MTH 396 Junior Seminar – Spring 2015
Cleveland State University, Department of Mathematics
Course Syllabus

Instructor: Javid Validashti

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Office: RT 1514, Office hours: Tuesdays 6:00–6:50, Thursdays 1:00–1:50

Time & Location: Thursdays 2:00 pm – 3:50 pm in RT 403

Prerequisites: MTH 182 or MTH 182H; three of MTH 220, MTH 281, MTH 286
and MTH 288, all grade C or better

Course description

A two-credit course that meets once a week for one semester. During the weekly
meetings of MTH 396, students are exposed to various fields of mathematics at an
introductory or overview level. A typical meeting will include a presentation by
a department of mathematics faculty member on his or her own research or on a
mathematical topic on which the faculty member would be willing to supervise a
senior project. Students are required to make brief oral presentations throughout the
semester, as well as to write summaries of faculty presentations.

Class time is also devoted to topics concerned with the nuts and bolts of writing
a mathematical research paper, i.e., senior project: mathematical literature searches;
bibliographic citation and style in mathematics; use of \LaTeX or other appropriate
computer software for writing mathematics.

Course Goals

To indicate to students a range of lively topics in mathematics from which they
could choose a suitable topic for senior project; to prepare students to communicate
mathematics effectively, both by writing and by speaking; to increase engagement
of mathematics majors and to facilitate faculty-student interaction; to provide basic
instruction in mathematical typesetting software for writing projects and for giving
presentations; to indicate to students a wide range of mathematical resources on
which they may draw for senior project; to arrive at a proposal and supervisor for
senior project.

Grading

MTH 396 is graded S/U. An overall grade will be determined on the basis of
satisfactory/unsatisfactory completion of the following course components, some of
which require deliverables. The first four of these course components will each be
discussed and explained separately in class, in a workshop format. Further details of
expectations, and so-on, will be given then.
Senior Project Agreement: Completed and signed paperwork that proposes a topic and identifies a supervisor for your senior project. You will need to discuss this with a supervisor, who will need to sign off on your paperwork. Due dates for draft and final version given on schedule at the end.

Written Reports: Following a presentation by a faculty member, each you is expected to produce a written summary of that presentation. You should turn in this summary at the start of our next meeting, i.e., one week later.

Oral Reports: Also, following each presentation, several of you will be assigned to give a brief oral summary of the presentation, at the start of our next meeting. Typically, I will assign three of you to give a joint oral presentation, which should last about 10 minutes.

Mini-Project: One brief written or oral report on a suitable topic, due towards the end of the semester. In substance, this should fall between the written or oral reports mentioned above, and a typical senior project. This should be a complete piece of work, and will likely be on a topic separate from your senior project. It is not intended as a draft of senior project. Due dates for draft and final version given on schedule at the end.

Attendance and Participation: As a minimum, attendance at all classes, presentations and workshops is mandatory. I may be able to excuse an absence (only) if I am given advance notice of your inability to attend, and documentation of the reason for your absence (e.g. hospital note for a medical emergency). There will be ample opportunity to demonstrate class participation, including presentation of oral reports, active participation in our various workshops, asking questions at faculty presentations, and so-on.

Make-Up Policy

Since we only have 15 class meetings, it is very important that you not miss any of them. It is not possible to make-up attendance or in-class participation. No make-ups for the brief written or oral reports, since these are due on an ongoing, weekly basis. The mini-project will have specified due dates for draft and final versions, and the Senior Project Agreement is due on or before our final exam slot. A make-up for these components would be possible if I am given advance notice of your inability to meet any deadline, and documentation of the reason for your absence (e.g. hospital note for a medical emergency). In such a case, a grade of I would likely be given for the course, and we would need to agree on a specific date by which all deliverables would be completed.

General Resources

(1) Nicholas J. Higham, *Handbook of Writing for the Mathematical Sciences*, 2nd ed. SIAM
(2) David F. Griffiths, Desmond J. Higham *Learning \LaTeX*, SIAM
For each faculty presentation, the speaker will provide the class with a list of suitable references accessible to and appropriate for their audience and the purposes of MTH 396.