

Spring 2024: Syllabus for SeLo

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

[Specific **Sets & Logic** info starts on the next page.]

Who? Prof. King **Address:** squash@ufl.edu
Office: 402 Little **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 ed-dress** 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 $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$.

The Teaching Page also has an extensive list of:
Usually Useful Pamphlets.

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

- **Prof. King's page at UF** <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.ua.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). □

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 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 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 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 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** (**BoP**), by **Richard Hammack**, and

Transition to Higher Mathematics: Structure and Proof (**SaP**), by **Dumas and McCarthy**.

Both PDFs are linked from

Course Page: SeLo

<http://squash.1gainesville.com/course.SeLo.curr.html> and can be freely (and legally!) downloaded. *We will cover most of BoP, with extra material on ∞ -cardinalities.*

Course/Room. MHF3202 7860 (15337) Sets.& Logic

The class meets in **Little Hall 221 (NW)** on MWF at **6th period, 12:50-13:40**.

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**.

(continued...)

SeLo Exams. In SeLo, some of the exams have a *team take-home component*, with team'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 IOP (Individual Optional Project) that will be due the day after the semester's last class-day.

Exams of Spring-semester, 2024:

IMPORTANT: Occasionally an exam needs to be moved a class-day *later*, or a class-day *earlier*. Since that is a class-day, I do *not* [barring extenuating circumstances] give a makeup if you miss class and the exam that day.

IMPORTANT: There is a **MQ** on the classday after each in-class exam, with a simple question related to the take-home exam.

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

Home-A: PDF available morning of **Wedn., 31Jan2024**. Due **BoC Wedn., 07Feb**, wATMP!
Class-A: **Friday, 09Feb**, taken *individually*.

Home-B: PDF available morning of **Wedn., 06Mar**; due **BoC, wATMP Wedn., 20Mar**.
Class-B: **Frid., 22Mar**, taken *individually*.

Class-C: **Wedn., 10Apr**, taken *individually*.

End-of-Semester. Information:

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

Typeset SeLo **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