

## Syllabus

Math 105 Fall '17

Text: The Heart of Mathematics by Burger & Starbird, 3<sup>rd</sup> edition

Instructor: Jed Herman Office: SCI D 287 (x4188)

Office Hours: MW 4:00 – 4:50, T 12:00-12:50, F 2:00 – 2:50

or by appointment (or whenever I'm in... just stop by!)

Class times & room: Section 2: MTWR 2:00 – 2:50 pm in CCC 111

### Course Objectives:

In this course we will explore some of the greatest ideas within the realm of mathematics – comparable to the works of Shakespeare and Plato. Mathematics is an artistic endeavor, which is shaped by each person's imagination and creativity. Our goals for the course are as follows:

- To attain a better understanding of significant mathematical ideas
- To sharpen our analytic skills for life issues that are beyond mathematics
- To develop a fresh perspective and outlook on your view of the world
- To learn how to better communicate mathematical ideas to others
- To learn how to work in groups effectively

This course satisfies the Quantitative Literacy Requirement by addressing the following Learning Outcomes:

- To select, analyze, and interpret appropriate numerical data used in everyday life in numerical and graphical format
- To identify and apply appropriate strategies of quantitative problem solving in theoretical and practical applications
- To construct a conclusion using quantitative justification

### Calculators:

For this course we will be more concerned with mathematical IDEAS than mathematical FORMULAS or COMPUTATIONS, so for much of the course calculators will not be necessary. Your smart phone probably has a good enough calculator for most of the work we will do this semester! Of course you won't be able to use it on exams – but your instructor will provide some calculators to borrow on exam days.

Grading:

Grading will be based on an overall percentage score, using the following scale:

90%+ A- or better 80%-89.9% B-, B or B+  
70%-79.9% C-, C or C+ 60%-69.9% D-, D or D+  
<60% F

I reserve the right to adjust the final percentage +/- up to about 2%, based on my assessment of your effort and/or participation in the class and course in general.

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*Grading, continued*

To get your overall score, you will be graded on the following:

Homework	1/7	
Daily Participation	1/7	
Mastery, Presentation of a textbook section of material	1/7	
3 Exams, Final	<u>1/7</u> each	100%

Weekly Homework:

Homework will be due Thursdays, unless otherwise noted. I will drop your lowest two homework scores. These problems will be graded both on accuracy and on effort. **Homework assignments should be typed or written extremely neatly, and they should be organized well.**

D2L boards are set up for each problem set, for students to post questions and/or answers to questions about the homework. Posting can also earn you extra credit (see the section on D2L).

Participation and Attendance:

You are expected to regularly attend class and participate. If you wanted a course you could sleep through, this is not it. Your attendance and involvement in class are a part of your course grade – they have as much impact as an exam!

On the one hand that means you have to actually pay attention, ask questions, and try stuff. But on the other hand, it means that if you DO and TRY every day (including Wednesdays!) that is like getting an A on an exam!

Of course, sometimes things happen. People get sick, things come up. When circumstances arise to prevent you from coming to class, you should let your instructor know (email is a great way to do so). I will drop your four worst days' participation scores to allow for normal semester happenings. Please note: if you miss a day, YOU are responsible for getting notes and material for the day you miss.

Missing exams and/or presentation days will only be allowed for extreme circumstances and will require DOCUMENTATION (so for example, if you are too sick to take an exam I will need a note from a medical professional). Whenever possible, you will need to let your instructor know BEFORE the day in question.

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### Exams

There will be three exams in this course, marked on the schedule, below. Note that the actual dates of the exams might vary slightly. There is also a final exam!

### Mastery, Presentation of a textbook section of material

People learn best by DOING, not by watching someone else do something. To that end, you will work with a group of students to present a section of the textbook to the class. This material will be on an exam! This means three things: 1) your group will have to learn the section very well, 2) your group will have to figure out how to explain it to the class over the course of two class days, and 3) you will have to pay close attention to everyone else's presentations – and ask good questions!

The first step of this process is to form class groups. We will do that over the first two weeks of class. The second step is to pick the section. Each group will have a different section and will pick from the following list: **4.2, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, and 6.2** (*a few other sections are possible – ask if you find one you really like*). Note that 5.4 cannot be chosen unless another group picks 4.5; also note that 4.7, 5.6, and 6.2 are a bit more challenging than other sections. We will take two more weeks to make our choices.

This may sound very scary – but do not worry. I will give lots of advice and help. Each section is different and most can stand alone, so you don't need a lot of other sections before you can start to understand yours.

### Academic Misconduct Policy

I expect you to complete the coursework for this course. Failure to complete an assignment will result in zero points awarded for that assignment. Late assignments may lose points, at the discretion of the instructor. Also see the following link:

<http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf>

### Student Rights and Responsibilities

You have certain rights and responsibilities. For more information, see the following link:  
<http://www.uwsp.edu/admin/stuaffairs/rights/rightsCommBillRights.pdf>

### Disabilities

Information concerning accommodations made as per Section 504 of the Rehabilitation Act or the Americans with Disabilities Act can be found at  
<http://www.uwsp.edu/admin/stuaffairs/rights/rightsADAPolicyInfo.pdf>

In particular, to request any accommodations of this type, relevant to this class, you should discuss the matter with the Disability Services Office. Information and contact information may be found at  
<http://www.uwsp.edu/special/disability/>

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### D2L Storage and Homework Boards

D2L will serve as a storage space for homework assignments and other course content. That way, you can easily get access to them if you miss them. There will also be discussion boards available for you to post comments or questions.

The boards will be monitored after the fact. That is, you will post directly to the board, and I will monitor (semi-weekly). Postings are never anonymous and must not contain inappropriate (foul, rude, hostile) language. Violation of this rule may constitute academic misconduct (see below).

There will be a discussion board each week for homework questions. You will get *extra credit* if you post a question from the homework or an answer to another person's question (it does not matter if the question is required or suggested). To earn the extra credit, your post must meet the following criteria:

- 1) you ask a question about how to do part of the homework/quiz assignment for the week, or you answer such a question or correct someone else's wrong answer, and
- 2) the posting contains new content (so a posting which says "I agree" is not worth extra credit!)
- 3) you cannot earn credit for asking or answering a question that was previously asked by someone else on the board.

You can earn up to ONE extra credit point per WEEK by posting in this way.

The instructor will check all boards at least once every 24 hours (except maybe on the weekends).

### Course Outline and Schedule

We will cover only parts of the text, as there is more than a semester's worth of material in the book. The "bottom line," so to speak, is to gain an appreciation for mathematics and to discover the power of mathematical thinking in your everyday life. It is essential in this course to have an open mind, a piqued curiosity, and a willingness to explore and discover. Minimal mathematical

background will be assumed.

Chapter 1 about 1 week  
Chapter 2 about 3 1/2 weeks  
Exam on Chapters 1, 2 on October 3

Rest of Chapter 2 about 1/2 week  
Chapter 3 about 2 1/2 weeks  
Part of Chapter 4 about 1/2 week  
Exam on Chapters 3, 4.1, 2.7 on October 31

Group Presentations about 4 1/2 weeks  
Exam on Parts of Chapters 4, 5, maybe 6 on December 11

Cumulative Final during Final's Week