I for Engineers       5         MTH 21       Calculus II       4         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 471	Flight Dynamics	3
MAE 473       Aerospace Propulsion       3         Technical Elective       3         Math and Science Courses       5         MTH 151       Calculus I for Engineers       5         MTH 162       Calculus II       4         MTH 211       Calculus III       3         MTH 311       Introduction to Ordinary Differential Equations       3         CHM 151       Chemistry for Engineers       3         CHM 153       Chemistry Laboratory for Engineers       1	MAE 472	Design of Aerospace Structures	3
Technical Elective  Math and Science Courses  MTH 151  Calculus I for Engineers  5  MTH 162  Calculus II  MTH 211  Calculus III  3  MTH 311  Introduction to Ordinary Differential Equations  3  CHM 151  Chemistry for Engineers  3  Chemistry Laboratory for Engineers  1	MAE Technical Elective		9
Math and Science CoursesMTH 151Calculus I for Engineers5MTH 162Calculus II4MTH 211Calculus III3MTH 311Introduction to Ordinary Differential Equations3CHM 151Chemistry for Engineers3CHM 153Chemistry Laboratory for Engineers1	MAE 473	Aerospace Propulsion	3
MTH 151         Calculus I for Engineers         5           MTH 162         Calculus II         4           MTH 211         Calculus III         3           MTH 311         Introduction to Ordinary Differential Equations         3           CHM 151         Chemistry for Engineers         3           CHM 153         Chemistry Laboratory for Engineers         1	Technical Elective		3
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MTH 211Calculus III3MTH 311Introduction to Ordinary Differential Equations3CHM 151Chemistry for Engineers3CHM 153Chemistry Laboratory for Engineers1	MTH 151	Calculus I for Engineers	5
MTH 311Introduction to Ordinary Differential Equations3CHM 151Chemistry for Engineers3CHM 153Chemistry Laboratory for Engineers1	MTH 162	Calculus II	4
CHM 151 Chemistry for Engineers 3 CHM 153 Chemistry Laboratory for Engineers 1			3
CHM 153 Chemistry Laboratory for Engineers 1	MTH 311	Introduction to Ordinary Differential Equations	3
· · ·	CHM 151		3
PHY 221 University Physics I 3			
	PHY 221	University Physics I	3

PHY 222	University Physics II	3
PHY 223	University Physics III	3
PHY 224	University Physics II Lab	1
PHY 225	University Physics III Lab	1
General Education Requirements		
Written Communication Skills:		
WRS 105	First-Year Writing I	3
WRS 107	First-Year Writing II: STEM	3
Quantitative Skills:		
MTH 151	Calculus I for Engineers (fulfilled through the major)	
Areas of Knowledge:		
Arts and Humanities Cognate		9
People and Society Cognate		9
STEM Cognate (9 credits) (fulfilled through either major)		
Total Credit Hours	1	150

## **Plan of Study**

Freshman Year		
Fall		Credit Hours
WRS 105	First-Year Writing I	3
EGN 123, 114, or 110	Computing and Digital Solutions for the future or Global Challenges Addressed by Engineering and Technology or Innovation and Entrepreneurship in Engineering	3
MTH 151	Calculus I for Engineers	5
PHY 221	University Physics I	3
Spring	Credit Hours	14
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
WRS 107	First-Year Writing II: STEM	3
MTH 162	Calculus II	4
PHY 222	University Physics II	3
PHY 224	University Physics II Lab	1
Sophomore Year Fall	Credit Hours	16
MAE 207	Mechanics of Solids II	3
ISE 311	Applied Probability and Statistics	3
MTH 211	Calculus III	3
PHY 223	University Physics III	3
PHY 225	University Physics III Lab	1
PS Cognate (PS Elective) 1		3
Spring	Credit Hours	16
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical EngineeringI	3
HA Cognate (HA Elective) <sup>1</sup>		3
	Credit Hours	16

Junior Year		
Fall		
MAE 302	Mechanical Behavior of Materials	3
MAE 303	Thermodynamics	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (HA Elective) 1	· '	3
	Credit Hours	18
Spring		
MAE 301	Engineering Materials Science	3
MAE 310	Heat Transfer	3
MAE 351	Mechanics Laboratory	2
MAE 371	Aerodynamics	3
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 470	Introduction to Aerospace Structures	3
	Credit Hours	17
Senior Year		
Fall		
MAE 404	Experimental Engineering Laboratory	2
MAE 444	Capstone Aerospace Design Project-I	3
MAE 446	Aircraft Design	3
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 473	Aerospace Propulsion	3
	Credit Hours	17
Spring		
MAE 415	Automatic Control	3
MAE 445	Capstone Aerospace Design Project-II	3
MAE Technical Elective <sup>2</sup>		3
MAE 342	Mechanical Design II	3
MAE Technical Elective <sup>2</sup>		3
HA Cognate (HA Elective) <sup>1</sup>		3
	Credit Hours	18
Fifth Year		
Fall		
MAE 441	Design of Fluid and Thermal Systems	3
MAE 412	System Dynamics	3
MAE Technical Elective <sup>2</sup>		3
Technical Elective <sup>2</sup>		3
PS Cognate (Adv. PS Elective) 1		3
HA Cognate (Adv. HA Elective) <sup>1</sup>		3
	Credit Hours	18
	Total Credit Hours	150

You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

<sup>&</sup>lt;sup>2</sup> Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.