

# Submatriculation Survival Guide



## What is Submatriculation?

Submatriculation is a process by which undergraduates can obtain a master's degree in as little as one year after completing their bachelor's degree by counting graduate level classes taken in their undergraduate career towards a master's degree. Students can apply for this program up until the end of their junior year.

## Why Submatriculate?

Submatriculation allows students to obtain a master's degree in less time in one of Penn's flexible, interdisciplinary, and innovative programs without having to take the GRE and while saving money by combining undergraduate and graduate studies.

## What programs are available?

**Bioengineering** - Contact: Kathy Venit at [kvenit@seas.upenn.edu](mailto:kvenit@seas.upenn.edu)

Grounded in the intersection of engineering, life sciences, and medicine, the MSE Program in Bioengineering prepares students for careers in tissue engineering, biomedical imaging, biofluid mechanics, neuroengineering among others.

**Biotechnology** - Contact: Jackie Egitto at [egittoj@seas.upenn.edu](mailto:egittoj@seas.upenn.edu)

Drawing courses from engineering, medicine, and business, the MSE Program in Biotechnology prepares students for careers in areas such as recombinant DNA, clinical diagnostics, medical therapy, and biomaterials production.

**Chemical and Biomolecular Engineering** - Contact: Jackie Egitto at [egittoj@seas.upenn.edu](mailto:egittoj@seas.upenn.edu)

The MSE Program in Chemical Biomolecular Engineering draws on courses from areas such as fluid mechanics, thermodynamics, bioengineering, and heat transfer to prepare students for roles in the pharmaceutical and electronics industries.

**Computer Graphics and Game Technology** - Contact: Brittany Binler at [binler@seas.upenn.edu](mailto:binler@seas.upenn.edu)

Blending art and computer science, the MSE Program in CGGT prepares students to be designers, technical animators, directors, and game programmers through first hand experience in animation technology, design, and entrepreneurship.

**Computer and Information Science** - Contact: Mike Felker at [mfelker@cis.upenn.edu](mailto:mfelker@cis.upenn.edu)

One of the nation's top ranked programs, the MSE Program in CIS allows students with an undergraduate CIS degree to pursue their own career interests in fields from telecommunications to artificial intelligence to software engineering.

**Computer and Information Technology** - Contact: Mike Felker at [mfelker@cis.upenn.edu](mailto:mfelker@cis.upenn.edu)

The MSE Program in Computer and Information Technology (MCIT), designed for students with little or no experience in computer science, prepares its students for careers in information technology and doctoral studies in computer science.

**Electrical Engineering** - Contact: Irene Tan at [irenet@seas.upenn.edu](mailto:irenet@seas.upenn.edu)

The MSE Program in Electrical Engineering prepares students to deal with the new ideas and applications of modern electrosience in fields from electromagnetics and photonics to sensors and nanotechnology.

**Embedded Systems** - Contact: Mike Felker at [mfelker@cis.upenn.edu](mailto:mfelker@cis.upenn.edu)

Jointly offered by the CIS and ESE departments, the new MSE Program in Embedded Systems (EMBS) is ideally suited for students with undergraduate degrees in either CIS or ESE pursuing jobs in fields such as aerospace, defense, and automotive.

**Integrated Product Design** - Contact: Maryeileen B. Griffith at [mebg@seas.upenn.edu](mailto:mebg@seas.upenn.edu)

Combining the strengths of SEAS, Wharton, and the Design School, the project-based MSE Program in Integrated Product Design teaches students both how to create and how to understand the social and environmental contexts of products.

**Materials Science and Engineering** - Contact: Irene Clements at [jpc@lrsm.upenn.edu](mailto:jpc@lrsm.upenn.edu)

The MSE Program in Material Science and Engineering allows students to tailor their education to their own professional and career goals in a revolutionary field that crosses the boundaries of physics, chemistry, biology, and nanobioscience.

**Mechanical Engineering and Applied Mechanics** - Contact: Maryeileen B. Griffith at [mebg@seas.upenn.edu](mailto:mebg@seas.upenn.edu)

The nationally recognized MSE Program in MEAM prepares students for leadership roles in fields such as design and manufacturing, robotics, microelectricalmechanical systems, heat transfer and fluid mechanics, and biomechanics.

**Robotics** - Contact: Charity Payne at [charity@cis.upenn.edu](mailto:charity@cis.upenn.edu)

Offered by the prestigious GRASP laboratory, the MSE Program in Robotics prepares students for careers in robotics through a foundation in artificial intelligence, control systems, machine learning, dynamics, and robotic system design.

**Nanotechnology** - Contact: Hong-Mei Li at [nanomast@seas.upenn.edu](mailto:nanomast@seas.upenn.edu)

The flexible MSE Program in Nanotechnology prepares students for roles both in high tech industries such as microfabrication and semiconductors and in traditional industries (such as drug delivery engineering) looking to exploit nanotechnology.

**Systems Engineering** - Contact: Irene Tan at [irenet@seas.upenn.edu](mailto:irenet@seas.upenn.edu)

Intended for students with undergraduate degrees in engineering, mathematics, physics, or economics, the MSE Program in Systems Engineering (SE) lets students tailor their studies to interests from signal processing to cybernetics to adaptive systems.