CORE CURRICULUM
Core courses must be chosen from approved lists. bit.ly/166Q6Pi

First Year Signature Course 3
English Composition 3
Humanities 3
American & Texas Government 6
American History 6
Social & Behavioral Science 3
Mathematics (fulfilled by course in major) 0
Science & Technology-I (fulfilled by courses in major) 0
Science & Technology-II (fulfilled by courses in major) 0
Visual & Performing Arts 3

SKILLS & EXPERIENCE FLAGS
Flags attached to courses are displayed in the online Course Schedule.

Two Writing Flags:
□ □
1. Core Writing Flag (cannot also fulfill another core curriculum requirement)
2. Additional Writing Flag
   Note: One of the two writing flags must be upper-division.
One Quantitative Reasoning Flag □
One Global Cultures Flag □
One Cultural Diversity in the U.S. Flag □
One Ethics and Leadership Flag □
One Independent Inquiry Flag □

TEACHING INSTRUCTION COURSEWORK
HIS 329U or PHL 329U 3
Research methods course: PHY 341 (Topic 7: Research Methods: UTeach)
Note: If research methods is taken outside of PHY, must complete 3 hours of additional upper-division PHY 3
UTS 101, 110 2
EDC 365C or UTS 350 3
EDC 365D or UTS 355 3
EDC 365E or UTS 360 3
EDC 651S (Topic 4: Secondary School Teaching Practicum: Science) and UTS 170 Grades of at least C- are required in all courses in this section 7
Middle Grade Certification (Optional)
EDP 363M (Topic 3: Adolescent Development) or PSY 301 and 304
EDC 339E
Grades of at least C- are required in all courses in this section 6–9

ELECTIVES
Enough elective hours to reach 126 total
(The number of elective hours needed may vary depending on course selections.)

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 8

Upper-division physics common to all certifications:
PHY 355 Modern Physics & Thermodynamics
PHY 353L Modern Physics Laboratory 6

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 9

INTRODUCTORY MATHEMATICS & SCIENCE
M 408C & 408D or 408N, 408S, & 408M 8–12
M 427J or 427K 4
M 427L 4

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.

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

See page 2 for Option 5 Teaching Certifications
## OPTION 5: TEACHING
Complete all coursework in 1 of the following certifications:

### Composite Science Certification:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 311C and 311D</td>
<td>6</td>
</tr>
<tr>
<td>CH 301 or 301H</td>
<td>3</td>
</tr>
<tr>
<td>CH 302 or 302H</td>
<td>3</td>
</tr>
</tbody>
</table>

**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**

### Physical Sciences Certification

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 additional hours of upper-division PHY</td>
<td>3</td>
</tr>
<tr>
<td>CH 301 or 301H</td>
<td>3</td>
</tr>
<tr>
<td>CH 302 or 302H</td>
<td>3</td>
</tr>
</tbody>
</table>

**General CH lab:**

CH 204 or 317

**Physical chemistry:**

CH 353 & 153K
CH 354L & 154K

**Analytical Chemistry:**

CH 455 or 456

### For mathematics, physical science, and engineering certification:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 301 or 301H</td>
<td>3</td>
</tr>
<tr>
<td>CH 302 or 302H</td>
<td>3</td>
</tr>
</tbody>
</table>

**General CH lab:**

CH 204

**Secondary school math:**

M 315C and 333L

**Discrete math:**

M 325K

**Probability:**

M 362K

**Applied statistics:**

M 358K

**Engineering coursework:**

CHE 379 (Topic: Fundamentals of Engineering and Design)
CHE 379 (Topic: Engineering Energy Systems)
ME 379M (Topic: Design of Machines and Systems)

### For physics/mathematics certification:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary school math:</td>
<td>6</td>
</tr>
<tr>
<td>M 315C and 333L</td>
<td></td>
</tr>
<tr>
<td>Linear algebra:</td>
<td>3</td>
</tr>
<tr>
<td>M 341 or 340L</td>
<td></td>
</tr>
<tr>
<td>Discrete math:</td>
<td>3</td>
</tr>
<tr>
<td>M 325K</td>
<td></td>
</tr>
<tr>
<td>Probability:</td>
<td>3</td>
</tr>
<tr>
<td>M 362K</td>
<td></td>
</tr>
<tr>
<td>Applied statistics:</td>
<td>3</td>
</tr>
<tr>
<td>M 358K</td>
<td></td>
</tr>
<tr>
<td>Problem solving or discovery:</td>
<td>3</td>
</tr>
<tr>
<td>M 360M or 375D</td>
<td></td>
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</tbody>
</table>