

# QUANTITATIVE DECISION MAKING FOR ENGINEERING MANAGERS GRADUATE CREDIT CERTIFICATE PROGRAM

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

The Graduate Certificate in Quantitative Decision Making for Engineering Managers is a program for students who aim to pursue a career as a Product Manager, Operations Manager, or Production Manager where skills will include responsibilities in product, service, and process development and analysis, strategic planning and management, technical and data driven decision making, risk analysis, decision models, technology assessment, engineering economics analysis, or financial resource management.

Courses taken in the certificate program may be applied toward a master's degree in Engineering Management, 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 Engineering Management 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 Engineering Management must apply and be admitted to that degree program. Admission to the Master of Engineering Management 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>		
ENGMT 501	Engineering Management Science	3
ENGMT 510	Economics and Financial Studies for Engineers	3
SYSEN 536	Decision and Risk Analysis in Engineering	3
<b>Total Credits</b>		<b>9</b>

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:** Demonstrate knowledge of foundational principles of project operations including forecasting, simulation, inventory management and critical path analysis
2. **THINK:** Evaluate the financial aspects and estimate risk and their impact on the decision-making process as applied to the technical project management

## Contact

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