PROFESSIONAL MASTER’S IN APPLIED SYSTEMS ENGINEERING

PMASE is a comprehensive system engineering program designed to give practicing engineers the mathematical, scientific, and engineering foundation to develop, deploy, and evaluate various modeling and analysis strategies. PMASE students explore these skills by engaging in real-world projects and practical examples while engaging with faculty who are practitioners in the field.

It is a rigorous graduate degree designed to build deep expertise. You will:

- Develop systems thinking skills that support employing various analytic strategies to develop a holistic perspective of the relationships among systems components and the environment.
- Develop the capacity to apply modeling and simulation to determine and apply the best modeling and simulation approaches.
- Apply Model-Based Systems Engineering (MBSE) techniques through system lifecycle.
- Assess tools and techniques, resources, organizational systems, and decision-making processes for the successful management of projects.
- Leverage skills and knowledge from PMASE program to learn and incorporate emerging systems engineering methods and technologies.
- Create a foundation for the SE Professional Certification through International Council on Systems Engineering (ICSE).

The flexible, innovative curriculum allows you to learn while you stay in your current job. Program highlights include:

- A graduate degree in 2 years.
- Focus on one course at a time by taking two half-semester courses each fall and spring.
- The hybrid format that blends face-to-face instruction and 24/7 online learning.
- Mandatory live video conference sessions two to three times during the courses: Friday (1-5 p.m.) and Saturday (10 a.m. - 5 p.m.). You will receive specific dates before starting the program via our two-year schedule.
- A team-based, hands-on capstone where you receive input from and collaborate with an industry sponsor to solve a real-world problem.
- Visit the Atlanta campus three times over two years and meet with your cohort to network, collaborate and build community.

For PMASE admission requirements, application deadlines, tuition detail, course descriptions, and other info, visit pe.gatech.edu/degrees/pmase.

The PMASE program is a two-year program divided into core curriculum courses and complex systems courses and is delivered in a cohort model. A cohort is a group of students working towards a common degree and taking the same classes on the same schedule through completion of the degree. During the Fall Term of the cohort’s second year in the program, the students select a domain elective from the options available. Currently the elective options available are in the domains of sensors systems (ASE 6111), information systems (ASE 6121) and human systems integration (ASE 6131). The prerequisite for the domain electives is ASE 6006, Systems Engineering Laboratory.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ASE 6001</td>
<td>Fundamentals of Modern Systems Engineering</td>
<td>3</td>
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<tr>
<td>ASE 6002</td>
<td>Systems Design and Analysis</td>
<td>3</td>
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<tr>
<td>ASE 6003</td>
<td>Modeling and Simulation for Systems Engineers</td>
<td>3</td>
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<td>ASE 6004</td>
<td>Leading Systems Engineering Teams</td>
<td>3</td>
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<tr>
<td>ASE 6005</td>
<td>Advanced Topics in Systems Engineering: Systems Modeling with SysML</td>
<td>3</td>
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<tr>
<td>ASE 6006</td>
<td>Systems Engineering Laboratory</td>
<td>3</td>
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**Complex System Sequence:**

Domain Electives (Choose one):

- ASE 6111 Sensor Systems Analysis and Synthesis
- ASE 6121 Information Systems Analysis and Synthesis
- ASE 6131 Analysis and Synthesis: Human Systems Integration
- ASE 6102 System of Systems and Architecture
- ASE 6103 Complex System Lifecycle and Integration
- ASE 6104 Complex System Design and Integration (Capstone)

Total Credit Hours: 30