EFFECTIVE FALL 2019

MASTER OF ENGINEERING
AEROSPACE SYSTEMS ENGINEERING CONCENTRATION

Name	

Advisor	

The Aerospace Systems Engineering track requires **32 credit hours:**
16 hours - Core Aerospace Engineering coursework
8 hours - Elective coursework
8 hours - Professional development coursework

1. **16 hours - Core Aerospace Engineering coursework**

Course	Semester Taken/Planned	Grade	Credit Hours
AE 542			4
AE 543			4
Select two additional courses from approved list (AE 4XX or 5XX)			

Approved Additional Core Coursework

- AE 402 - Orbital Mechanics
- AE 403 - Spacecraft Attitude Control
- AE 416 - Applied Aerodynamics
- AE 419 - Aircraft Flight Mechanics
- AE 434 - Rocket Propulsion
- AE 502 - Advanced Orbital Mechanics
- AE 504 - Optimal Aerospace Systems
- AE 508 - Optimal Space Trajectories
- AE 511 - Transonic Aerodynamics
- AE 512 - Molecular Gas Dynamics
- AE 515 - Wing Theory
- Or other appropriate course selected with approval of advisor

2. **12 hours** of the 32 hours of required coursework must be at the 500 level

Course	Semester Taken/Planned	Grade	Credit Hours
AE 542			4
AE 543			4

3. **8 hours of the 12 hours** of required 500-level courses must be AE designated courses

Course	Semester Taken/Planned	Grade	Credit Hours
AE 542			4
AE 543			4

4. **8 hours -Elective coursewor**k selected from an approved list in the following areas: **Optimization, design, reliability, data analysis, human interfaces, and networks (see approved list)**

Course	Semester Taken/Planned	Grade	Credit Hours

Recommended Systems Engineering Electives

- AE 504 - Optimal Aerospace Systems
- AE 554 - Dynamical Systems Theory
- AE 555 - Multivariable Control Design
- IE 400 - Design and Analysis of Experiments
- IE 413 - Simulation
- IE 411 - Optimization of Large Systems
- IE 431 - Quality Engineering
- IE 513 - Optimal System Design
- IE 529 - Stats of Big Data and Clustering
- IE 531 - Algorithms for Data Analytics
- ME 402 - Design of Thermal Systems
- ME 540 - Control System Theory and Design
- SE 411 - Reliability Engineering
- SE 450 - Decision Analysis I
- SE 498 - DA2 – Decision Analysis II
- SE 524 - Data-Based Systems Modeling
- SE 525 - Control of Complex Systems
- SE 530 - Multi attribute Decision Making

Professional Development

5. **4 hours** - Professional development coursework selected from approved List A

Course	Semester Taken/Planned	Grade	Credit Hours

List A: Approved Professional Development Coursework

- AE 597 - Independent Study (1-4)
- TE 401 - Developing Breakthrough Projects (1-4)
- ENG 572 - Professional Practicum (1-8)
- ENG 573 - Capstone Project (1-8)

6. **4 hours** - Professional development coursework selected from approved List B

Course	Semester Taken/Planned	Grade	Credit Hours

List B: Approved Professional Development Coursework

- TE 450 - Startup: Inc, Fund, Contracts, IP (3)
- TE 460 - Lecture in Engineering Entrepreneurship (1)
- TE 461 - Technology Entrepreneurship (3)
- TE 466 - High-Tech Venture Marketing (2)
- TE 560 - Managing Advanced Technology I (1)
- TE 565 - Technology Innovation & Strategy (2)
- TE 566 - Finance for Engineering Management (2)
- TE 567 - Venture Funded Startups (1)

Students may select a different course with professional development components in consultation with advisor.

7. AE 590 - Graduate Seminar Requirement (0 credit hours, required all semesters)

EFFECTIVE FALL 2019

Academic Plan By Semester

Semester Taken/Planned	Course	Code	Credit Hours	Grade

Code: S = Seminar (0 hrs-all semesters) AC = Aerospace Core (16 hrs)
PD = Professional Development (8 hrs) SE = Systems Electives (8 hrs)

Notes: