Goto: Prof. King's page at Univ. of Florida. Or: JK Homepage.
Course: Aut2022: MAS4301 3249 (14949) Abstract.Algebra.1 MWF7 [13:55-14:45] LIT235 (NE)
Little 235 *Prof. King*

(abstract) Algebra 1

A bout of Nostalgia? See past Abstract Algebra courses.

Welcome. Our Teaching Page has important information for my students. (It has the Notes, Exams and Links from all of my previous courses.)
The *Teaching Page* has **my schedule**, LOR guidelines, and Usually Useful Pamphlets. One of them is the *Checklist* (pdf) which gives pointers on competant mathematical writing. Further information is at our class-archive URL (I email this private URL directly to students).

Quantifiers ∀ and ∃ ("for all" and "there exists") are like nitroglycerin, in that one little mis-step leads to the whole thing blowing up in your face.
There is no partial credit when it comes to Explosives and Quantifiers.
-JLF King

In all of my courses, attendance is absolutely required (excepting illness and religious holidays). In the unfortunate event that you miss a class, *you are responsible* to get all Notes / Announcements / TheWholeNineYards from a classmate, or several. All my classes have a substantial class-participation grade.

- First week of class: *Memorize* the Math-Greek alphabet (pdf). which we will use in class frequently.
- First week of class: Read and throughly understand Set-builder notation (up through "Equivalent predicates...").
- First week of class: Work through this Practice-prereq (pdf) to see what you need to review.
- A useful reference is Group Notes (pdf). UPDATED [Thursday, 21Nov2019]
  See also Burnside's lemma (W) and its application to Counting necklaces (W).
  We will discuss commutator of two elements (W) in a group.
- In one convenient location: All 0 Alg quizzes so far (pdf), [??] UPDATED
  In this "quizzes" link, please have read the binomial/multinomial conventions on page 2, together with Operations on Sets.
- In order to facilitate for students posting solns to our Archive, in addition to Gallian, we will use Abstract Algebra: Theory and Applications by Thomas Judson (2016 Edition), an online text made publicly available by its author. Students will be posting solns both from their edition of Gallian, as well as Judson text, as well as any interesting algebra problems students create.
- Does Zero = One? (pdf). Here are some ~~proofs~~ *poofs* about which you can post to our Archive.

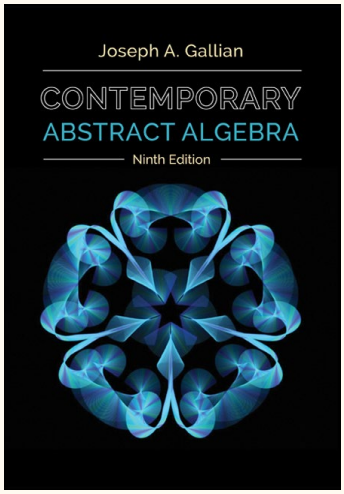
- *Nostalgia?*: See past Abstract Algebra incarnations.

  This will help you decide if my teaching-style is the right style for you.

As the semester progresses, you will also need to print-out a few pages of handouts that I have prepared for you.
We will cover some material that is not in our text; in particular, applications of group-theory for solving certain games and puzzles.

Our textbook is *Contemporary Abstract Algebra 9th edition.*

Author: Joseph A. Gallian
Year: 2017
ISBN: 9781305657960
Publisher: Houghton Mifflin



It is available from the publisher as well as from online booksellers.

The various Math czars who help out.

Computer&Projector	Time	Memory/Telepathy	Blackboard	E-Probs
??				

Algebra on "The Web"

See also general math references.

- Alg. T/F at Gallian's website.
- Group Explorer. I have not reviewed this.

Lyrics for The Klein Four – Finite Simple Group are:

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The path of love is never smooth
But mine's continuous for you
You're the upper bound in the chains of my heart
You're my Axiom of Choice, you know it's true

But lately our relation's not so well-defined
And I just can't function without you
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I'll prove my proposition and I'm sure you'll find
We're a finite simple group of order two

I'm losing my identity
I'm getting tensor every day
And without loss of generality
I will assume that you feel the same way

Since every time I see you, you just quotient out
The faithful image that I map into
But when we're one-to-one you'll see what I'm about
'Cause we're a finite simple group of order two

Our equivalence was stable,
A principal love bundle sitting deep inside
But then you drove a wedge between our two-forms
Now everything is so complexified

When we first met, we simply connected
My heart was open but too dense
Our system was already directed
To have a finite limit, in some sense

I'm living in the kernel of a rank-one map
From my domain, its image looks so blue,
'Cause all I see are zeroes, it's a cruel trap
But we're a finite simple group of order two

I'm not the smoothest operator in my class,
But we're a mirror pair, me and you,
So let's apply forgetful functors to the past
And be a finite simple group, a finite simple group,
Let's be a finite simple group of order two
(Oughter: "Why not three?")

I've proved my proposition now, as you can see,
So let's both be associative and free
And by corollary, this shows you and I to be
Purely inseparable. Q. E. D.

Lyrics by *Matt Salomone*

End-of-semester Algebra (Individual Optional Project) IOP-D (pdf)

...will be due, slid under  my office door (Little Hall 402, Northeast corner) , no later than

2PM, Thursday, ??Dec2022

*The IOP must be **carefully typed***, but diagrams may be hand-drawn.

For the typesetting, one possibility is the (free) mathematics-typesetting language LaTeX.

At all times have a **paper copy** you can hand-in; I do ***NOT*** accept electronic versions. Print out a copy *each day*, so that you *always* have the latest version to hand-in; this, in case your printer or computer fails. (You are too old for "My dog ate my homework.")

Please follow the guidelines on the *Checklist* (pdf, 3pages) to earn full credit.

JK Home page