SYSTEMS ENGINEERING, MASTER OF SCIENCE

Requirements

Core Curriculum (34 units)

Code	Title	Hours
SEE 501	Systems Engineering Project Phase I	1
SEE 502	Systems Engineering Project Phase II	1
SEE 503	Systems Engineering Project Phase III	1
SEE 504	Systems Engineering Project Phase IV	1
SEE 510	Introduction to Systems Engineering	3
SEE 520	Analytics in Systems Engineering	3
SEE 530	Quantitative Methods in Systems Engineering	3
SEE 540	Economic Factors in Systems Engineering	3
SEE 550	Modeling and Simulation	3
SEE 560	Model Based Systems Engineering	3
SEE 570	Complex Systems Architecture	3
SEE 580	System-of-Systems Engineering	3
SEE 585	Engineering Complex Systems	3
SEE 590	Master's Project	3
Total Hours		**34**

Program Learning Outcomes

Graduates of the Systems Engineering program will:

- Apply the appropriate mathematical, science and engineering techniques to systems engineering problems.
- Identify the proper application of Systems Engineering processes, tools and methodologies to interdisciplinary problems.
- Generate, collect and articulate user needs and requirements for complex systems.
- Define the role of Systems Engineering processes and tools in each phase of a system's life cycle: from inception through retirement.
- Compare and contrast the impact of engineering solutions and design alternatives in the context of acquisition, environmental, ethical, fiscal, operational, schedule and technological constraints.
- Describe how to plan and manage complex systems engineering projects.
- Outline professional and ethical responsibility in engineering efforts.
- Compare and contrast system and component-level alternatives using appropriate system analysis tools.
- Articulate technically complex ideas and concepts in oral as well as in written format.