

## Certificate

# Modeling and Simulation - Engineering Certificate

The Graduate Certificate in Modeling and Simulation Engineering is designed for those who meet the admission requirements of the modeling and simulation master's program and wish to broaden their knowledge of modeling and simulation related principles and practices without pursuing a graduate degree. This is a 12 credit hour non-degree program offered by the Department of Electrical & Computer Engineering. The certificate program is open to both degree-seeking and non-degree-seeking graduate students. Certain courses taken for the certificate program may later be applied to the master's degree in modeling and simulation.

## Graduate Certificate Admission Requirements

Students should have either an undergraduate degree from a regionally accredited institution and should have a mathematical background through calculus, along with a calculus based probability and statistics course. Students should submit a graduate non-degree application through the Office of Admissions, and then submit a departmental application with copies of unofficial transcripts from all previous coursework to the ECE Department. More details on the program and application are available online: <https://www.odu.edu/academics/programs/certificate/modeling-simulation-engineering> (<https://www.odu.edu/academics/programs/certificate/modeling-simulation-engineering/>). For further questions, please contact:

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## Curriculum Requirements

### Graduate Certificate Course Requirements

The Graduate Certificate in Modeling and Simulation Engineering requires the completion of 12 credit hours at the graduate level. The course requirements are:

Select three courses from the following:	9
MSIM 601	Introduction to Modeling and Simulation
MSIM 602	Simulation Fundamentals
MSIM 510	Model Engineering
MSIM 603	Simulation Design
MSIM 541	Computer Graphics and Visualization
MSIM 551	Analysis for Modeling and Simulation
MSIM Elective *	3
<b>Total Credit Hours</b>	<b>12</b>

\* A graduate level elective approved by the Graduate Program Director. This elective may be an MSIM course or from another discipline outside of modeling and simulation. It is possible that this course may be outside of the discipline of modeling and simulation, but approved because it complements the field of modeling and simulation and the student's interests.

An overall GPA of 3.0 or better is required to earn the graduate certificate in modeling and simulation engineering.