DATA ANALYTICS AND ENGINEERING GRADUATE CREDIT CERTIFICATE PROGRAM

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

The Graduate Certificate in Data Analytics and Engineering is a program for students who aim to pursue a career in Data Architecture where skills will includes responsibilities in designing, building, and maintaining infrastructure for managing and analyzing large volumes of data. Students develop knowledge and skills in programming, data modeling and design, data integration, and date warehousing. A certificate will be awarded upon completion of the courses.

Courses taken in the certificate program may be applied toward a master's degree in Software 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 Software 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 Software 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		
DAAN 825	Large-Scale Database and Warehouse	3
DAAN 862	Analytics Programming in Python	3
SWENG 545	Data Mining	3
IE 575	Foundations of Predictive Analytics	3
Total Credits		**12**

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. Analyze large amounts of data to predict future trends and events, and discover patterns and find insights.
2. Architect, implement, and monitor data pipelines to create robust data solutions.

Contact

Campus	Great Valley
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Campus	World Campus
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