

ADMISSION REQUIREMENTS

I. PREREQUISITE KNOWLEDGE (choose one)

Mathematics:
 408D Differential & Integral Calculus
 408M Multivariable Calculus

II. CORE REQUIREMENTS

A. Computer Programming (choose one)

Aerospace Engineering:
 301 Intro to Computer Programming

Biomedical Engineering:
 303 Intro to Computing

Computer Science:
 313E Elements of Software Design

Electrical Engineering:
 312 Software Design & Implementation

Geological Sciences:
 325J Programming in FORTRAN & MATLAB

Statistics & Data Sciences:
 322 Intro to Scientific Programming

B. Mathematics (choose one)

Mathematics:
 427K Advanced Calculus for Applications
 340L Matrices & Matrix Calculations
 341 Linear Algebra & Matrix Theory

Statistics & Data Sciences:
 329C Practical Linear Algebra I

III. SCIENTIFIC COMPUTING COURSES

(Choose two categories & take one course in each)

A. Numerical Methods

Aerospace Engineering:
 211K Engineering Computation

Civil Engineering:
 379K Computer Methods for Civil Engineering

Chemical Engineering:
 348 Numerical Methods in Chemical Engineering

Computer Science:
 323E Elements of Scientific Computing
 323H Scientific Computing-Honors
 367 Numerical Methods

Mathematics:
 348 Scientific Computation in Numerical Analysis
 368K Numerical Methods for Applications

Statistics & Data Sciences:
 335 Scientific & Technical Computing

Course(s)
Fulfilled

B. Statistical Methods

Biomedical Engineering:
 335 Engineering, Probability, & Statistics

Economics:
 329 Economic Statistics

Electrical Engineering:
 351K Probability & Random Processes

Mathematics:
 358K Applied Statistics
 378K Intro to Mathematical Statistics

Mechanical Engineering:
 335 Engineering Statistics

Statistics & Data Sciences:
 325H Honor Statistics
 328M Biostatistics

C. Other Computing Topics

Computer Science:
 324E Elements of Graphics & Visualization
 327E Elements of Databases
 329E Topics in Elements of Computing
 377 Principles & Applications of Parallel Programming

Mathematics:
 346 Applied Linear Algebra
 362M Introduction to Stochastic Processes
 372K PDE & Applications
 376C Methods of Applied Mathematics

Mechanical Engineering:
 367S Simulation Modeling

Management Information Systems:
 325 Database Management

Neuroscience:
 366M Quantitative Methods

Statistics & Data Sciences:
 329D Practical Linear Algebra II
 374C Parallel Computing
 374D Distributed & Grid Computing for Sci. & Engineers
 374E Visualization & Data Analysis

Course(s)
Fulfilled

Continued on reverse side

Course(s)
Fulfilled

IV. APPLIED COMPUTING COURSES

(choose one)

Aerospace Engineering:

347 Intro to Computational Fluid Dynamics

Biology:

321G Intro to Computational Bio

377J Computational Biology Lab

Computer Science:

329E Topics in Elements of Computing

Chemistry:

368 Advanced Topics in Chemistry

Biomedical Engineering:

341 Engineering Tools for Computational Genomics Lab,

342 Computational Biomechanics,

346 Computational Structural Biology,

377T Topics in Biomedical Engineering

Economics:

363C Computational Economics

Electrical Engineering:

361M Introduction to Data Mining

Finance/Statistics:

(IROM) 372.6/372 Optimization Methods in Finance

Geological Sciences:

325K Computational Methods in Geological Sciences

Mathematics:

375T Topics in Mathematics

374M Mathematical Modeling in Science & Engineering

Physics:

329 Introduction to Computational Physics

Statistics and Data Sciences:

348 Computation Biology & Bioinformatics

V. RESEARCH PROJECT

Statistics & Data Sciences: 2/3/479R

Undergraduate Research

POLICIES & PROCEDURES

- Return applications to GDC, Campus Mail Code: D9800
- Total of 18 hours required
- All coursework must be completed with a grade of C- or higher
- Please visit the certificate website for more detailed information on course options & policies
- stat.utexas.edu/undergraduate/certificate-in-scientific-computation