



Cal Poly Pomona



MASTER OF SCIENCE IN SYSTEMS ENGINEERING

YOU HAVE MASTERED THE TECHNICAL. NOW LEAD THE SYSTEMS.

A 10-course graduate credential for professionals across industries.

\$137K

Avg. base salary for Systems Engineers with a master's degree (Glassdoor, 2025)

#2

Top Public University in the West — U.S. News & World Report 2025

10

Courses to complete the MSSE. No GRE required.

FLEXIBILITY

Evening and hybrid format. Fall and Spring admissions. Built for engineers who work full time.

About the Program

Cal Poly Pomona's M.S. in Systems Engineering prepares working professionals to transition from technical experts to systems leaders. Designed for professionals across industries, including aerospace, defense, manufacturing, healthcare, logistics, and other complex systems domains, the program develops systems thinking, technical, and leadership skills needed to advance into systems engineering, program management, and engineering leadership roles while continuing to work full-time.

The MSSE is built around three realities of the engineering professional's life: a demanding schedule that leaves no room for daytime classes, a need for content that applies directly to real-world technical and organizational challenges, and an industry that rewards graduate credentials with tangible salary and advancement opportunities.

Curriculum Overview

The MSSE is a 10-course program. Seven core courses build a strong foundation in systems engineering principles and practices. Two electives allow you to specialize. One capstone project course allows you to apply what you have learned to real-world engineering challenges.

Core Courses (7 Required)

#	Course	What It Builds
SE 5100	Introduction to Systems Science	Survey of systems thinking across disciplines — how complex systems behave, interact, and fail. The mindset shift from component-level engineer to systems thinker.
SE 5110	Advanced Engineering Economics	The financial logic behind major engineering decisions. Capital investment models, risk and uncertainty, and the economic frameworks that justify — or kill — large-scale programs.

SE 5130	System Engineering Life Cycle Design and Management	The systems engineering framework that guide complex systems design from concept through retirement. Students learn life cycle processes, requirements development, system design, integration, verification, and technical management.
SE 5150	System Sustainability	How industrial systems affect the natural and social world — and how systems engineers account for it. Interdisciplinary tools drawn from engineering, public policy, economics, and operations.
SE 5190	Operations Research in System Analysis	Mathematical programming and optimization for solving complex engineering and business problems. Build the analytical toolkit to model trade-offs, run sensitivity analysis, and present data-driven recommendations.
SE 5200	System Simulation for Managers	How to model, test, and improve system behavior before committing to costly real-world changes. Simulation tools, model verification, and the decision-making skills that come from seeing a system run before it's built.
SE 5230	System Architecture	Architectural modeling for large-scale, multi-discipline system development. Team-based projects using MBSE methods and industry modeling tools to build comprehensive system and subsystem architectural models.

Core Courses (7 Required)

- **SE 5140 - Emergency System and Cyber Security**
- **SE 5160 - Facility Planning System**
- **SE 5170 - Healthcare Systems Engineering**
- **SE 5180 - Human Systems Interaction**
- **SE 5220 - Supply Chain Management in Production Systems**

Capstone Project

An applied systems engineering project addressing a real-world challenge. Conducted under faculty mentorship, the capstone showcases graduate-level systems thinking and systems engineering expertise while producing a portfolio-quality deliverable that can be presented to employers, clients, and promotion committees.

Program Format and Schedule

Format Hybrid: a blend of in-person evening sessions and online coursework. No daytime class requirements.	Class Timing Monday through Friday, 6:00 PM to 8:50 PM. One evening per course per week.
Completion Timeline Most students complete the MSSE in two years while working full time.	Admission Cycles Fall and Spring admission. Two entry points per year. No GRE or GMAT required.

Tuition and Financial Aid

Cal Poly Pomona is a CSU institution. MSSE tuition is significantly below comparable private engineering graduate programs. The total program cost is approximately \$25,000 to \$30,000 depending on per-unit rates and applicable fees. Current per-unit tuition rates are available on the CPP Graduate Admissions website.

Employer Tuition Benefit: Many engineers at aerospace and defense firms qualify for employer tuition reimbursement. Raytheon, Northrop Grumman, Boeing, and L3Harris each offer education benefits. Many engineers qualify for up to \$5,250 per year — enough to cover a significant portion of the MSSE. Ask your HR department or contact an MSSE advisor for help navigating the process.

Financial aid is available through CPP's Financial Aid office. The MSSE qualifies for federal graduate loan programs. Contact Graduate Financial Aid for current options.

Admissions Requirements

The MSSE has rolling admissions. Fall and Spring cohorts are available. The program welcomes applicants at all career stages who have the technical background to succeed in a graduate systems engineering curriculum.

Required for Application

- A Bachelor of Science (BS) degree from an ABET-accredited program in engineering, mathematics, physics, computer science, or business administration with a specialization in operations management.
- Minimum of 3.0 GPA in all undergraduate upper-division coursework

Applicants who do not meet the GPA requirement may be considered for admission by submitting supplemental documents or taking additional courses.

Not Required

- GRE or GMAT — neither is required for MSSE admission
- Prior graduate coursework

Applications are reviewed on a rolling basis. Contact Dr. Fallahfani (sfallahfani@cpp.edu) or the MSSE program office to confirm the current application timeline for your target term.

Career Outcomes

MSSE graduates advance into leadership and high-impact technical roles such as Senior Systems Engineer, Systems Architect, Program Manager, Technical Project Lead, and Director of Engineering. Our alumni work at leading organizations including Lockheed Martin, Raytheon, Northrop Grumman, Boeing, L3Harris, and SpaceX, as well as companies across the energy, food, logistics, consumer products, healthcare, and technology sectors throughout Southern California and beyond.



The MSSE program provided a strong foundation that propelled my career. Since graduating in 2022, I have received multiple Systems Engineering offers and had the opportunity to work with top defense companies, including Raytheon and Lockheed Martin.”

Alejandro Preciado,
Class of 2022,
Sr. Systems Engineer, Lockheed Martin



The program helped me with career advancement and more. It provided me the opportunity to continue working my full-time job while taking night classes.”

Cambria Jimenez,
Class of 2023,
Senior Supervisor, Factory Lead, Raytheon

Questions? Contact the Program Directly.

DR. SAEIDEH FALLAHFINI

MSSE Program Director, Cal Poly Pomona

sfallahfani@cpp.edu · 909-869-4087

Apply online: <https://calstate.edu/apply>

Program page: <https://www.cpp.edu/cpge/degree-programs/systems-engineering>