

Spring 2024: Syllabus for Plex

Prof. Jonathan L.F. King
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For all of my courses

[Specific Complex Vars info starts on the next page.]

Who? Prof. King Eddress: squash@ufl.edu

Office: 402Little Tel: 352-294-2314

Math Dept: 3rd floor Little Dept.Tel: **352-294-2350**

To find my office (402 Little Hall; Top floor, NE corner) just “[Maximize x, y and z.](#)” (Note: I do *not* pick up tel. messages remotely, but do read email multiple times a day. It is almost always better to email me first, before telephoning my office.)

My [Office hour schedule](#) may change slightly during the semester. Other days/times may be available by appointment, sometimes [via Zoom](#).

Class attendance is required, and is non-trivial part of a student's CP, Class participation, grade.

Contacting Prof.K. If you need to get an important message to me (e.g. you'll be missing an in-class exam), it is *particularly important* that you [email me from your UF eddress](#) as soon as possible; preferably several weeks or days before the exam; several hours before, if you didn't know in advance.

I do *not* pick up office phone messages remotely, so it is important that you email me. If urgent, you should also tel. the math dept, **352-294-2350**, and they can contact me at home. The secretaries can also put a note in my mailbox if you request it. [All these tel.numbers are *wired phones*; they do not take text-messages.]

IMPORTANT: I will primarily use **email** for contacting students, *not* Canvas-mail. I ask that students read email *at least* twice a day morning/evening (excepting for religious observance).

IMPORTANT: Students will be typesetting solutions to problems and will need a real **computer**; a cellphone does not suffice. Also, students will need access to a **printer**, as some of the typeset assignments will need to be handed-in on paper (not electronically).

[It is useful for students to have *Zoom*-capability, in case an office hour needs to be via *Zoom*.]

Prof.K's clickable links:

- [Teaching Page](#) <http://squash.1gainesville.com/teaching.html> Has important info for *all* my courses. Gives links to *Putnam competition*, *Robert Long essay competition*, links to the free mathematical typesetting language **T_EX/L_AT_EX**.

The Teaching Page also has an extensive list of:

Usually Useful Pamphlets.

Our Plex Webpage:

• <http://squash.1gainesville.com/course.Plex.curr.html> Info for the current semester, as well as links to previous versions (see *Nostalgia*) of Plex, containing previous exams and micro-quizzes, for your studying pleasure!

• <https://people.clas.ufl.edu/squash/> has a link to the *Robert Long essay competition*.

Prof.K schedule & office hours

<http://squash.1gainesville.com/info.jksched.html>

Math Dept. homepage

<http://math.ufl.edu/> Searchable. A wealth of information on applying to grad school, seminars, conferences, faculty, staff, grad listings, tutors for hire.

University resources, clickable:

- * [UF syllabus policy](#) <https://people.clas.ufl.edu/squash/univ-syllabus-policy/>
- * [Accommodation for students with disabilities](#) <https://disability.ufl.edu/students/get-started/>
- * [UF Teaching Center](#) <https://academicresources.clas.ufl.edu/> has free tutoring, both in-person and via zoom.
- * [Writing Studio](#) <https://writing.ufl.edu/writing-studio/> 2215 Turlington, 352-846-1138.
- * The UF [Help desk](#) <http://helpdesk.ufl.edu/> 352-392-4357.
- * [End-of-Semester student evals of professors](#) <https://gatorevals.aa.ufl.edu/students/>

LOR: Letter-of-recommendation. I base LORs substantially on how a student “thinks on his/her feet”

I require **two** courses with me, at least one of which is *proof-based*, as well as the student actively participating in class. (Occasionally, one course may suffice if it is a **graduate course** or a **Special Topics** course, e.g. my MATHEMATICAL CRYPTOGRAPHY course.)

Microquizzes. There will be some number of “pop” (unannounced) microquizzes (**MQ**), each worth **30** points. (Just handing-in the MQ with name and ordinal earns **5** points.)

MQs never occur on religious holidays; **email me** of all such religious dates by the first Wedn. after Add/Drop.

Usually, a pop-quiz has a single, easy question. I use them partly for attendance, and checking that an idea from the previous class caught on.

IMPORTANT: I *drop* the lowest microquiz score. AND: There is **No makeup** for the first missed MQ, regardless of reason; that is what the dropped-score is for.

