### 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
- **Computational Engineering:**
  - 301 Intro to Computer Programming
  - 322 Scientific Computing
  - **Computer Science:**
    - 303E Elements of Computers & Programming
    - 313E Elements of Software Design
  - **Electrical Engineering:**
    - 312 Software Design & Implementation
    - 312H Software Design & Implementation Honors
  - **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
  - 372K Partial Differential Equations & Applications
- **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
- **Biomedical Engineering:**
  - 313L Intro to Numerical Methods
- **Civil Engineering:**
  - 379K Computer Methods for Civil Engineering
- **Chemical Engineering:**
  - 348 Numerical Methods in Chemical Engineering
- **Computational Engineering:**
  - 311K Engineering Computing
  - **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
  - **Petroleum & Geosystems Engineering:**
    - 310 Formulation & Solution of Geosystems Engineering Problems

**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:**
  - 335 Scientific & Technical Computing
  - 325H Honor Statistics
  - **Chemistry:**
    - 354M Intro to Computational Methods in Chemistry

**C. Other Computing Topics**

- **Biomedical Engineering:**
  - 350 Computational Methods for Biomedical Engineers
- **Chemistry:**
  - 354M Intro to Computational Methods in Chemistry
- **Computer Science:**
  - 324E Elements of Graphics & Visualization
  - 327E Elements of Databases
  - **Mathematics:**
    - 346 Applied Linear Algebra
    - 362M Introduction to Stochastic Processes
    - 368K Numerical Methods for Applications
    - 372K PDE & Applications
    - 376C Methods of Applied Mathematics

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*Continued on reverse side*
IV. APPLIED COMPUTING COURSES
(choose one)

Biochemistry:
339N Systems Biology & Bioinformatics

Biology:
321G Intro to Computational Bio

Computer Science:
324E Elements of Graphics & Visualization
329E Topics in Elements of Computing

Chemistry:
368 Advanced Topics in Chemistry

Biomedical Engineering:
342 Computational Biomechanics,
346 Computational Structural Biology,
377T Topics in Biomedical Engineering

Computational Engineering:
347 Introduction to Computational Fluid Dynamics

Decision Science:
372.6 Optimization Method in Finance

Economics:
363C Computational Economics

Electrical Engineering:
379K Topics in Electrical Engineering (Approved Topics)

V. RESEARCH PROJECT
Statistics & Data Sciences: 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