

Autumn 2021: Syllabus for Plex

Prof. Jonathan L.F. King
University of Florida, Gainesville FL 32611-2082, USA

For all of my courses

[Info specifically for Complex Vars 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**

Due to COVID, most office-hours will be via Zoom. As I am a senior citizen and my wife is a caregiver for our 103-year-old neighbor, we are especially cautious concerning COVID.

Teaching will take place in our classroom (not remotely), with the hope that most folks are vaccinated and mask-wearing. For in-class exams, if necessary we may use multiple classrooms, so that students feel comfortable with social distancing. *Class attendance is required, and is part of a student's CP, Class participation, grade.*

If UF changes policy about Zoom-teaching from home, then this will change how exams are administered and CP.

2nd-day Rosh Hashana is on Sept.8, 2021. We will *not* have class that day; rather, I will make a Zoom-async (you can view at your leisure) available sometime on Sept.9.

While unlikely, I might need to replace a classday by an async later in the semester.

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 address** 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).

As most office-hours will be via Zoom, students will need Zoom-capability.

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 **TeX/LaTeX**.
The Teaching Page also has an extensive list of: Usually Useful Pamphlets.
- **Course Page: Plex** <http://squash.1gainesville.com/course.Plex.2021t.html> has links to previous versions of our course, which contain all of my previous exams for your studying pleasure!
- **Prof. King's page at @UF** <http://people.clas.ufl.edu/squash/> has a link to a description of the *Robert Long essay competition*. However, for coursework, I use the above Teaching Page and Course Page.
- **Prof.K schedule & office hours** <http://squash.1gainesville.com/info.jksched.html>
- **Math Dept. homepage** <http://www.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://teachingcenter.ufl.edu/> Broward Hall: 352-392-2010, 352-392-6420.
- * **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. These will never occur on religious holidays; please **email** 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 Arhcive, 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 (a LISTSERV) to communicate with each other outside of class.

Abbreviations. **MQ**, Microquiz. **OH**, Office-Hour. **CP**, Class participation. **IP**, Individual Project. **IOP**, Individual Optional 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 good on a CV.

Office hours. [These may *change* during the semester.]

My OHs will start **Monday, 30Aug2021**; before that, I will be available immediately after class to help students.

Currently: OHs are

via **Zoom**: Mondays, 10th period [17:10-18:00];

via **Zoom**: Thursdays, 9th period [16:05-16:55];

in **LIT402**: Wednesdays, 5th period [11:45-12:35];

as well as **by appointment, via Zoom**.

I will email the **Zoom-OH-link** to students, on **Monday, 30Aug2021**.

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: Complex Variables and Applications, 9th edition by Ward Brown and Ruel Churchill.

Further text info at

Course Page: Plex

<http://squash.1gainesville.com/course.Plex.2021t.html>

Our goal is to cover a subset of chapters 1-7, including elementary applications of the *Residue calculus*.

Course/Room/time. The two course-names are

MAA4402 8436 (15961) Functions Complex Var.

MAA5404 8442 (15579) Intro Complex Var.

The class meets in **Little Hall room 223** [North side of the West wing, 2nd-floor] on MWF at **6th period**, 12:50-13:40, i.e 12:50PM to 1:40PM.

CP grades. Each of Sept., Oct., Nov. has a **CP**, **Class participation**, 45pt grade based on speaking in class, attending OHs (probably via **Zoom**), and especially posting solns to non-trivial problems to our Archive. A typical grade is **20**. For *exceptionally* active students, I may give a grade a bit higher than **45**.

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 often has an MQ with a slight variation of a question from the exam.

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

Dates for *in-class* exams for Autumn 2021:

Class-V: **Wedn, 06Oct2021**. [Exam V was moved due to Prof.K testing positive for COVID.]

Class-W: **Wedn., 27Oct.**

Class-X: **Wedn., 17Nov.**

Individual Optional Project (**IOP**): Due by **2PM** on **Thursday, 09Dec**, slid *completely* under my office door, **LIT402** (Northeast corner, top floor). The IOP *must* be typed, with the project-sheet as its first page. I will give an *estimate* of current course-grade by the withdraw date of **Monday, 22Nov2021**.

Sincerely, Prof. King