

**MATH 491.591 SYLLABUS: SUMMER 2007  
HISTORICAL TOPICS IN MATHEMATICS  
FOR MIDDLE SCHOOL TEACHERS**

Professor: Dr. Laurie Burton  
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<b>CLASS MEETS</b> 9:40 a.m. – 12:10 p.m. MTWR Arnold Arms 104 June 25 – July 12
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<b>OFFICE HOURS &amp; SCHEDULE</b>				
<b>Time</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>
<b>8:45–9:30</b>	<i>Office</i>	<i>Office</i>	<i>Office</i>	<i>Office</i>
<b>9:40–12:10</b>	491.591	491.591	491.591	491.591
<b>12:10–12:50</b>	<i>Lunch &amp; Office</i>	<i>Lunch &amp; Office</i>	<i>Lunch &amp; Office</i>	<i>Lunch &amp; Office</i>
<b>13:00–15:15</b>	105	105	105	105
<b>15:15–16:00</b>	<i>Office</i>	<i>Office</i>	<i>Office</i>	<i>Office</i>

✓ Please feel free to email for help as well as ask questions in class and come to office hours.

**I. COURSE PREREQUISITE**

- MTH 213 with a grade of C- or better or consent of instructor.

**II. REQUIRED COURSE MATERIALS**

- Simple calculator

*Required Texts*

- “Mathematicians are People, Too, Volumes 1 and 2” Reimer and Reimer, Dale Seymour Publications, available at the WOU bookstore

*Recommended Texts for your Personal Library of Teacher Resources*

- “Historical Connections in Mathematics, Volumes I, II and III” Reimer and Reimer, AIMS Education Foundation, available at the WOU bookstore and via links at the course webpage

**III. COURSE OVERVIEW**

This course is a brief survey of the history of mathematics. We will study famous mathematicians through various readings (MAPT books and online) and explore topics appropriate for middle school students connected to these mathematicians in class. Homework topics will extend some of the mathematical topics discussed in class and will also focus on creating activities to relate historical topics in mathematics to your own classroom.

**IV. COURSE WEB PAGE**

There will be a link for the Math 491.591 webpage on my home page: <http://www.wou.edu/~burtonl>. In particular, the class webpage: “Assignments & Schedule” will be linked to your Math 491.591 webpage and will include the class schedule, homework assignments, homework links and due dates.

## V. COURSE REQUIREMENTS AND GRADING

- Attendance, participation, completion of all class materials (5 points)
- Homework Assignments (55 points)
- Class Biography Project (20 points)
- Lesson Plan 1 (20 points)
- (Graduate only\*) Lesson Plan 2 (20 points)
- (Graduate only) Presentation of Lesson Plan 1 or 2 (10 points)

### **Attendance & Participation**

- You must attend all classes
- You must share your thoughts and strategies both in small groups and with the whole class
- You must work actively and effectively during all group and all class activities
- You must attentively listen and offer useful and constructive comments to other students in the class during group work and when other students present their ideas to the whole class
- If you miss a class, please try to make up the work by contacting me or a classmate.

### **Completion of Course Materials**

- You must carefully answer all questions and problems posed on all course materials—in class work as well as homework assignments.
- You should organize this material carefully in your course notebook and be prepared to share your work at any time

### **Homework Assignments**

Math and Reading/Activity Writing homework problems will be assigned each day. Each homework question will be collected two class days after the problem is assigned (exception: last two homework assignments) and will be carefully graded. Homework assignments and due dates will be posted on your course web page.

Your homework should be the work of a mature learner; it should be neat, clear, well thought out and carefully presented. Your work should show evidence of the thought process you went through to arrive at your solution. Short answers with no explanations will receive no credit. Short answers supported by calculator work only will receive no credit. This is an extremely compressed class; schedule your study and homework time accordingly.

Please type, if possible, expository answers to homework. Arial, Font 14, not bold

- ✓ In general, late work will receive a 20% per class day late deduction. All work due by Thursday, 7/12.

### **Class Biographies Project**

Each student will complete reading research and write five short biographies for famous mathematicians. Details/due dates are posted on your course web pages. Electronic and hard copies of the compiled class biographies will be passed out the last day of class.

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\* Undergraduate: Point = Percent      Graduate: Points scaled to percent

## **LESSON PLANS**

### **Topic Proposals**

Your Lesson Plan topics must be proposed to and approved by Burton. Your topic must relate the history of mathematics to your classroom (see Lesson Plan Contents below). Proposals should be typed (Arial, Font 14, not bold—hard copy submission or email, default font—electronic submission) and contain the following:

- ✓ Your name & the grade level the lesson plan is for
- ✓ Your topic idea and about 100 words briefly describing your lesson plan ideas

You may expand on any activity that you have briefly outlined for a homework question in your lesson plans.

### **Lesson Plan Proposal Due Dates (undergraduate and graduate)**

- ✓ Plan 1: Thursday, July 28
- ✓ Plan 2: Thursday, July 5

### **Lesson Plan Drafts and Ideas**

You are encouraged to discuss preliminary drafts of your lesson plan and your lesson plan ideas during office hours.

### **Lesson Plan Contents**

Each lesson plan should be a complete lesson for use in your own personal classroom. You may use any lesson plan format that you like. Lesson Plans should contain at least the following:

1. Connection to historical topic in mathematics and information about a famous mathematician.
2. Mathematical activity for children, including at least one page where students must write mathematics (not skill/drill based, include solutions).
3. Active, hands on learning experiences for your students.
4. Information about where this activity fits in your curriculum (graduate students required, undergraduate students optional)

### **Lesson Plan 1 Due Date**

- ✓ Thursday, July 5 (graduate)
- ✓ Monday, July 9 (undergraduate)

### **Lesson Plan 2 Due Date (graduate only)**

- ✓ Thursday, July 12

### **Lesson Plan Presentation Day (graduate only)**

- ✓ Thursday, July 12

Each graduate student will give a short (10 – 15 minute) presentation of one of their lesson plans on this last day of class.

### **Lesson Plan Assessment**

Lesson plans will be graded on the depth, correctness and usefulness of the mathematics in the plan, the quality and clarity of your explanation of the plan and the creative nature of your ideas.

## **VI. APPROPRIATE CLASSROOM BEHAVIOR**

You are ultimately responsible for your own attendance and performance. Disruptive classroom behavior of any kind, such as talking during lecture or consistently coming to class late etc., is not appropriate. Proscribed Conduct for all students is described in the University Catalog. In particular for this course any student found cheating on an exam or copying from another student's exam paper will receive a zero score on that exam.

## **VII. STANDARD GRADING FOR THIS COURSE**

Your grade for this course will be based on the following with A-, B+, B-, C+, C- given as is appropriate: A—90%, B—80%, C—70%, D—60%, F—below 60%

## **VIII. LEARNING DISABILITIES**

If you have a documented learning disability, please talk to me during the first few days of class, I will be more than happy to accommodate you in any way that I can. If you have a documented disability which requires any academic accommodations, you must go to the Office of Disability Services (ODS) for appropriate coordination of your accommodations. You can drop by APSC 405 or contact ODS at (503) 838-8250 (V,TTY) to schedule an appointment.

## **IX. INCOMPLETE POLICY**

An Incomplete can only be granted for a student who is passing a class and has a documented emergency that prevents them from completing the course.