The newly-redesigned Master of Engineering in Systems Engineering at Penn State Great Valley is intended for today's professional—to fit the needs of busy working adults who are balancing work and life. Courses are either fully online or a 50/50 online/in-person hybrid, combining the personal connection with instructors and intimate classroom setting of in-person education with the flexibility of online learning. This program is STEM designated.

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (http://gradschool.psu.edu/prospective-students/how-to-apply/). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (http://gradschool.psu.edu/graduate-education-policies/).

Admission to the M.Eng in Systems Engineering program will be based on baccalaureate academic records, applicable work experience, and two letters of recommendation from a previous professor or supervisor who can attest to the applicant’s academic potential. Applicants with an undergraduate degree in a quantitative discipline such as science or engineering may apply. Students from other disciplines will be considered based on prior course work and/or standardized test scores. Normal admission requirements include two semesters of calculus (Calculus 1 and Calculus 2). Applications must include a statement of professional goals and a curriculum vitae or resume. Test scores from the GMAT or GRE exams are not required. An undergraduate cumulative grade-point average of 3.0 or better on a 4.0 scale in the final two years of undergraduate studies is required.

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. See GCAC-305 Admission Requirements for International Students (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-305-admission-requirements-international-students/) for more information.

Degree Requirements

Master of Engineering (M.Eng.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (http://gradschool.psu.edu/graduate-education-policies/).

The M. Eng. in Systems Engineering degree is conferred upon students who earn a minimum of 36 credits of course work while maintaining an average grade-point average of 3.0 or better in all course work, including at least 18 credits at the 500 or 800 level (with at least 6 credits at the 500 level). The program curriculum includes 18 credits of core courses, 15 credits of electives, and 3 credits of capstone experience.

Electives

An additional 15 credits of elective courses must be selected from a list of approved elective courses maintained by the graduate program office.

Culminating Experience

All students will complete their program of study with a capstone project that provides students with an opportunity to apply their knowledge of the systems engineering theories, methods, processes, and tools learned throughout their program, in a culminating and summative experience. Students complete the capstone project while enrolled in SYSEN 894.

Total Credits

36

Minor

A graduate minor is available in any approved graduate major or dual-title program. The default requirements for a graduate minor are stated in Graduate Council policies listed under GCAC-600 Research Degree Policies (http://gradschool.psu.edu/graduate-education-policies/) and GCAC-700 Professional Degree Policies (http://gradschool.psu.edu/graduate-education-policies/), depending on the type of degree the student is pursuing:

- GCAC-611 Minor - Research Doctorate (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-611-minor-research-doctorate/)
- GCAC-641 Minor - Research Master’s (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-641-minor-research-masters/)
- GCAC-709 Minor - Professional Doctorate (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-709-professional-doctoral-minor/)
- GCAC-741 Minor - Professional Master’s (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-741-masters-minor-professional/)

Student Aid

Refer to the Tuition & Funding (http://gradschool.psu.edu/graduate-funding/) section of The Graduate School’s website. Students in this program are not eligible for graduate assistantships.

Financial aid for students in on-campus programs is in the form of student loans and a limited number of small scholarships, as described on the Penn State Great Valley website (https://greatvalley.psu.edu/tuition-and-financial-aid/).

World Campus students in graduate degree programs may be eligible for financial aid. Refer to the Tuition and Financial Aid section (http://
Systems Engineering

www.worldcampus.psu.edu/tuition-and-financial-aid/) of the World
Campus website for more information.

Courses
Graduate courses carry numbers from 500 to 699 and 800 to 899.
Advanced undergraduate courses numbered between 400 and 499 may
be used to meet some graduate degree requirements when taken by
graduate students. Courses below the 400 level may not. A graduate
student may register for or audit these courses in order to make up
deficiencies or to fill in gaps in previous education but not to meet
requirements for an advanced degree.

Systems Engineering (SYSEN) Course List (https://bulletins.psu.edu/
university-course-descriptions/graduate/sysen/)

Learning Outcomes
1. **KNOW.** Develop heterogeneous engineered solutions to complex
problems using contemporary methods, processes, and tools.
2. **CRITICAL THINKING.** Understand system interdependencies to
analyze the associated tradespaces these generate to identify
optimal solution alternatives.
3. **PROBLEM SOLVING.** Use integrated models and simulations for
multi-level system analysis and practices.
4. **APPLY.** Manage the budgets and schedules of large-scale projects
and programs while delivering.
5. **TEAMWORK.** Work effectively and collaboratively within
interdisciplinary teams.

Contact

Campus
Great Valley

Graduate Program Head
Colin Neill

Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)
Nil Hande Ergin

Program Contact
Katie E Kerstetter
Penn State Great Valley
30 East Swedesford Road
Malvern PA 19355
kew5687@psu.edu
(610) 648-3277

Program Website
View (http://greatvalley.psu.edu/
academics/masters-degrees/
systems-engineering/)

Campus
World Campus

Graduate Program Head
Colin Neill

Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)
Nil Hande Ergin

Program Contact
Katie E Kerstetter
Penn State Great Valley
30 East Swedesford Road
Malvern PA 19355
kew5687@psu.edu
(610) 648-3277

Program Website
View (http://
www.worldcampus.psu.edu/
degrees-and-certificates/systems-
engineering-masters/overview/)