

MA153 Lesson 1

Introduction To Math 153

Thursday, 21 August 2008

Outline

Who We Are

Who I Am

Who You Are

What We Will Do

Apply Math to Life

How We Will Do It

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Major Bowman's Teaching Style

▶ Major Bowman's Teaching Style

Major Bowman's Experiences Pre-Military

- ▶ Born and Raised in Olympia Washington until 14 years old

Major Bowman's Experiences Pre-Military



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- ▶ BS in Electrical Engineering from Pacific Lutheran University, Tacoma Washington
- ▶ Married Cindy Andrew between Junior and Senior Year
- ▶ Commissioned Into the Engineer Branch

Major Bowman's Experiences Military - Lieutenant

- ▶ Graduated Engineer Officer Basic Course

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- ▶ First Station, Fort Hood with First Cavalry

Major Bowman's Experiences Military



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- ▶ JROTC Training for Bosnia - Platoon Leader in Bosnia

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- ▶ My Son Andrew born while I was in Bosnia
- ▶ XO at the National Training Center
- ▶ Fire Team Leader in Wild Land Forest Fires in Montana

Major Bowman's Experiences Military - Lieutenant



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Major Bowman's Experiences Military - Lieutenant



Major Bowman's Experiences Military - Captain

- ▶ Graduated Engineer Advanced Course

Major Bowman's Experiences Military - Captain

- ▶ Graduated Engineer Advanced Course
- ▶ Daughter Sarah born at the Advanced Course

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- ▶ Moved to Germany - Assistant S3 for 130th Engineer Brigade

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- ▶ Deployed to Iraq

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- ▶ Took Command of A54th Engineer Battalion in Iraq

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- ▶ Took Command of A54th Engineer Battalion in Iraq
- ▶ Redeployed company and reorganized as Infantry

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- ▶ Trained to go to Afghanistan - Including Riot Control

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- ▶ Changed Command - Worked for 1ID Engineer Brigade

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- ▶ Took Command of A54th Engineer Battalion in Iraq
- ▶ Redeployed company and reorganized as Infantry
- ▶ Trained to go to Afghanistan - Including Riot Control
- ▶ Company Commander at CMTC
- ▶ Son Nathan Born while in Command
- ▶ Changed Command - Worked for 11D Engineer Brigade
- ▶ Moved to Naperville for Master's Degree at University of Illinois Chicago

Major Bowman's Experiences Military - Captain



Major Bowman's Experiences Military - Major

- ▶ Promoted to Major at the Naperville VFW

Major Bowman's Experiences Military - Major



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- ▶ Promoted to Major at the Naperville VFW
- ▶ Graduated from UIC

Major Bowman's Experiences Military - Major



Major Bowman's Experiences Military - Major



Major Bowman's Hobbies

▶ Hobbies

- ▶ Brewing Beer
- ▶ Riding dirt bikes with my Son Andrew
- ▶ Lifting Weights
- ▶ Listening to Music
- ▶ Driving and working on my 1965 Mustang
- ▶ Snow boarding with my Son Andrew
- ▶ Driving my Volvo S60 R

Major Bowman's Hobbies



Major Bowman's Hobbies



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Course Guide

Who Are You

- ▶ A Little Exercise to find out who you are

Who Are You

- ▶ A Little Exercise to find out who you are
- ▶ Make Sure SynchronEyes is working

Who Are You

- ▶ A Little Exercise to find out who you are
- ▶ Make Sure SynchronEyes is working
- ▶ **Oh No Not a Quiz!!!!**

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Course Guide

Tsunamis

Thesis

Course and Block Objectives

Look at your Course Guide for Objectives. Check the objectives to see if you know them all before a test.

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My Web Page

▶ My Web Site

Syllabus Ground Rules

Ground Rules:

1. Items to bring to class every day
 - 1.1 Textbook
 - 1.2 Course Guide
 - 1.3 Laptop
2. Drinks
 - 2.1 Water allowed in any spill-proof water bottle.
 - 2.2 Other beverages must be in Dean approved mug only
3. Food - No Food or Gum
4. Bathroom - Just go, don't distract others if possible
5. Answering Questions - If a VIP visits the room raise your right hand if you know the answer or raise your left hand if you don't.

