

# SYSTEMS SCIENCE AND ENGINEERING, MINOR

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System engineering (SSE) helps us to understand what happens when we compose many elements, each with their own behavior, and helps us understand how to design and constrain the individual elements to engineer desired behavior for the composed system. Students can pursue a SSE minor by completing six courses that includes decision making, data processing and modeling, simulation, and design of systems.

## SEAS Second Major or Minor Option

Students interested in a second major (College students only) or minor with SEAS are required to meet with the Undergraduate Curriculum Chair from the major/minor department you wish to declare to discuss requirements and obtain approval on the Second Major or Minor form. The approved form must be returned to the SEAS Research and Academic Services Office, 109 Towne Building.

**For more information:** <http://www.ese.upenn.edu/current-students/undergraduates/minors.php>

## Systems Science and Engineering, Minor

Code	Title	Course Units
ESE 204	Decision Models	1
ESE 210	Introduction to Dynamic Systems	1
ESE 224	Signal and Information Processing	1.5
ESE 303	Stochastic Systems Analysis and Simulation	1
Electives		
Select 1	Information Systems Elective <sup>1</sup>	1
Select 1	Information Systems of Systems Design Elective <sup>1</sup>	1
Total Course Units		6.5

<sup>1</sup> Approved elective lists can be found on the most recent SSE worksheet.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2018 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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