The typical student in the Master of Engineering in Advanced Systems Engineering (MEng in ASE) is an early career engineer, scientist, or computer scientist who wants to gain knowledge in Systems Engineering for the purposes of

* learning a modernized approach to design and development that supports Digital Transformation,
* learning how to develop more complex, large-scale cyberphysical systems, spanning the boundary of their primary discipline, and expanding their career choices, and
* demonstrating the ability to perform graduate level work that leads to career promotion.

Many of UConn’s current MEng in ASE students always planned to pursue graduate studies in an engineering or science field but investigated alternatives to expand their knowledge outside their primary undergraduate degree and chose to pursue systems engineering.

Many of UConn’s current students work in engineering and science positions across the development lifecycle including early phase design, requirements engineering, systems architecting, detailed design and modeling, implementation and manufacturing, V&V and testing, service, support, supply chain, maintenance, and obsolescence.

UConn’s ASE students have varied backgrounds in electrical, computer, mechanical, chemical, biomedical, manufacturing, energy, and industrial engineering. Some students have studied information systems, computer science, chemistry, biology, or physics.

UConn’s ASE students are from diverse backgrounds with students participating from Europe, Asia, Canada, and the United States.

The commonality among all current students is a strong background in analytics and programming and a desire to learn new skills and enhance their design, modeling, and analytical skills.

Feedback from our recent graduates demonstrate that our current students chose the UConn MEng in ASE program because of:

* the hands-on, project-based nature of the courses
* the ability to take and participate in the course from anywhere in the world through the distance learning modality
* the flexibility of the course design to support working professionals in taking courses while part-time or fully employed
* the focus on modeling and analyzing large, multidisciplinary complex systems
* the use of modern tools and approaches
* the ability to span the boundary of their original discipline and take courses in embedded systems, artificial intelligence, data-driven modeling, physics-based modeling, system design and optimization, machine learning, data analytics, model-based design, model-based systems engineering, cyberphysical systems engineering that all support Digital Engineering and Digital Transformation activities

Most recent graduates have earned a promotion within one year of completing the degree and most graduates have moved from their primary discipline role into a systems engineering position or role either during their studies or immediately after.

You can find out more about our recent graduates here: <https://utc-iase.uconn.edu/iase-graduate-spotlights/>

Master of Engineering in Advanced Systems Engineering

Alec Schmidt

A person smiling for the camera

Description automatically generated with medium confidenceAfter finishing his undergraduate degree at UConn during the height of COVID-19 pandemic, Alec Schmidt decided to further his formal education and pursue a Master of Engineering in Advanced Systems Engineering at UConn. He wanted to set himself apart in the job market and explore solving engineering problems from a broader perspective, leading him towards studying Systems Engineering. “Rather than designing one component in a large system I can instead be involved with designing how the entire system integrates and operates,” says Alec. As a recipient of UConn’s Springboard Graduate Scholarship, he was able to pursue his Master’s degree directly after earning his undergraduate degree, with a significant discount due to this special program to support graduating UConn engineering students during the pandemic.

Through his courses, Alec was able to familiarize himself with technical skills, modelling, and software that assist him in designing optimal systems. He enjoyed the combination of technical and non-technical courses he was able to take that gave him a foundation of the principles of systems engineering and also learned powerful problem-solving techniques. “Everything I’ve learned in the ASE program will be the foundation of my future work. Throughout my career I will continue to develop new skills, but what I learned in the ASE program will provide the foundation for them.”

He also appreciated the communication he was able to have with his professors in his courses. Online one-on-one meetings with professors and prompt, helpful email responses were valuable in his learning experience.

In his Capstone project, “The Modeling and Control of a Wastewater Treatment Plant,” Alec developed a model of a temperature control system to be used in a wastewater treatment plant. Through this project, he was able to gain experience with the SysML descriptive systems language and the Modelica acausal, equation-oriented systems modeling language. Additionally, he was able to study the integration of model-based systems engineering and physical modeling, which gives engineers the ability to design and test complex systems during early phase development.

Earning his Master of Engineering in Advanced Systems Engineering, Alec is hoping to obtain a systems-focused new position and create a strong foundation for his career after graduation. “I would highly recommend UConn’s Advanced Systems Engineering programs and courses to anyone seeking to branch out to something different from their undergraduate degree. It provides a unique set of skills that will set you apart and make you desirable to employers.”