FALL 2019
MATH 460, CRN 23371, 3 CREDITS
T,TH 9:00-10:15
UNIV 117

Instructor: Professor David Goldberg
Office: Math Sciences 644
Phone: 49-41919
Office hours: T 10:30-11:30, W 10-11:30, and , TH 2:30-3:30,
I will also see you with, or without an appointment, and these office hours may change in which case we will make an announcement in class one on the web page.
Course Page: http://www.math.purdue.edu/~ goldberg/Math460/math460.html There is course information available there, including this syllabus.
e-mail: goldberg at purdue dot edu
Textbooks: *Course Notes for MA 460, Version 5* by J. McClure (5th Version), and *The Elements, books I & II* by Euclid .
McClure's Notes are available by download from the course webpage, and will be available on reserve in the Math Library. There are online versions of Euclid's Elements, which we will discuss when we start working on the text, the Math Library (and other casmpus libraries) have copies, and there are digital versions available through Purdue Libraries.

Course Outline: This course serves two purposes. One goal is to introduce you to proof and develop your proof writing skills. These will be critical in later courses, and highly developed analytical skills are universally transferable. The second objective is to provide an understanding of geometry that goes well beyond a usual high school course. Thus, we start with a collection of fundamental results, most of which you are familiar with from your high school course, and **use these** to prove further results. Eventually, we will also give proofs of many of our fundamental results and will examine the very foundation of the subject itself. One objective is for all of us to come away with a better understanding of what it means to know something. The course will cover McClure's notes and Book I of the Elements completely.

Exams: There will be two midterm exams, and a two hour final exam. The midterm exams will be given as evening exams: **Exam 1, Monday 9/16, 8-10PM, LWSN B151 & Exam 2: Tues. 11/5, 8-10PM, HAAS G066**. In accordance with Purdue University policy, two classes will be canceled in compensation for these evening exams. Those classes will be Thursday 10/31, and Thursday 11/14. There

will be a 2 hour final exam, date and time announced later. Each midterm will be worth 100 points, and the final worth 200 points towards your final grade.

Quizzes: There will be about 10 short (10-15 minute) quizzes. Some will be announced ahead of time, and some will not. Each quiz will be scored on a scale 0-20. Your quiz grade will be scaled to be worth 100 points towards your final grade.

Homework: There will be a homework assignment each week. **Homework is due at the beginning of class**. You should make a careful note of any questions you have before handing in the homework. Some of the assignment will be graded. Each graded problem will be worth 5 points, unless otherwise stated. Each ungraded problem is worth 1 point if it has been completed. There will also be homework problems using Geometer's Sketchpad to develop intuition. These problems will be worth 2 points each. There a few problems on constructions, and, if graded, these will be worth 3 points each. Each assignment will then be scaled to be scored from 0-50 points and your final homework grade will be scaled to be worth 100 points towards your final grade. I will allow you to turn in assignments late, and will pass them on to the grader, but the grader has the discretion to decide if they will grade it, and whether there will be a penalty for late assignments.

Presentations: Each week I will ask for volunteers to present solutions to certain homework problems. Each volunteer receives 3 points extra credit towards that week's homework grade. In order to present a problem, you must receive full credit from the grader. You cannot volunteer a second time **until everyone has volunteered**.

Attendance Policy:. Attendance is not, in general, taken, but attendance is strongly recommended. There are many in class activities, as described above, and being present for them is a critical part of the learning process in this course. Also, there are times when you will be working in assigned teams, and failure to be present when your team is presenting work will result in you receiving no credit for that activity. Occasional absences are expected, but let me know if you are going to miss significant time, and we can discuss ways to compensate for class time.

Final Grade: Your numerical grade will be the sum of the exam grades, quiz grade, and homework grade. I expect the final grade lines to be **approximately**: A 540-600, B 480-539, C 420-479, D 360-419, and F 0-359. These are not fixed, and I reserve the right to change them as I see appropriate.

Additional Information: Geometer's Sketch Pad (GSP) will be used frequently during class presentations. oI will give a short presentation on its availability and use. Note, however, that GSP is merely a tool, and its use cannot stand in place of a proof.

Academic Integrity: Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential

breaches of this value by either emailing integritypurdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Purdue Honor Pledge: "As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue." You may link to
https://www.purdue.edu/odos/osrr/honor-pledge/about.html

Non-doscrimination: Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. Purdue's nondiscrimination policy can be found at
http://www.purdue.edu/purdue/ea_eou_statement.html.

