OPTION 5: TEACHING

Designed to fulfill the course requirements for certification as a middle grades or secondary school science teacher in Texas. Students choose 1 of 4 certification options: composite science certification, physical sciences certification, physics/mathematics certification, or mathematics, physical science, and engineering certification. Completion of the course requirements does not guarantee teaching certification. Contact the UTeach-Natural Sciences academic adviser for more information.

Upper-division mathematics:
- M 427J or 427K
- M 427L

Upper-division physics common to all certifications:
- PHY 355 Modern Physics & Thermodynamics
- PHY 353L Modern Physics Laboratory

3 of the following (common to all certifications):
- PHY 329 Introduction to Computational Physics
- PHY 333 Modern Optics
- PHY 336K Classical Dynamics
- PHY 338K Electronic Techniques
- PHY 352K Classical Electrodynamics I
- PHY 373 Quantum Physics I: Foundations
- SCI 365 Physics by Inquiry

INTRODUCTORY MATHEMATICS & SCIENCE

- M 408C & 408D or 408N, 408S, & 408M 8–12
- M 427J or 427K
- M 427L

- PHY 301 & 101L*, 316 & 116L, and 315 & 115L 12
  * PHY 303K & 103M and 303L & 103N, substitute for PHY 301 & 101L and 316 & 116L. However, they are not preferred preparation for PHY 315 & 115L.

- CH 301 or 301H
- CH 302 or 302H

Note: Introductory science is substantially different for Option 6

ADDITIONAL GRADUATION REQUIREMENTS

- Minimum 21 upper-division hours in residence, including 12 in Physics
- Minimum 60 hours in residence overall
- Minimum 36 upper-division hours
- 126 hours total overall
- Minimum grade of C- & minimum 2.0 GPA in all Mathematics & Natural Sciences courses
- Minimum UT-Austin Grade Point Average of 2.5
- Must pass the final teaching portfolio review
- Must apply to graduate during final semester
- 2016–18 Catalog expires August 2024
## OPTION 5: TEACHING
Complete all coursework in 1 of the following certifications:

### Composite Science Certification:
- **BIO 311C and 311D**: 6 hours
- 6 hours of coursework in GEO
  - *Note: courses intended for non-science majors may not be counted toward this requirement*
- 6 additional hours in BIO, CH, or GEO to complete 12 hours in a 2nd field: 6 hours

### Physical Sciences Certification
- 3 additional hours of upper-division PHY: 3
  - **General CH lab**: 2–3
    - CH 204 or 317
  - **Physical chemistry**: 8
    - CH 353 & 153K
    - CH 354L & 154K
  - **Analytical Chemistry**: 4
    - CH 455 or 456
  - **For mathematics, physical science, and engineering certification**:
    - **General CH lab**: 2
      - CH 204
    - **Secondary school math**: 6
      - M 315C and 333L
    - **Discrete math**: 3
      - M 325K
    - **Probability**: 3
      - M 362K
    - **Applied statistics**: 3
      - M 358K
    - **Engineering coursework**: 9
      - CHE 379 (Topic: Fundamentals of Engineering and Design)
      - CHE 379 (Topic: Engineering Energy Systems)
      - ME 379M (Topic: Design of Machines and Systems)

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