

SEM N 108 - From Plato to Playdoh
Fall 2019

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Office Hours:

Monday: 10:45 -11:45 am
Tuesday: 1-2 pm
Wednesday: 2:45-3:45 pm
Friday: 9-10 am
And many other times too, by appointment.

Texts:

The Millennium Problems, by Keith Devlin
Beyond Infinity, by Eugenia Cheng

Goals and Content:

All First Year Seminars share the same goals although they differ in content. The primary goals of this course are to build/enhance critical reading and writing skills, and to build awareness of college-level expectations. In this seminar, we'll do this through the content of mathematics. In particular, we'll study three main topics: group theory, infinity, and topology. We'll read selected chapters from Devlin's book and much of Cheng's book. These will occasionally be supplemented with other readings.

More specifically, the goals of the first year seminar have been articulated as:

- *Writing Competencies*

The First-Year Seminar faculty has established the following goals for fostering writing competencies that will help prepare students for writing in discipline-specific courses in the major and, eventually, for writing the SIP. We hope that every first-year student will develop greater competency in these areas:

Achieving clarity through revision

- stating and developing a thesis
- writing coherent sentences and well-developed paragraphs
- using correct grammar and mechanics
- being conscious of overall structure and impact
- becoming proficient at editing and proof reading
- writing frequently to gain fluency
- expressing ideas directly and economically

Constructing an argument using evidence

- understanding the difference between opinion, argument, and evidence, and becoming aware of which of the three serves the writing project at hand
- synthesizing others' ideas with one's own

using sources to support ideas and positions
using quoted materials effectively and correctly

Gaining experience in research strategies

understanding why doing research is important
learning how to do research, beginning with the earliest stages
putting newly gained knowledge and skills into practice
working as independent scholars and contributing to scholarly discourse throughout college and beyond

Cultivating an authentic and versatile style of written communication

discovering one's own way into material
making deliberate choices about structure, style, and voice, with a distinct awareness of audience, context and impact
writing in a natural, straightforward style
demonstrating or developing authenticity and ownership of the work

- *Beyond Google: College Research Workshop*

Our Seminar will participate in a workshop intended to help develop and improve research skills that enhance development as an independent scholar. This work will be part of a focused class project.

- *First Year Forums*

First-Year Forums are intended to help entering K students continue their academic and personal growth. They are interactive, intentionally developmental, focused on learning, and built on aspects of the K-Plan. The Forums fall into five groups:

- Group 1: Social Justice and Civic Engagement
- Group 2: Intercultural Understanding
- Group 3: Personal Decision-Making and Habits
- Group 4: Career and Professional Development
- Group 5: Independent Scholarship and Academic Success

All first-year students are required to attend one Forum in each group. Many attend more. If students do not attend at least one forum in each group, two percentage points for each Forum missed will be deducted from the final Seminar grade.

Assignments and Assessment

Assessment in this course will be largely based on written assignments and class engagement. In particular

Small Papers: 40% There will be approximately three 1-2 page papers and two 3-4 page papers throughout the term.

Beyond Google Research Paper: 15% 6-8 pages, begun in Week 3, due in Week 5 (subject to

modification)

Final Research paper: 15% 6-8 pages, begun in Week 7, due in Week 9 (subject to modification)

Class Presentations: 10%. There will be two presentations in class, one on each of the research papers.

Class Engagement: 20% Class attendance is expected, as is being prepared for and contributing to each class. Further, class engagement includes being respectful of all students and keeping disruptive technology (ie cell phones) turned off and out of sight.

All assignments are due in hard copy unless otherwise directed, by the due date/time. Late work is, in general, not accepted. If an exception is requested, it must be requested before the due date, and if granted, a significant deduction to that assignment's grade should be expected.

Recall, it is policy across all seminars that: *If students do not attend at least one forum in each group, two percentage points for each Forum missed will be deducted from the final Seminar grade.*

Tentative Schedule

We'll spend approximately three weeks on each of our three main topics, beginning with Group Theory (Chapters 1 and 2 in Devlin). This will be followed by infinity and limits (with Cheng), then topology (Chapter 5 in Devlin). Throughout the term we'll be talking explicitly about writing. Most Fridays there will be a writing assignment due.

Reading for each class, along with assignment due dates will be posted on our class website at people.kzoo.edu/~intermon/fys19.htm. This page will be updated throughout the quarter.

Academic Honesty

All work must adhere to the College honor code. In particular, this means that all work submitted must be one's own, with proper citations as necessary. Violations of the honor code will result in a grade of F on the assignment, and notification of the Dean of Students.

Additional Resources

Please note that there is a Writing Center on campus and a Math/Physics Center which are resources all students should start using early in their college careers. The Writing Center is located in room 110 in Upjohn Library (ULC). The Math/Physics Center is located in room 205 in Olds Upton (OU) in the evenings.