

MAA 4402/5404 COMPLEX VARIABLES SYLLABUS SPRING 2025

This syllabus is subject to change.

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TENTATIVE VERSION

Section Period Meeting Time Room

2838 MWF 8th 3:00 – 3:50pm LIT 219

Dr. Frank Garvan

408 Little Hall
(352) 294-2305
fgarvan@ufl.edu

Office Hours (in person and zoom)

Monday 3rd Period (9:35-10:25am) and 7th Period (1:55 – 2:45pm),
Wednesday 9th Period (4:05-4:55pm), and Friday 5th Period (11:45-12:35pm).
To arrange a ZOOM MEETING send email to Dr.G. in advance.

Prerequisites

MAC 2313 or MAC 3474, and MAP 2302, both with minimum grades of C.

Textbook

R.V. Churchill and J.W. Brown, *Complex Variables and Applications*, 9th Edition, McGraw-Hill.

Students are expected to read the relevant sections of the text in preparation for class and to supplement the material covered in lectures. Reading examples in the textbook is important preparation for doing homework.

Course Description

Complex numbers, analytic functions, Cauchy-Riemann equations, harmonic functions, elementary functions, integration, Cauchy-Goursat theorem, Cauchy integral formula, infinite series, residues and poles, conformal mapping. Credit will be given for, at most, MAA 4402 or MAA 5404.

MAA 5404 Additional Topic: Elliptic Functions (Reading and homework assignment)

Course Objectives and Goals:

- For the student to master the definitions and theory of functions of a complex variable.

- For the student to write clear, complete and logical solutions of problems involving functions of a complex variable.

Tentative Weekly Course Schedule

- WEEKS 1-2: Complex Numbers
- WEEKS 3-4: Analytic Functions
- WEEKS 5-6: Elementary Functions
- WEEKS 7-8: Integrals
- WEEK 9: Series
- WEEKS 10-11: Residues and Poles
- WEEKS 12-13: Applications of Residues

Homework

Every Friday a portion of class will be devoted to an In-class Homework Session. In the In-class Session, students will work together (with Dr.G's assistance) to check their homework for correctness and evaluate the quality of their proof writing.

After the In-class session a Homework Graded Problem(s) will be released and due the following Monday evening.

Homework Assignments consist of three flavors:

1. **In-class Homework Session Problems.** DUE via CANVAS each Thursday evening.
2. **Homework Graded Problem(s).** Due via CANVAS each Monday evening. Students are expected to work alone except Dr.G can give some help.
3. **Suggested Homework Problems.** These problems are posted on CANVAS. These problems are not collected but doing them will help you master the material. Dr.G can check or help with these problems in Office Hours.

Doing all the homework is essential for success in this class as the exams test your conceptual understanding of the homework assignments. Some homework problems involve elementary proofs. The solution to all homework problems should be clear, logical and complete. Students are encouraged to check their work with their instructor. See **Tokens** below.

Daily Quizzes

Short quizzes will be given each day, and graded on a weekly basis. Each period begins with a Green Quiz posted the previous evening and ends with a Pink Quiz. Completed quizzes should be uploaded the evening of each class day.

Assessment

Assessment will be based on the following

Daily Quizzes	5%
Graded Homework	25%
Exams	70%

Exams

- There will be two in class exams. There will some opportunity

to retake an Exam question. See **Tokens** below.

- There will be an Optional Comprehensive Final Exam.
Any missed exam can be replaced by the Optional Comprehensive Exam.
Lowest exam score can be replaced by the Optional Comprehensive Exam.

Exam Schedule

- Exam 1: Monday, February 24
- Retake One Question Opportunity: Wednesday, March 5
- Exam 2: Wednesday, April 16
- Retake One Question Opportunity: Wednesday, April 23
- Optional Comprehensive Final Exam: Wednesday April 30, 3:00 PM – 5:0 PM

Attendance

Attendance is required.

Over 50 % attendance is required for a passing grade.

Grading

Grading scale:

- A (90%); A- (87%); B+ (84%); B (80%); B- (77%); C+ (72%); C (65%); D (55%)

Tokens:

There are 3 ways to earn a Dr. G token: 1) attendance (white token), 2) coming to office hour (red token), and 3) submitting homework session problems (blue token) to CANVAS by 11:59 pm on each Thursday when it is due. Attendance and Homework tokens can be picked up during class. Office hour tokens are given when a student attends an office hour. Tokens can be redeemed after each exam for the opportunity to redo ONE of the four exam questions. A student needs 10 white attendance tokens, 2 red office hour tokens, and 3 blue homework tokens in order to redo an EXAM 1 question. Tokens cannot be “rolled over”, e.g., tokens to redo a question from Exam 2 must be earned in the period after Exam 1. Required number of tokens for Exam 2 to be announced later. Tokens may NOT be shared with other students.

UF Grading Policies

See [THIS LINK](#)

Academic Honesty

The course will be conducted in accordance with the University honor code and academic honesty policy

UF students are bound by The Honor Code Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have questions or concerns please consult

with the instructor.

Accommodations for students with disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. [Getting Started with the Disability Resource Center](#)

It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Online course evaluation process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results>.
