



UTeach

The University of Texas at Austin

WE PREPARE TEACHERS. THEY CHANGE THE WORLD.

DEGREES AND CERTIFICATIONS





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CERTIFICATIONS OFFERED

The UTeach Natural Sciences program combines deep content knowledge in STEM Fields with cutting-edge, research-driven STEM education courses to prepare future teachers.

Undergraduate students interested in teaching at the secondary level in STEM fields have the option to pursue a teaching option degree in the College of Natural Sciences. Requirements for this rigorous, 4-year degree plan include certification. Alternatively, students may keep their major (in any college) and take the coursework required for certification.

Certification requirements are available at the middle school and high school levels.

CERTIFICATION IN MATHEMATICS FOR MIDDLE GRADES AND HIGH SCHOOL

Credit with a grade of at least C- in the content courses listed below is required. These are in addition to the UTeach courses in the Professional Development Sequence.

Students in the Math Teaching Option should see the teaching degree plans.

All students intending to certify at the Middle Grades level must take EDP 350G Adolescent Psychology and EDC 339F Adolescent Literacy. Other upper-division courses in adolescent development (e.g. HDF 371) may also count. Talk to your UTeach advisor for details.

NOTE: Certifying in Middle Grades math requires an Apprentice Teaching placement in a Middle Grades classroom.



Mathematics Majors

In addition to an undergraduate degree in Mathematics, the following courses are required:

- M315C Foundations, Functions and Regression Models
- M333L Structure of Modern Geometry
- M 343K OR M 361K OR M 375D (Spring ONLY) OR an approved advanced proof-based math course



Non-Mathematics Majors In Addition to Calculus 1 & 2 (M408K and M408L or equivalent)

COURSE	SENIOR GRADES	MIDDLE GRADES
M315C - Foundations, Functions, and Regression Models	YES	YES
M325K or M328K - Discrete Math or Number Theory	YES	YES
M333L - Structure of Modern Geometry	YES	YES
M340L - Matrices and Matrix Calculations	YES	NO
M358K - Applied Statistics	YES - Other upper-division probability courses may be accepted	YES - Lower-division statistics courses may be accepted, such as SDS 301
M326K - Probability I	YES - Other upper-division probability courses may be accepted	YES - M316L Foundations of Geometry, Statistics, and Probability also accepted
M 343K OR M 361K OR M 375D (Spring ONLY) OR an approved advanced proof-based math course	YES	NO

PDS (UTeach) courses count toward the minor/certificate for the BSA. Effective with the 2016-18 catalog, the courses can also be added to the audit for any degree plan. Talk to your UTeach advisor for details.

Further coursework is needed to meet degree requirements. Students in the Mathematics Teaching Option should see the teaching degree plans.



NOTE: Students must meet all departmental prerequisites.



HIGH SCHOOL CERTIFICATIONS (Grades 7-12)

Certification in Computer Science for High School

Students seeking certification in Computer Science are required to have credit with a grade of at least C- in the content courses listed below. These are in addition to the UTeach courses in the Professional Development Sequence.

Students in the Computer Science Teaching Option should see the teaching degree plans.

Certification requirements are the same for degree holders and are available at the middle school and high school levels.

Required Courses in Computer Science

In addition to an undergraduate degree in Computer Science, certification requires the completion of UTS 175C: CS Pathways, a course focusing on CS skills in the context of secondary teaching and required State Standards for educators. Students can take this course during their Apprentice Teaching semester.

Second Certification in Mathematics - after completing initial cert.

After completing certification in Computer Science, many educators choose to take a second and separate exam to certify in Mathematics. While not required, the following math courses will help better prepare students for the Mathematics content exam.

- M 315C Foundations, Functions, and Regression Models -- Restricted to UTeach students. Let your UTeach advisor know if you are interested in taking this course.
- M 333L Structure of Modern Geometry
- M 343K OR M 361K OR M 375D (Spring ONLY) OR an approved advanced proof-based math course

IMPORTANT: Access to computer science courses is restricted to majors. See the Computer Science Undergraduate Admissions page for more details.

PDS Courses count toward the minor/certificate for the BSA. Effective with the 2016-18 catalog, the courses can also be added to the audit for any degree plan. Courses for Mathematics certification partially satisfy requirements for secondary certification in the state of Texas. Further coursework is needed to meet degree requirements.

Students in the Mathematics Teaching Option should see the teaching degree plans.



Certification in Mathematics/Physical Science, and Engineering for High School

Students seeking certification in Mathematics/Physical Science/Engineering are required to have credit with a grade of at least C- in the content courses listed below. These are in addition to the UTeach courses in the Professional Development Sequence with the exception of the Research Methods Course. Engineering majors meet this requirement through the Senior Design Project.

This certification qualifies students to teach in the following areas: Mathematics, Physics, Chemistry, and Engineering.

Mathematics

- Complete Calculus sequence
- M315C Foundations, Functions and Regression Models
- M333L Structure of Modern Geometry
- M427J Differential Equations with Linear Algebra

Chemistry

- CH 301

Physics

- PHY 303K, 103M Engineering Physics I
- PHY 303L, 103N Engineering Physics II

Engineering

- An engineering degree meets this requirement





Certification in Physical Science for High School

Students seeking certification in Physical Science are required to have credit with a grade of at least C- in the content courses listed below. These are in addition to the UTeach courses in the Professional Development Sequence.

Students in any of the Science Teaching Options should see the teaching degree plans.

IMPORTANT: The courses below may have prerequisites. Check the course schedule for details.

