

# ACCELERATED SYSTEMS ENGINEERING, M.S.

## Program Details

Department: Electrical and Computer Engineering  
 Modality: Online  
 Concentrations: Not Applicable  
 Semester Hours: 30  
 Total Years: 1

This program is designed for LMU students to receive an M.S. degree by continuing their studies immediately following their B.S. degree. The program allows students to complete the M.S. degree in one year.

The candidates for the accelerated M.S. degree must adhere to the following policies:

- One Frank R. Seaver College of Science and Engineering 500/5000-level course (3 semester hours) taken as an undergraduate may count toward the M.S. degree. This course can be double counted for the B.S. degree and the M.S. degree. The student is required to complete 27 additional semester hours after earning the B.S. degree.
- In addition, an extra Seaver College 500/5000-level course (3 semester hours) may be taken in their senior year that counts towards only the M.S. degree and not the B.S. degree. This potentially reduces the total number of additional semester hours after earning the B.S. degree to 24.
- The remaining coursework required must be consistent with the graduation requirements for the M.S. in Systems Engineering program.

## Program Overview

Modern technological programs are characterized by high complexity, multidisciplinary considerations, and strong interactions between science, technology, business, and human civilization. Systems Engineering is the body of knowledge evolved to effectively manage such systems. Our program offers study options that span a broad spectrum of areas, such as engineering management, aeronautics and space systems, and cybersecurity, that allow students to customize the program to meet their needs.

## Schedule

All courses are offered online and synchronously with the exception of elective courses offered by other Seaver College departments and the College of Business Administration. Such courses will be offered on the LMU Westchester campus.

Registering for courses is the student's responsibility. A student is expected to make reasonable progress toward the degrees to remain in good standing at the University. A full-time course load is considered to be 6 semester hours per semester in Fall and Spring.

## Program Educational Objectives

Graduates of the program will:

1. Apply the fundamental principles of systems engineering to complex problems
2. Become leaders of innovative technology projects and businesses

3. Develop multidisciplinary skills to architect, design, and manage complex systems throughout their life cycle
4. Apply principles of project management and lean engineering to improve operational efficiency
5. Develop technical skills to model, analyze, and design integrated engineering systems

## Admission Requirements for Accelerated Combined M.S. Program in Systems Engineering

### Admission Eligibility

LMU students in with senior standing and a GPA of at least 3.0 are eligible to apply. Students will continue with the graduate-level portion of this program immediately following completion of their undergraduate degree requirements.

Some courses of the program with a more technical focus, such as topics in aerospace or cybersecurity, may require an undergraduate background in differential and integral calculus, mechanics, computer programming, and/or statistics.

### Application Requirements

- A completed Online Application (<https://graduatestudies.lmu.edu/apply/>) (the application fee will be waived)
- Unofficial LMU transcripts
- A personal statement (1-2 pages) that explains how the Systems Engineering Master's program fits into your career development.

**Note:** Students interested in this program are strongly recommended to enroll in and successfully complete the course SYEG 500 Systems Engineering during the Fall semester prior to receiving the undergraduate degree. This will allow for a timely completion of the graduate portion of the program as it is the prerequisite for several other required SYEG courses.

## Admission Policies

**Deferral Policy:** Students admitted into this graduate program may defer their admission offer for up to one year from the initial admission entry term. A formal request should be made by the student by contacting [SeaverGraduateAdmission@lmu.edu](mailto:SeaverGraduateAdmission@lmu.edu). Requests to defer past the one-year mark from the initial admission entry term are reviewed upon request, and the decision is left to the discretion of the Admission Committee.

**Appeal Process:** The appeal process should be sought after once an admission decision has been provided, and the applicant would like to be reconsidered. To explore the appeal process, the applicant should be prepared to present new evidence of admissibility via new/additional/updated documentation aside from what was presented during the initial admission submission. Such documentation can be in the form of final grades, providing proof of updated relevant course completion and grade/s, etc.

In addition to the documents provided, the student will be required to submit a short essay stating why they are interested in having their application be reconsidered and explain how the new/updated documentation provided shows improvement for admission reconsideration. The admissions team will review the submission of all new documentation and provide the applicant with an updated decision.

To request more information about this process, interested candidates in this option may contact [SeaverGraduateAdmission@lmu.edu](mailto:SeaverGraduateAdmission@lmu.edu).

## Graduation Requirements

- The overall minimum GPA required for graduation is 3.0. Students who receive a grade of less than “B” in any 500-level course or a grade of less than “C” in any 600-level course will not have the course count toward their graduate degree.
- The program of study must include the following courses: SYEG 500 Systems Engineering, SYEG 510 Project Management, SYEG 600 Advanced Systems Engineering and Program Management, SYEG 640 Model Based Systems Engineering, and Graduate Capstone Project or Master’s Thesis.
- 500/5000-level courses taken as an undergraduate may not be repeated for graduate credit. If a 500/5000-level course is cross listed with a 600/6000-level course, graduate student must enroll in the 600/6000-level course.
- The requirement for the M.S. in Systems Engineering degree is 30 semester hours in total.

or a serve as a “literature search.” The thesis ideally will form the basis for a paper or article, produced by a student, which would be submitted and hopefully published in a peer-reviewed journal or presented at a professional organization’s conference. A thesis is completed after being successfully defended to the thesis committee. With direction from the thesis advisor, a thesis committee will be formed. The thesis committee consists of the student’s thesis advisor, a full-time faculty member from the student’s department, and a third member from other than the student’s department.

## Curriculum

Code	Title	Semester Hours
<b>Required Courses</b>		
SYEG 500	Systems Engineering	3
SYEG 510	Project Management	3
SYEG 600	Advanced Systems Engineering and Program Management	3
SYEG 640	Model Based Systems Engineering	3
<b>Select one of the following required options:</b> <sup>1</sup>		
Capstone Option		
SYEG 695	Preparation for Capstone Project	0
SYEG 696	Graduate Capstone Project	3
Thesis Option		
SYEG 691	Thesis I	3
SYEG 692	Thesis II	3
<b>Electives</b>		
A selection of SYEG or non-SYEG courses on the 500/5000- or 600/6000-level to reach a total of 30 semester hours <sup>2</sup>		15 or 12
<b>Total Semester Hours</b>		<b>30</b>

<sup>1</sup> The Graduate Capstone Project or Thesis are typically the last courses taken in the program. It is designed to demonstrate the student’s knowledge of all the systems engineering and systems management principles and lean engineering addressed in the prerequisite courses.

<sup>2</sup> At most one course (3-4 hours) can be from another graduate program of SCSE or from the MBA program.

## Master’s Thesis Option

Preparation of a Master’s Thesis is optional and can fulfill up to a maximum of 6 semester hours of elective course requirements. Students interested in this option should consult with their academic advisor and secure a thesis advisor prior to their final year of the program. The thesis must conform to the requirements shared by the department. The thesis and associated work is intended to advance the state of knowledge in the thesis subject not “rehash” previous work by others