Spring 2022: Syllabus for SeLo

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

For all of my courses

[Further info specifically for Sets & Logic 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**

Ph.D student RICHARD KROGMAN will be assisting. His office is 481 LITTLE HALL (south-west wing of 4ᵗʰ-floor). Richard's current *office hours* are TUESDAYS, 5TH PERIOD [11:45-12:35] and WEDNESDAYS, 6TH [12:50-13:40].

Richard's webpage
https://people.clas.ufl.edu/richardkrogman/

Due to COVID, some Prof. King's office-hours will be via Zoom. As I am a senior citizen and my wife and I are caregivers for our 104-year-old neighbor, we are cautious concerning COVID.

Teaching will take place in our classroom (not remotely), with the expectation that 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.

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 some 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: SeLo
  http://squash.1gainesville.com/course.SeLo.2022g.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 30points. 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 SeLo 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 SeLo 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. In Spring 2022, graduate student Jake Park will also be holding Office Hours. Jake's and my *OH schedules* may change slightly during the semester.

Other days/times may be available by appointment, via Zoom.

I will email the Zoom-OH-link to students..

Specific SeLo information:

SeLo is a introduction-to-proof, course. We will learn the Pigeon-hole Principle, Double-counting, the Inclusion-Exclusion technique, Mathematical induction, extremal arguments, and a touch of beginning Number Theory.

I run SeLo as a problem-solving course; students will have substantial reading assignments from the two texts below.

If time permits, we will "dip a toe" into elementary Graph Theory and consider some tiling problems.

Texts: We will use two, free, online texts, Book of Proof, by Richard Hammack, and

Transition to Higher Mathematics: Structure and Proof, by Dumas and McCarthy.

Both PDFs are linked from

Course Page: SeLo   and can
http://squash.1gainesville.com/course.SeLo.2022g.html
be freely (and legally!) downloaded.

Course/Room.   MHF3202 17HE (16078) Sets.&.Logic

The class meets in Little Hall room 233 [Center section of the East wing, 2ⁿᵈ-floor] on MWF at 3th period, 9:35-10:25.

CP grades. Each of Jan., Feb., Mar. (and a part-score for Apr.) 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.

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SeLo Exams. In SeLo, some of the exams have a *team take-home compenent*, with tean's of 3 (sometimes 2), students, followed by an *individual in-class component* that students take (unsurprisingly) individually. A student's score is the sum of the take-home and in-class. There will be an end-of-semester take-home Individual Project that will be due the day after the semester's last class-day. [The Project *may* be optional; I will decide that later in the semester.]

Dates for exams for Spring-semester, 2022:

(BoC = *Begining of Class*, and wATMP = *with All Team Members Present*.)

Home-A: PDF avail. evening of Tues., 08Feb.; due BoC wATMP Mond., 14Feb.

Class-A: Wedn., 16Feb.

There will be a microquiz on the classday before *Spring Break*, and on the classday after *Spring Break*, 04March and 14March. (The dates of SB are March 5-12.)

Home-B: PDF avail. evening of Tuesday, 15Mar; due BoC wATMP Mond., 21Mar.

Class-B: Wedn., 23Mar.

Class-C: Mond., 04Apr.

Typeset Individual Project (possibly optional): Due Thursday, 21Apr2022, slid completely under my office door, LIT402. I will give an *estimate* of current course-grade by the withdraw date of Frid., 08Apr2022.

Sincerely, Prof. King