

Explanation of Course Numbers

- Courses in the 1000s are primarily introductory undergraduate courses
- Those in the 2000s to 4000s are upper-level undergraduate courses that can also be taken for graduate credit with permission and additional work assigned
- Those in the 6000s and 8000s are for master's, doctoral, and professional-level students
- The 6000s are open to advanced undergraduate students with approval of the instructor and the dean or advising office

GTCH 1001. GWTeach Step 1: Inquiry Approaches to Teaching. 1 Credit.

First experiential course in the GWTeach program. Introduces the basics of teaching, with a focus on using inquiry to teach lessons. Includes teaching experiences in a local elementary school.

GTCH 1002. GWTeach Step 2: Inquiry-based Lesson Design. 2 Credits.

Builds on the basics of teaching learned in GTCH 1001, with a focus on inquiry-based lesson design, teaching with technology, classroom management, and analyzing student performance data. Includes teaching experiences in a local middle school. Prerequisites: GTCH 1001.

GTCH 2003. Step 1 and 2 Hybrid: Inquiry Approaches to Teaching and Lesson Design. 3 Credits.

Combination of GTCH 1001 and GTCH 1002, with emphasis on inquiry lesson design, teaching with technology, classroom management, and analyzing student performance. Includes teaching experiences in a local middle school.

GTCH 3101. Knowing and Learning in Mathematics and Science. 3 Credits.

Introduction to models of knowing and learning for classroom practice. Focus on secondary mathematics and science.

GTCH 3102. Classroom Interactions. 3 Credits.

Use of curriculum and technology in the classroom. Interplay between teachers, students, content, and the world beyond schools. Design, implement, and evaluate outcomes of instructional activities. Includes local high school teaching experiences. Prerequisites: GTCH 1001 and GTCH 1002; or GTCH 2003.

GTCH 3103. Project-Based Learning. 3 Credits.

Design of full units of connected lessons. Integration of mathematics and science content. Intensive field-based high school teaching experiences in a local school are embedded into the course. Restricted to Students in the GWTeach program with junior or senior standing or with permission of the instructor. Prerequisites: GTCH 3102. Recommended background: This is a service learning course, for more information email gwteach@gwu.edu.

GTCH 3201. Perspectives on Math and Science. 3 Credits.

Topics and episodes in the history of science and math. Processes by which math and science evolve. Perspectives include biology, physics, geology, astronomy, chemistry, and math. Historical perspectives on the content and direction of the sciences. Same As: PHIL 3201.

GTCH 3201W. Perspectives on Mathematics and Science. 3 Credits.

Topics and episodes in the history of mathematics and science. Processes by which math and science evolve. Perspectives include biology, physics, geology, astronomy, chemistry, and math. Historical perspectives on the content and direction of the sciences. Prerequisites: GTCH 1001 or permission of the instructor. Includes a significant engagement in writing as a form of critical inquiry and scholarly expression to satisfy the WID requirement.

GTCH 3202. Research Methods in Mathematics and Science. 3 Credits.

Designing experiments to answer scientific questions and reduce systematic and random errors; using statistics to interpret experimental results. Application and implementation of science and math research in K-12 classrooms.

GTCH 3203. Functions and Modeling. 3 Credits.

Designed to strengthen and expand knowledge of secondary mathematics topics and address the unique needs of future math teachers. Explores models using linear, exponential, polynomial, and trigonometric functions. Euclidean geometry. Prerequisites: GTCH 1001 and MATH 1231 or permission of the instructor.

GTCH 3300. Anti-Racist STEM Education. 3 Credits.

Anti-racist STEM education examines what it means to believe in and teach for the success of all students. Students examine their own beliefs and explore the ways in which teachers can advance social justice.

GTCH 3500. Topics in STEM Teaching. 1-3 Credits.

Issues in STEM research and education. Topics vary by semester. May be repeated for credit if topic differs. Consult the Schedule of Classes for more details.

GTCH 3600. Pedagogy for Learning Assistants. 2 Credits.

For learning assistants in large undergraduate science courses. Integrating educational theory, pedagogy, and practice to facilitate productive classroom interactions. Credit cannot be earned for this course and CPED 6100.

GTCH 4000. Apprentice Teaching. 7 Credits.

Culminating experience for teacher certification. Twenty-five hours per week of field experience in a local school teaching in content certification area are required. Students attend a weekly seminar to discuss topics related to the profession of teaching. Restricted to GWTeach apprentice teachers with junior or senior standing. Prerequisites: GTCH 3101 and GTCH 3102; or GTCH 3103.