# MATH 313 Applied Analysis

**Instructor:** Nacir Hmidouch

**Office**: Exploratory Hall, 4405

**email**: nhmidouc@gmu.edu

**Office hours**: T-R 10am–11am and by appointment.

**Text:** Kreyszig, Erwin; Advanced Engineering Mathematics, 10th Edition, Wiley; 2011.

**Course Objectives**: The course will cover the topics of vector calculus and complex analysis. It aims to understand and make use of the concepts of vector differential calculus: vectors and their products, curves, gradient, divergence, curl) and vector integral calculus: line integrals, independence of path, exactness, volume and surface integrals, Green's Theorem, the Divergence Theorem and Stokes's theorem as well as a few applications to potential theory. The balance of the course will be complex analysis. will discuss complex numbers, functions of a complex variable, complex integration, complex power series, Laurent series and the residue theory, applications of complex analysis to Potential theory.

**Exams:**

 • Test 1 - Wed,  Oct 2th

 • Test 2 – Wed,  Nov  20th

 • Final Exam:  Monday, Dec 16th   10:30am-1:15pm.

**Grading:** Your grade for the course will be calculated based on two exams, homework, and a final exam. Each exam is worth **100 points**, homework is worth **150 points**, and the final exam **150 points**. The sum of these grades divided by **5** will determine your  final  grade according to the scale:

A−: 90-92, A: 93-95, A+: 96-100; B- : 80-82, B: 83-85, B+:86-89 ; C : 70 - 75, C+:76-79; D : 60 - 69; F : 0 - 59.

**Make–up Exams**: If you are unable to be in class on the day of a test you must notify me beforehand (in person or by-mail) to make arrangements for a make-up test. The make-up test will be **different** and **more difficult** than the in-class test. Makeup exams will only be given to students with an acceptable excuse. All absences require documentation.

**Honor Code**: Sharing information of any kind about exams is an Honor Code violation. Any violations will be referred to the Office of Academic Integrity.

**Disability statement**: If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services at 703-993-2474. All academic accommodations must be arranged through that of