# School of Natural Sciences and Mathematics

## Certificates



## Certificate in Data Science

15 semester credit hours

A Certificate in Data Science is offered by the Department of Mathematical Sciences in the School of Natural Sciences and Mathematics.

The focus of the Certificate in Data Science is to provide training in core data analytics skills, including programming and statistical and machine learning methods.

Admission Requirements

Two semesters of Calculus.

Certificate Requirements

Students must complete the following courses:

MATH 2333 Matrices, Vectors, and Data

MATH 4332 Scientific Computing using Python

MATH 4355 Methods of Applied Mathematics

STAT 3355 Introduction to Data Analysis

STAT 4360 Introduction to Statistical Learning

## Certificate in Geophysics

12 semester credit hours

A Certificate in Geophysics is offered by the Department of Sustainable Earth Systems Sciences in the School of Natural Sciences and Mathematics.

The focus of the Certificate in Geophysics is to provide students with the opportunity to combine their existing knowledge with a strong foundation and understanding in Geophysics, which will open up exciting new job opportunities for their future careers in industry, government, and academia.

Admission Requirements

Undergraduate students who have completed prerequisite courses.

Certificate Requirements

Students must complete the following courses:

GEOS 4320 The Physics of the Solid Earth

GEOS 4395 Remote Sensing Geophysics

GEOS 3310 Environmental Geophysics

Choose one course from the following:

GEOS 2307 Digital Earth

ISNS 2366 Global Climate Change

PHYS 3380 Astronomy

## Certificate in Quantum Information

15 semester credit hours

A Certificate in Quantum Information is offered by the Department of Physics in the School of Natural Sciences and Mathematics.

The focus of the Certificate in Quantum Information is to provide science oriented students with the necessary skills and knowledge for job opportunities in the quantum industry.

Admission Requirements

Undergraduate students who have completed two semesters of undergraduate calculus and one semester of undergraduate linear algebra.

Certificate Requirements

Students must complete the following courses:

PHYS 4346 Quantum Physics for Engineers and Programmers

or PHYS 4301 Quantum Mechanics I

PHYS 3330 Numerical Methods in Physics and Computational Techniques[1]

PHYS 4340 Introduction to Quantum Information

PHYS 4350 Quantum Algorithm and Software

PHYS 4347 Quantum Network and Communication

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