Autumn 2021: Syllabus for Plex

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For all of my courses

[Info specifically for Complex Vars starts on the next page.]

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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 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).

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 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 <u>may</u> 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). □

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, 8th period [15:00-15:50];

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

as well as by appointment, via Zoom. [Due to COVID risk, I encourage OH-via-Zoom, rather than in my cramped office.]

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

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

We'll define ℂ, *the* **complex plane** (Argand plane), *and build the machinery to prove that* differentiability-on-open-sets *in* ℂ, *implies that the fnc can be described via a power series* (Taylor series). *This is much stronger that the corresponding differentiability property in* 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 30pts Typically, MQs are not announced. A MQ usually has a single routine question. The *lowest MQ score* is dropped; there is <u>no makeup</u> 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. I expect to give 3 in-class exams, and an end-of-semester take-home Individual Project. The Project *may* be optional; I will decide that later in the semester.

Tentative dates for in-class exams for Autumn 2021:

Exam V: Either Wedn., 22Sep <u>or</u> Wedn., 29Sep.

Exam W: Either Wedn., 20Oct <u>or</u> Wedn., 27Oct.

Exam X: Wedn., 17Nov.

Project (possibly optional): Due either Wedn, 08Dec <u>or</u> Thu, 09Dec. I will give an *estimate* of current course-grade by the withdraw date of Monday, 22Nov2021.

Sincerely, Prof. King