Mathematics

- Complete Calculus sequence

Chemistry

- Introductory lectures and lab (usually 8 hours)
- Physical Chemistry
- Analytical Chemistry

Physics

- 12 Semester hours of calculus-based introductory physics including labs, demonstrating knowledge in the following:
 - Mechanics
 - Electricity and magnetism
 - Wave motion and optics
- Modern Physics (usually PHY 453 or PHY 355)
- 3 hours of upper-division Physics (must be approved in advance)





Certification in Physics/Math for High School

Students seeking certification in Physics/Math are required to have credit with a grade of at least C- in the content courses listed below. These are in addition to the UTeach courses in the Professional Development Sequence.

Students in any of the Science or Mathematics Teaching Options should see the teaching degree plans.

IMPORTANT: The courses below may have prerequisites. Check the course schedule for details.

Math Majors

In addition to an undergraduate degree in Mathematics, the following courses are required:

In Physics:

- PHY 301/101L, PHY 316/116L, and PHY 315/115L
- PHY 355 and 353L Modern Physics
- +9 hours of PHY

In Mathematics:

- M315C Foundations, Functions, and Regression Models
- M333L Structure of Modern Geometry
- M 343K OR 361K OR M 375D (Spring ONLY) or an approved advanced proof-based math course

Physics and Astronomy Majors

In addition to an undergraduate degree in Physics, the following courses are required:

- M315C Foundations, Functions, and Regression Models
- M333L Structure of Modern Geometry
- M 343K OR M 361K OR M 375D (Spring ONLY) or an approved advanced proof-based math course

SCI 365 Physics by Inquiry is strongly recommended. (Fall semester only)



Certification in Science for High School (Continued on next page.)

Science certification qualifies students to teach in 4 areas: biology, chemistry, geological sciences, and physics. Students choose either biology, chemistry, geological sciences or physics as the primary field and then take 6 hours in each of the remaining three. For example, students might take at least 24 hours in biological sciences and then 6 hours in the other areas. These are in addition to the UTeach courses.

Biology Primary Field: Can include BIO, BCH, NEU and equivalent courses

24 credit hours of majors-level coursework:

- BIO 311C and 311D: Intro biology 1 & 2
- BIO 325: Genetics
- 15 additional hours of upper-division biology coursework: (new INB and MBS course numbers/names may differ): BIO 320: Cell Biology, BIO 370: Evolution, and BIO 328: Plant Biology are strongly recommended for the TExES content knowledge exam and to meet standards for educators in secondary science.

Chemistry: At least 6 hours of majors-level coursework

- CH 301 and 302: Intro chemistry 1 & 2

Geology: At least 6 hours of majors-level coursework

- GEO 303 and three more hours of approved geology

Physics: One of the following introductory sequences

- PHY 317K & 317L, PHY 302K & 302L, PHY 303K & 303L, or PHY 301 & 316

(physics labs are co-requisites)

- SCI 365: Physics By Inquiry (Offered Fall only) is recommended but may not count toward your degree or health professions pre-requisites. Check with your advisor.

Chemistry Primary Field:

24 credit hours of majors-level coursework:

- CH 301, 302, and 204 or 317: Principles of Chemistry 1 & 2 and lab
- CH 320M, 320N, and 220C: Organic Chemistry and lab
- CH 455 or 353: Analytical or Physical Chemistry
- BCH 339F or 369: Biochemistry
- Enough additional hours to reach 24 hours in chemistry

Biology: At least 6 hours of majors-level coursework

- BIO 311C and 311D: Intro biology 1 & 2

Geology: At least 6 hours of majors-level coursework

- GEO 303 and three more hours of approved geology

Physics: One of the following introductory sequences

- PHY 317K & 317L, PHY 302K & 302L, PHY 303K & 303L, or PHY 301 & 316

(physics labs are corequisites)

- SCI 365: Physics By Inquiry (Offered Fall only) is recommended but may not count toward your degree or health professions pre-requisites. Check with your advisor.



Certification in Science for High School (Continued)

Geology Primary Field: Geology Majors Only

24 credit hours of majors-level coursework:

- GEO 303 and 405: Intro geology and Life Through Time
- GEO 416K and 416M: Earth Materials and Sedimentary Rocks
- GEO 420K or 320L: Intro to Field and Stratigraphic Methods or Intro Field Geology
- Enough additional upper-division majors-level geology to reach 24 credit hours

Biology: At least 6 hours of majors-level coursework

- BIO 311C and 311D: Intro biology 1 & 2

Chemistry: At least 6 hours of majors-level coursework

- CH 301 and 302: Intro chemistry 1 & 2

Physics: One of the following introductory sequences

- PHY 317K & 317L, PHY 302K & 302L, PHY 303K & 303L, or PHY 301 & 316

(physics labs are co-requisites)

- SCI 365: Physics By Inquiry (Offered Fall only) is recommended but may not count toward your degree or health professions pre-requisites. Check with your advisor.

Physics Primary Field:

24 credit hours of majors-level coursework:

- PHY 301/101L, PHY 316/116L, and PHY 315/115L: Intro physics coursework
- PHY 355 and 353L: Modern Physics and Thermodynamics & Modern Physics Lab
- Enough additional hours of majors-level upper-division physics to reach 24 credit hours

Biology: At least 6 hours of majors-level coursework

- BIO 311C and 311D: Intro biology 1 & 2

Chemistry: At least 6 hours of majors-level coursework

- CH 301 and 302: Intro chemistry 1 & 2

Geology: At least 6 hours of majors-level coursework

- GEO 303 and three more hours of approved geology

PDS courses count toward the minor/certificate for the BSA. Effective with the 2016-18 catalog, the courses can also be added to the audit for any degree plan. Talk to your UTeach advisor for details.

Courses in the Jackson School of Geological Sciences are restricted to majors. Students seeking science certification with geological sciences as the primary field may want to consider the Teaching Option (Option V) in the Jackson School.

IMPORTANT: Students must meet all departmental prerequisites.