COLLEGE OF SCIENCE (COS)

100 Level Courses

COS 120: Introduction to Research. 1-3 credits.
Introduction to research, involving work on a research project. May involve lab study, computer modeling and analysis, mathematics, or other original research as appropriate. Research formulated and completed under instructor’s guidance. Culminates in a written or oral final report. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). May be repeated within the degree for a maximum 6 credits.

Schedule Type: Independent Study
Grading:
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

300 Level Courses

COS 300: Professional Preparation for STEM Disciplines. 3 credits.
Prepares any undergraduate major that is interested in enhancing their competences in science writing, technical communication and social media skills. Students will be prepared to become more competitive in the next generation workforce. Covers these topics: drafting and revising papers, dissecting scientific journal articles, communicating science to non-scientists, creating a podcast, writing grant proposals, and preparing CVs, resume and “elevator pitches.” By the end of the course, the student will not only be familiar but more confident in effectively disseminating information in their own field of interest. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). Limited to three attempts.

Specialized Designation: Mason Impact.

Recommended Prerequisite: ENGH 302 or its equivalent and COMM 100 or COMM 101 or their equivalents. Students should be at the sophomore level or above.

Schedule Type: Lecture
Grading:
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

COS 301: Great Ideas in Science. 3 credits.
Nontechnical introduction to ideas that have shaped the growth of science, from the building of Stonehenge to modern theories of the Big Bang. The idea behind each major advance is treated in its historical context, with special attention to its importance in mankind’s understanding of the nature of the universe. Intended for nonscience majors; uses little mathematics. COS 301 is the new course number for PROV 301: Great Ideas in Science. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). Limited to three attempts.

Mason Core: Natural Science Overview (http://catalog.gmu.edu/mason-core/)

Schedule Type: Lecture
Grading:
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

COS 310: Introduction to Science Policy. 3 credits.
This course is an introduction to how science is used to inform governmental policy decisions and how policy impacts U.S. science. The course is intended for any STEM student with an interest in understanding or contributing to decision making at the federal and state level or joining the government to draft policies and legislation directly. Government policies affect all parts of society, including the scientific research enterprise. Reciprocally, science can be used to inform policy in myriad ways at different levels of government. Scientists’ lack of familiarity with policy, and policymakers’ lack of familiarity with science contributes to the longstanding gap between the production of scientific research and its perceived utility by decision-makers. This course will bridge this gap and provide new skills for scientists to contribute to this new field. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). Limited to three attempts.

Mason Core: Synthesis (http://catalog.gmu.edu/mason-core/)

Schedule Type: Lecture
Grading:
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

400 Level Courses

COS 400: Problem Solving and Leadership in STEAM. 3 credits.
In this course, participants will experience a hands-on approach to incorporating problem solving principles into the STEAM (Science, Technology, Engineering, Arts and Mathematics) disciplines and consider implications for innovations in research, development, and entrepreneurship. This course consists of face to face meetings, follow up webinars, a collaborative project, and the opportunity for internship. Notes: This course may culminate with international travel; locations will vary by semester. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). Limited to three attempts.

Specialized Designation: Entrepreneurship

Schedule Type: Lecture
Grading:
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

COS 401: RS: Discipline Based Education Research. 2-3 credits.
Students will conduct an original Discipline-Based Education Research (DBER) project with their faculty mentor and STEM Accelerator faculty mentor. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). Limited to three attempts.

Specialized Designation: Research/Scholarship Intensive

Schedule Type: Independent Study
Grading:
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

COS 402: Special Topics in Science. 1-4 credits.
Explore an array of exciting topics in science; the course’s topic will vary by section offered. Offered by College of Science (http://
500 Level Courses

**COS 500: Professional Preparation for STEM Disciplines.** 3 credits.
Prepares graduate students that are interested in enhancing their competences in science writing, technical communication and social media skills. Students will be prepared to become more competitive in the next generation workforce. Covers these topics: drafting and revising papers, dissecting scientific journal articles, communicating science to non-scientists, creating a podcast, writing grant proposals, and preparing CVs, resume and "elevator pitches." By the end of the course, the student will not only be familiar but more confident in effectively disseminating information in their own field of interest. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). May not be repeated for credit.

**Schedule Type:** Lecture

**Grading:**
This course is graded on the Undergraduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

**COS 510: Introduction to Science Policy.** 3 credits.
This course is an introduction to how science is used to inform governmental policy decisions and how policy impacts U.S. science. The course is intended for any STEM student with an interest in understanding or contributing to decision making at the federal and state level or joining the government to draft policies and legislation directly. Government policies affect all parts of society, including the scientific research enterprise. Reciprocally, science can be used to inform policy in myriad ways at different levels of government. Scientists' lack of familiarity with policy, and policymakers' lack of familiarity with science contributes to the longstanding gap between the production of scientific research and its perceived utility by decision-makers. This course will bridge this gap and provide new skills for scientists to contribute to this new field. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). Limited to three attempts.

**Registration Restrictions:**
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non-Degree or Senior Plus.

Students in a Non-Degree Undergraduate degree may not enroll.

**Schedule Type:** Lecture

**Grading:**
This course is graded on the Graduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

600 Level Courses

**COS 600: Multidisciplinary Problem Solving and Leadership.** 3 credits.
In this course, participants will experience a hands-on approach to incorporating problem solving principles into the STEAM (Science, Technology, Engineering, Arts and Mathematics) disciplines and consider implications for innovations in research, development, and entrepreneurship. This course consists of face to face meetings, follow up webinars, a collaborative project, and the opportunity for internship. Notes: This course may culminate with international travel; locations will vary by semester. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). May not be repeated for credit.

**Registration Restrictions:**
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non-Degree or Senior Plus.

Students in a Non-Degree Undergraduate degree may not enroll.

**Schedule Type:** Lecture

**Grading:**
This course is graded on the Graduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

**COS 602: Special Topics in Science.** 1-4 credits.
Explore an array of exciting topics in science; the course's topic will vary by section offered. Offered by College of Science (http://catalog.gmu.edu/colleges-schools/science/). May be repeated within the term for a maximum 8 credits.

**Specialized Designation:** Topic Varies

**Registration Restrictions:**
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non-Degree or Senior Plus.

Students in a Non-Degree Undergraduate degree may not enroll.

**Schedule Type:** Lecture

**Grading:**
This course is graded on the Graduate Regular scale. (http://catalog.gmu.edu/policies/academic/grading/)

2 College of Science (COS)