

# B.S. in Systems Engineering

## Aerospace Systems Engineering AOC - Plan of Study

### Year One

Term 1		Credits
COM 122	English Composition	3
EGR 101	Introduction to Engineering	2
EGR 120	Graphical Communications	3
	Lower-level Humanities or Social Sciences Elective	3
MA 241	Calculus and Analytical Geometry I	4
UNIV 101	College Success	1
<b>Credits Subtotal</b>		<b>16.0</b>

### Term 2

EGR 115	Introduction to Computing for Engineers	3
	HU 14X Humanities Elective	3
MA 242	Calculus and Analytical Geometry II	4
PS 150	Physics for Engineers I	3
PSY 101	Introduction to Psychology	3
<b>Credits Subtotal</b>		<b>16.0</b>

### Year Two

Term 1		Credits
COM 221	Technical Report Writing	3
ES 201	Statics	3
ES 305	Thermodynamics	3
MA 243	Calculus and Analytical Geometry III	4
PS 160	Physics for Engineers II	3
<b>Credits Subtotal</b>		<b>16.0</b>

### Term 2

AE 201	Aerospace Flight Vehicles	3
ES 204	Dynamics	3
HF 300	Human Factors I: Principles and Fundamentals	3
MA 345	Differential Equations and Matrix Methods	4
PS 226L	Physics I Laboratory	1
<b>Credits Subtotal</b>		<b>14.0</b>

### Year Three

Term 1		Credits
HF 312	Ergonomics and Bioengineering	3
MA 412	Probability and Statistics	3
SYS 301	Introduction to Systems Engineering	3
SYS 302	System Engineering Design Considerations	3
	Technical Elective (Science + Lab) <sup>1</sup>	4
<b>Credits Subtotal</b>		<b>16.0</b>

### Term 2

AE 313	Space Mechanics	3
or AE 319	Aerodynamics	
or AE 323	Spacecraft Systems	
EE 311	Robotics Technologies for Uncrewed Systems	3
EE 327	Electrical Engineering Fundamentals	3
EE 328	Electrical Engineering Fundamentals Laboratory	1
SYS 303	Optimization in Systems Engineering	3
SYS 304	Trade Studies, Risk and Decision Analysis	3
<b>Credits Subtotal</b>		<b>16.0</b>

### Year Four

#### Term 1

COM 219	Speech	3
EE 401	Control Systems Analysis and Design	3
EE 402	Control Systems Laboratory	1
SYS 403	Systems Engineering Life Cycle Costing	3
SYS 417	Systems Engineering Capstone Project I	3
SYS 401	Systems Modeling and Simulation	3
<b>Credits Subtotal</b>		<b>16.0</b>

#### Term 2

SYS 402	Optimization in Systems Engineering II	3
SYS 415	Systems Engineering Practices: Specialty Engineering	3
SYS 418	Systems Engineering Capstone Project II	3
	Technical Elective <sup>2</sup>	3
	Upper-Level Humanities or Social Sciences	3
<b>Credits Subtotal</b>		<b>15.0</b>
<b>Credits Total:</b>		<b>125.0</b>

<sup>1</sup> Technical Elective (Science): Science course with a lab (4 credits).  
BIO 120 and BIO 120L / CHM 110 and CHM 110L / PS 228 and PS 228L / PS 250 and PS 253

<sup>2</sup> Technical Elective: CEC/CS/EE/SE/SYS/ME/AE/CE Upper-Level Elective (3 credits)