

COLLEGE OF ENGINEERING AND COMPUTING (CEC)

500 Level Courses

CEC 500: *Special Topics*. 0-4 credits.

Select contemporary topics in Engineering and Computing. Offered by Engineering & Computing. May be repeated within the degree for a maximum 6 credits.

Specialized Designation: Topic Varies

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Junior Plus, Non-Degree or Senior Plus.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Special scale. (<https://catalog.gmu.edu/policies/academic/grading/>)

CEC 501: *Fundamentals of Computing, Engineering & Technology Education*. 3 credits.

Aimed at educating future and current engineering faculty on basic concepts, ideas, and issues of computing, engineering, and technology (CET) education to prepare them for future professoriate career and/or help improve current teaching practices. The course material provides a broad introduction to CET education covering historical foundations, theories of learning, and current topics of interest. It focuses on key conceptual questions related to CET learning including what are the characteristics of CET cognition, how is it different than other content areas, what approaches work best for CET learning, how to use theory-driven approaches in education, and the role of technology, including learning analytics and educational data mining, in CET education. Offered by Engineering & Computing. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Junior Plus, 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. (<https://catalog.gmu.edu/policies/academic/grading/>)

CEC 502: *Teaching and Learning in Computing, Engineering & Technology*. 3 credits.

Aimed at educating future and current engineering faculty on principles of how to design and implement computing, engineering, and technology (CET) courses. The course provides a theory-based introduction to course planning, curriculum design, and evaluation and assessment. It focuses on proven methodologies to improve CET teaching including active learning, problem-based learning, and cooperative learning. The course will focus on design of CET learning for development of technical skills, critical thinking skills, creative thinking skills, and communication skills, among students. The course will also introduce students to ABET accreditation. Offered by Engineering & Computing. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Junior Plus, 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. (<https://catalog.gmu.edu/policies/academic/grading/>)

700 Level Courses

CEC 794: *Graduate Internship*. 0-3 credits.

Students with an Internship/Externship/Co-Op opportunity gain practical experience engaging in an experiential learning opportunity. Credited sections: students, under the direction of a faculty member, the student will prepare and submit a deliverable defined by the faculty member for a grade. Offered by Engineering & Computing. May be repeated within the term for a maximum 6 credits.

Recommended Prerequisite: Completion of at least 18 credit hours.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy, Graduate or Non-Degree.

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

Enrollment limited to students in the Engineering Computing or Volgenau School of Engineering colleges.

Schedule Type: Internship

Grading:

This course is graded on the Satisfactory/No Credit scale. (<https://catalog.gmu.edu/policies/academic/grading/>)

900 Level Courses

CEC 900: *Special Topics*. 0-4 credits.

Select contemporary topics in Engineering and Computing. Offered by Engineering & Computing. May be repeated within the degree for a maximum 6 credits.

Specialized Designation: Topic Varies

Recommended Prerequisite: Permission of instructor.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy.

Enrollment limited to students in the Engineering Computing college.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<https://catalog.gmu.edu/policies/academic/grading/>)