

2024 - 2025 Certificate Map

Mathematical Concepts of Engineering

School/College: [The College of Liberal Arts and Sciences](#)

Location: [Tempe](#)

Program Requirements

The mathematical concepts of engineering certificate requires a minimum of 21 credit hours. At least 12 credit hours must be completed in upper-division coursework and at least nine credit hours must be completed at ASU. MAT 343 and STP 420 must be completed in courses offered by The College of Liberal Arts and Sciences. A grade of "C" (2.00 on a 4.00 scale) or higher is required for each course used to fulfill a certificate requirement.

Required Courses -- 18 credit hours

[IEE 380: Probability and Statistics for Engineering Problem Solving \(QTRS OR CS\)](#) (3)

[MAT 266: Calculus for Engineers II \(MATH OR MA\)](#) (3)

[MAT 267: Calculus for Engineers III \(MATH OR MA\)](#) (3)

[MAT 275: Modern Differential Equations \(MATH OR MA\)](#) (3)

[MAT 343: Applied Linear Algebra](#) (3)

[STP 420: Introductory Applied Statistics \(QTRS OR CS\)](#) (3)

Electives (choose one) -- 3 credit hours

[DAT 301: Exploring Data in R and Python](#) (4)

[IEE 381: Lean Six Sigma Methodology](#) (3)

[IEE 385: Engineering Statistics: Probability](#) (3)

[IEE 470: Stochastic Operations Research](#) (3)

Prerequisite courses may be needed in order to complete the requirements of this certificate.