Students with disabilities: Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic barriers based on disability, you are encouraged to contact the Disability Resource Center at: drcpurdue.edu or by phone: 765-494-1247.

In this mathematics course accommodations are managed between the nstructor, student and DRC Testing Center.

Students should see instructors outside class hours before or after class or during office hours to share your Accommodation Memorandum for the current semester and discuss your accommodations as soon as possible.

NOTE: In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Changes to this syllabus other notices will be posted to the web page listed above, and you may contact me at the e-mail and phone number given above as well.

As we begin this semester I want to take a few minutes and discuss emergency preparedness. Purdue University is a very safe campus and there is a low probability that a serious incident will occur here at Purdue. However, just as we receive a "safety briefing" each time we get on an aircraft, we want to emphasize our emergency procedures for evacuation and shelter in place incidents. Our preparedness will be critical IF an unexpected event occurs!

Emergency preparedness is your personal responsibility. Purdue University is actively preparing for natural disasters or human-caused incidents with the ultimate goal of maintaining a safe and secure campus. Let's review the following procedures:

- For any emergency text or call 911.
- There are more than 300 Emergency Telephones (aka blue lights) throughout campus that connect directly to the Purdue Police Department (PUPD). If you feel threatened or need help, push the button and you will be connected right away.
- If we hear a fire alarm we will immediately evacuate the building and proceed to **Purdue Mall, John Purdue Fountain.** From UNIV 117 exit, to the left, out the doors, down the stairs, and cross the street to the JP Fountain.
    - **Do not use the elevator.**

- If we are notified of a Shelter in Place requirement for a tornado warning we will stop classroom or research activities and shelter in the lowest level of this building away from windows and doors. Our preferred location is **Bottom floor, hallway from rooms 1-13.** From UNIV 117, exit, down the stairs to the right, one flight, and move to the first hallway on the right.

- If we are notified of a Shelter in Place requirement for a hazardous materials release we will shelter in our classroom shutting any open doors and windows.

- If we are notified of a Shelter in Place requirement for an active threat such as a shooting we will shelter in a room that is securable preferably without windows. Our preferred location is **UNIV 117, and evaluate in real time.**
- ***(NOTE: Each building will have different evacuation & shelter locations. The specific Building Emergency Plan will provide specific locations and procedures)***

Attached to the syllabus is an "Emergency Preparedness for Classrooms" sheet that provides additional preparedness information. Please review the sheet and the Emergency Preparedness website for additional emergency preparedness information.

EMERGENCY PREPAREDNESS SYLLABUS ATTACHMENT

EMERGENCY NOTIFICATION PROCEDURES are based on a simple concept – if you hear a fire alarm inside, proceed outside. If you hear a siren outside, proceed inside.

- **Indoor Fire Alarms** mean to stop class or research and immediately **evacuate** the building.
  - Proceed to your Emergency Assembly Area away from building doors. **Remain outside** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.
- **All Hazards Outdoor Emergency Warning Sirens** mean to immediately seek shelter (**Shelter in Place**) in a safe location within the closest building.
    - "Shelter in place" means seeking immediate shelter inside a building or University residence. This course of action may need to be taken during a tornado, an active threat including a shooting or a release of hazardous materials in the outside air. Once safely inside, find out more details about the emergency*. **Remain in place** until police, fire, or other emergency response personnel provide additional guidance or tell you it is safe to leave.

**In both cases, you should seek additional clarifying information by all means possible…Purdue Emergency Status page, text message, Twitter, Desktop Alert, Albertus Beacon, digital signs, email alert, TV, radio, etc.…review the Purdue Emergency Warning Notification System multi-communication layers at http://www.purdue.edu/ehps/emergency_preparedness/warning-system.html*

EMERGENCY RESPONSE PROCEDURES:

- Review the **Emergency Procedures Guidelines** https://www.purdue.edu/emergency_preparedness/flipchart/index.html
- Review the **Building Emergency Plan** (available on the Emergency Preparedness website or from the building deputy) for:
    - evacuation routes, exit points, and emergency assembly area
    - when and how to evacuate the building.
    - shelter in place procedures and locations
    - additional building specific procedures and requirements.

EMERGENCY PREPAREDNESS AWARENESS VIDEOS

- **"Run. Hide. Fight.®"** is a 6-minute active shooter awareness video that illustrates what to look for and how to prepare and react to this type of incident. See: https://www.youtube.com/watch?v=5mzI_5aj4Vs (Link is also located on the EP website)

MORE INFORMATION

Reference the Emergency Preparedness web site for additional information: https://www.purdue.edu/ehps/emergency_preparedness/