Syllabus Ground Rules

1. Class Preparation

- 1.1 Come to class having completed the reading assignment and the DO problems listed in the course guide
- 1.2 Read in two phases:
 - 1.2.1 Initial Scan - highlight formulas
 - 1.2.2 Second Read - try to understand concepts or examples

2. Assignment and Project Deadlines

- 2.1 Timely submission of academic requirements is a duty. All assignments will be turned-in during class. Late submissions, without prior approval, require academic penalty.
- 2.2 If extenuating circumstances prevent you from submitting the assignment on time, I may extend the submission deadline. In such cases, if the extended deadline is met, the submission is not late.

Syllabus Ground Rules

1. Graded quizzes may be given weekly, depending on how many we take I will drop some of the lowest scores.
2. Homework
 - 2.1 Graded homework will be collected as listed in the MA 153 course schedule and consist of the bold and underlined homework problems on the course syllabus. These problems are required, out of class work.
3. Problem Solving Labs - Usually will include small experiments or involved board problems. We will have guest lecturers for some PSLs these will be held during Dean's Hour.

Syllabus Ground Rules

1. **Bonus Point Opportunities**

- 1.1 Cadets who bring in an application of that days topic that is not listed in the book or course guide will be eligible for bonus points, positive spot reports, or an additional low quiz drop. Cadets will vote on the relevance and quality of the application. I will be the final vote. Cadet should include a video, computer application, or physical model and be able to defend their application.
- 1.2 Attendance of Math Forums

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Miscellaneous Notes

1. Board Work Example - In the course Memo page 3

Miscellaneous Notes

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2. Academic Integrity Brief

Miscellaneous Notes

1. Board Work Example - In the course Memo page 3
2. Academic Integrity Brief
3. Anything submitted for grading requires a cover sheet

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4. Solution Manual in the Math Clinic Thayer 226 and my office

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5. We use similar problems last year. If you use a former students work make sure you document your source.

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7. Book Inventory

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8. Mathematica 6.0 Code Expiration

Miscellaneous Notes

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Homework and FCE

1. Homework Format - Look at the MA 153 Homework Format on the web site

Homework and FCE

2. Fundamental Concepts

Homework and FCE

2. Fundamental Concepts

2.1 Where it is - On the web site

Homework and FCE

2. Fundamental Concepts

2.1 Where it is - On the web site

2.2 We take the FCE on 3 September in Class

Homework and FCE

2. Fundamental Concepts

2.1 Where it is - On the web site

2.2 We take the FCE on 3 September in Class

2.3 Practice - Make sure you know the concepts and do the review questions

Homework and FCE

3. Technology Inventory

3.1 Mathematica

3.2 SynchronEyes

3.3 Blackboard

3.4 Outlook

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Last bit of Admin

1. Use Outlook to schedule an interview with me. Must be done in the first month.

Last bit of Admin

2. This class will not be more work than MA 103! It will just be new material!

Last bit of Admin

3. I am learning too! Together we can make this class exciting and rewarding.

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Objectives

Three-Dimensional Coordinates (Stewart 12.1)

1. Understand the coordinate axes, coordinate planes, and right hand rule.
2. Determine the distance between points in three-dimensional space.
3. Determine an equation of a sphere.

Vectors (12.2)

1. Determine the vector \overrightarrow{AB} between two points.
2. Determine the length (magnitude) of a vector.
3. Determine the resultant of vector addition and scalar multiplication.
4. Understand scalar multiplication and how it relates to parallel vectors.
5. Understand the properties of vectors.
6. Determine the unit vector in a given direction.
7. Determine the resultant force of several forces.

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My Take on the derivative

1. Average Rate of Change versus
2. Instantaneous Rate of Change
3. **Instantaneous rate of change is the limiting value of the average rate of change, and instantaneous rate of change is precisely what a derivative is.**
4. The last statement is crucial to your understanding of differential calculus and to your success in this course.

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Questions?

See you Tomorrow!