SYLLABUS FOR MA 465 – COMPLEX VARIABLES
FALL 2024

INSTRUCTOR: Bao TRUONG
MEETING: MWF 9 – 9:50 a.m. at JAMR 3101
OFFICE HOURS: MWRF 11 – noon, 1:00 – 2:00pm, or by appointment
E-MAIL: btruong@nmu.edu .

TEXT: Complex Variables and Applications 8th edition, by J.W. Brown and R.V. Churchill.

COURSE DESCRIPTION: Complex numbers, analytic functions, conformal mapping, residues and poles, analytic continuation, and Riemann surfaces.

COURSE GOAL: The purpose of this course is to apply the basic ideas of calculus (limits, differentiation, and integration) to functions of a complex variable. These notions are studied from both a theoretical and an applied point of view.

COURSE LEARNING OUTCOMES: Your leaning in this course will be assessed by in-class quizzes and exams, and online assignments. Successful students will be able to:

1. perform basic mathematical operations with complex numbers;
2. verify continuity, differentiability, analyticity of a function and compute the derivative of a function;
3. work with elementary functions including exponential, logarithmic, trigonometric functions, etc.;
4. evaluate a contour integral using the definition or by Cauchy integral formula;
5. find the Taylor series of a function and determine its circle or annulus of convergence;
6. compute the residue of a function.

PREREQUISITE: MA 211 and MA 265

EXAMS: There is an exam for each chapter covered. In general, no make-up will be given.

HOMEWORK: Homework is regularly assigned each class.

GRADES: Grading Scale

A (93% up) A – (90 – 92.9%)

B + (87 – 89%) B (83 – 86%) B – (80 – 83%)

C + (77 – 79%) C (74 – 76%) C – (70 – 73%)

D (60 – 69%) F (0 – 59%)

Weighted percentage: Participation 10%, HW 20%, Tests 40%, and Final 30%

EDUCAT: I will use the web page https://educat.nmu.edu/ to post readings, homework assignments and their solutions, and other information about the course. Please check there regularly for updates. If you haven't done so already, please make sure you forward your NMU email to an email account that you frequently use. Otherwise, you might be missing some important information.

ACADAMIC NEEDS: If you have a need for disability-related accommodations or service, please inform the Coordinator of Disability Service in the Disability Service Office by either coming into the office at 2001 C.S. Hedgcock, or calling 227 – 1700, e-mailing disserv@nmu.edu . Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state and university guidelines.