

SYSTEM QUALITY & RISK EVALUATION GRADUATE CREDIT CERTIFICATE PROGRAM

Person-in-Charge	Raghu Sangwan
Program Code	MENGSQ
Campus(es)	Great Valley World Campus

The Graduate Certificate in System Quality & Risk Evaluation is a program for students who aim to pursue a career as a Test Manager, Systems Test Engineer, Systems Integration Engineer, System Analyst, or Risk Analyst where skills will include responsibilities for planning test and evaluation activities and overseeing testing activities, designing and implementing test strategies to ensure system quality, developing and managing interoperability across systems, analyzing system qualities, troubleshooting test failures, or analyzing models and system risks.

Courses taken in the certificate program may be applied toward a master's degree in Systems Engineering, subject to restrictions outlined in GCAC-309 Transfer Credit (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-309-transfer-credit/>). Certificate students who wish to have certificate courses applied towards a graduate degree must apply and be admitted to that degree program. Admission to the graduate degree program is a separate step and is not guaranteed.

Effective Semester: Spring 2024
Expiration Semester: Spring 2029

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>). International applicants may be required to satisfy an English proficiency requirement; see GCAC-305 Admission Requirements for International Students (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students/>) for more information.

1. The successful applicant is generally expected to have a minimum combined junior/senior grade-point average of 3.0 (B) on a 4.0 scale.
2. Courses taken in the certificate program may be applied toward Master of Systems Engineering degree, subject to restrictions outlined in GCAC-309 Transfer Credit (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-309-transfer-credit/>). Certificate students who wish to have certificate courses applied towards the Master of Systems Engineering must apply and be admitted to that degree program. Admission to the Master of Software Engineering graduate degree program is a separate step and is not guaranteed.

Certificate Requirements

Requirements listed here are in addition to requirements listed in Graduate Council policy GCAC-212 Postbaccalaureate Credit Certificate

Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-212-postbaccalaureate-credit-certificate-programs/>).

Code	Title	Credits
Required Courses		
SYSEN 520	Systems Engineering	3
SYSEN 522	Systems Verification Validation & Testing	3
SYSEN 536	Decision and Risk Analysis in Engineering	3
Total Credits		9

All courses must be completed with a minimum grade of C or better and an overall GPA of 3.0.

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.

Learning Outcomes

1. **APPLY/CREATE:** Design, analyze and evaluate system qualities of complex systems using verification, validation, testing methods and tools.
2. **THINK:** Analyze tradeoffs and alternatives for system problems and analyze risks and their impact on the decision-making process

Contact

Campus	Great Valley
Graduate Program Head	Raghu Sangwan
Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)	Nil Hande Ergin
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Campus	World Campus
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