If a 2nd MQ is missed, I may give a make-up, if there was an emergency or if I knew in advance (e.g, you are giving a talk at a conference, and you let me know well in advance). \square

Class Archive. We will all use our **Plex Archive**, a LISTSERV, to communicate to the whole class.

Once Add/Drop has ended, I will email out how to post-to/read-from our **Archive**, which plays the role of a **Plex Wikipedia** that students build during the semester, acting as a reference for everyone in class.

Students will be posting problem-solutions to the Archive, as part of their CP (Class Participation) grade.

Canvas. Canvas will be used for recording grades, but not much else. We will primarily use **email** and our class **Archive** to communicate with each other outside of class.

End-of-Semester Games Party! We will have an *End-of-Semester Games Party*. on the last date of class, at Pascal's Cafe, in the

Christian Study Center of Gainesville
112 NW 16th Street

Abbreviations. **MQ**, Microquiz. **OH**, Office-Hour. **CP**, Class participation. **IP**, Individual Project. **IOP**, Individual Operational Project. **RLEC**, Robert Long Essay Competition.

RLEC. Each year, students who like to write short essays may enter the *Robert Long Essay Competition*. The RLEC has a monetary prize and, more importantly, looks great on a CV. See the **RLEC page** for the <https://people.clas.ufl.edu/squash/robert-long-prize/> March due date, and essay guidelines.

Office hours. My current **weekly schedule**. (OHs may change slightly during the semester, and other days/times may be available by appointment, sometimes via **Zoom**.)

Specific Plex information:

Complex Analysis is a lovely subject, in which both algebraic and geometric thinking interact.

We'll define \mathbb{C} , the complex plane (Argand plane), and build the machinery to prove that differentiability-on-open-sets in \mathbb{C} , implies that the fnc can be described via a power series (Taylor series). This is much stronger than the corresponding differentiability property in \mathbb{R} .

We'll develop the technique of contour-integration, working our way to the calculus of residues.

Textbook: *A First Course in Complex Analysis*, a PDF made freely available by its authors, professors Matthias Beck, Gerald Marchesi, Dennis Pixton & Lucas Sabalka

Further text info at

Course Page: Plex

<http://squash.1gainesville.com/course.Plex.curr.html>

Our goal is to cover a subset of chapters 1-8, as well elementary applications of the *Residue calculus* in chapter 9. NOTE: We will introduce power-series (Taylor series) much earlier than the text will.

Course/Room/time. MAA4402 3509 (30493) Functions Complex Var.

The class meets in Matherly, room 119. on MWF at 7th period, [13:55-14:45].

CP grades. Each of Jan., Feb., Mar. (and a part-score for Apr.) has a **CP**, Class participation, **45**pt grade based on speaking in class, attending OHs (sometimes via **Zoom**), and especially posting solns to non-trivial problems to our **Archive**. A typical grade is **20**.

MQ grades. Each microquiz is **30**pts. Typically, MQs are not announced. A MQ usually has a single routine question. The *lowest MQ score* is dropped; **there is no makeup** for the first missed MQ.

The classday following an in-class exam usually has an MQ with a slight variation of a question from the exam.

NOTE: There will be a MQ the classday before, and the classday after, Spring Break.

Exam dates, next page

Plex Exams. There will be 3 in-class exams, and an end-of-semester take-home Individual Optional Project.

Dates for *in-class* PLEX exams for Spring 2024:

EXAM S: Wedn., 07Feb.

MQ: Frid., 09Feb.

EXAM T: Wedn., 06Mar. **This is
the Wedn. before Spring-Break.

MQ: Frid., 08Mar.

Spring-Break: Sat.-Sat., 09-16 March.

MQ: Mond., 17Mar.

EXAM U: Wedn, 10Apr2024

MQ: Frid, 12Apr

End-of-Semester. Information:

Friday, 12Apr2024 (Withdraw date): By this date, I will provide to you an estimate of your current course-grade.

Typeset Plex **INDIVIDUAL OPTIONAL PROJECT** (IOP) available evening of Tuesday, 16Apr or morning of Wednesday, 17Apr.

IOP due **Thursday, 25Apr by 2PM**, slid completely under my office door, LIT402.

(Passover: April 22-29)

Wedn., 24Apr.:

Last day of class and **Games Party!** at **Pascal's Cafe**. Also, for those who wish, **Class Photo**.

Sincerely, Prof. King