

# Autumn 2022: Syllabus for Abstract Algebra (Alg)

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

## For all of my courses

[Specific Abstract Algebra info starts on the next page.]

Who? Prof. King      Address: [squash@ufl.edu](mailto:squash@ufl.edu)  
Office: 402 Little      Tel: 352-294-2314  
Math Dept: 3<sup>rd</sup> 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.)

*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 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).

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) <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 Alg Webpage:](http://squash.1gainesville.com/course.Alg.curr.html) <http://squash.1gainesville.com/course.Alg.curr.html> Info for the current semester, as well as links to previous versions (see

*Nostalgia*) of Alg, containing previous exams and micro-quizzes, for your studying pleasure!

- [Prof. King’s page at UF](http://people.clas.ufl.edu/squash/) <http://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) <http://squash.1gainesville.com/info.jksched.html>
- [Math Dept. homepage](http://math.ufl.edu/) <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/) <https://people.clas.ufl.edu/squash/univ-syllabus-policy/>
- \* [Accommodation for students with disabilities](https://disability.ufl.edu/students/get-started/) <https://disability.ufl.edu/students/get-started/>
- \* [UF Teaching Center](https://academicresources.clas.ufl.edu/) <https://academicresources.clas.ufl.edu/> has free tutoring, both in-person and via zoom.
- \* [Writing Studio](https://writing.ufl.edu/writing-studio/) <https://writing.ufl.edu/writing-studio/> 2215 Turlington, 352-846-1138.
- \* The UF [Help desk](http://helpdesk.ufl.edu/) <http://helpdesk.ufl.edu/> 352-392-4357.
- \* [End-of-Semester student evals of professors](https://gatorevals.aa.ufl.edu/students/) <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. (Just handing-in the MQ with name and ordinal earns 5points.)

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 2<sup>nd</sup> 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 **Alg Archive**, a LIST-SERV, 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 **Alg 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 (a LISTSERV) to communicate with each other outside of class.

**End-of-Semester Games Party!** If COVID *et al* stays low, then we will have an *End-of-Semester Games Party*. (We might also have a “team building” *Games Party* mid-semester.) In the past, the Games Party has been 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.

### Specific Alg information:

*Alg* is an introduction to algebraic Groups, with a focus on finite groups. We will cover a subset of *chapters 1–11* of Gallian’s text:

**Text:** The 9<sup>th</sup> edition of Joseph Gallian’s **Abstract Algebra: Theory and Applications**.

**Course/Room.** MAS4301 3249 (14949) MWF7 Lit235 Abstract Algebra 1

The class meets in **Little Hall room 235** [North side of the East wing, 2<sup>nd</sup>-floor] 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**, 45pt 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. 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 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.

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

(continued...)

**Alg Exams, Fall 2022.** We'll have 3 in-class exams, and an *optional* IOP [Individual Optional Project]

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

There will be a microquiz on the classday before *Thanks-giving Break*, and on the classday after *Thanksgiving Break*, **21Nov** and **28Nov**. (The dates of ThBr are **November 23–26**.)

Hurricane Ian closed UF for 3 days; Class-V moved.

Class-V: ~~Wedn, 28Sep~~ **Monday, 03Oct**.

Class-W: **Wedn, 26Oct**.

Class-X: **Wedn, 16Nov**.

**Mond, 21Nov.** (**Withdraw date**): Canvas will have an *estimate* of current course-grade, the evening before this date.

*Typeset* INDIVIDUAL OPTIONAL PROJECT: Avail. **Tues-day, 29Nov**. If you choose to: Due **Fri., 09Dec2022**, slid under my office door, LIT402.

I will give an *estimate* of current Algebra course-grade by the withdraw date of **Monday, 21Nov..**

**Wedn, Dec. 7** (**Pearl Harbor Day**): *Last day class*. Class photo. *Possible Games Party!*

*Sincerely, Prof. King*