

# LIFE-CYCLE SYSTEM DESIGN GRADUATE CREDIT CERTIFICATE PROGRAMS

<b>Person-in-Charge</b>	Raghu Sangwan
<b>Program Code</b>	MEMLCD
<b>Campus(es)</b>	Great Valley World Campus

The Graduate Certificate in Life-cycle System Design is a program for students who aim to pursue a career as a System Architect, Lead System Engineer, System Requirements Engineer, System Engineer, or System Integration Engineer where skills will include responsibilities to analyze, architect, design, implement and manage the technical development aspects of a system, design, implement, and coordinate technical design aspects of a system, identify, document, and manage requirements, develop, and document technical aspects of system in any life cycle phase (concept, design, implementation, operation, maintenance), or develop and manage interoperability across systems.

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
<b>Required Courses</b>		
SYSEN 555	Invention and Creative Design	3
SWENG 586	Requirements Engineering	3
SYSEN 880	Systems Architecture and Models	3
<b>Total Credits</b>		<b>9</b>

## 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. **KNOW:** Elicit requirements for a complex system problem and effectively communicate with system stakeholders
2. **APPLY/CREATE:** Develop heterogeneous engineered solutions to complex problems using contemporary methods, processes, and tools.

## Contact

<b>Campus</b>	Great Valley
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