

# HISTORY OF MATHEMATICS

MATH 320 | FALL QUARTER 2012

## **INSTRUCTOR:**

Dr. Mark Oursland  
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## **COURSE DESCRIPTION:**

In this course the history of mathematical discoveries are used as a context for applying and analyzing mathematical discoveries. Teacher candidates will study both the cultural and historical context of mathematical discoveries and analyze how they influenced their cultures and the present mathematics curriculum. Finally, teacher candidates will create lessons with historical and cultural connections that are aligned to the state mathematics standards.

## **COURSE RATIONALE:**

All great mathematicians and mathematical discoveries have had common theme of creativity and problem solving. Mathematics students cannot really understand the great mathematical discoveries without a careful, step-by-step study of both the mathematical solutions and the history behind them. Most important mathematical solutions lead to theorems that changed forever the way mathematics was done and the future types of problems that needed to be solved. All these discoveries were set in culture and history, which reminds us that teaching, is also a cultural activity. The history of mathematics can become a resource for developing activities that challenge and motivate students to investigate solutions to problems that contain priceless mathematical insights.

## **COURSE RESOURCES:**

- Blackboard account with enrollment in MATH 320
- Journey Through Genius, The Great Theorems of Mathematics by William Dunham

## **COURSE OBJECTIVES:**

By the end of the course, teacher candidates will be able to:

Outcomes	Assessment	Standards
analyze the cultural and historical influences important to mathematical discoveries.	Blog writing, project, and tests	NCTM 1- 16 WACME 1-14
analyze the connection between how mathematician struggled with the implications of their mathematical discoveries and how present day students struggle with some of these same mathematical implication.	Blog writing, project, and tests	NCTM 1- 16 WACME 1-14 CTL 1
create lessons aligned to the state standards that use cultural and historical information to create interest, meaning, and relevance for the mathematical concepts being taught.	Blog writing, project, and tests	NCTM 1- 16 WACME 1-14 CTL 1
use historical and cultural implication of mathematical discoveries the development to explain and justify their view of mathematics education.	Blog writing and project	NCTM 1- 16 WACME 1-14 CTL 1

## **ASSIGNMENTS AND EVALUATION GUIDELINES:**

The instructional and assessment strategies for this course are designed to inform you of your progress in achieving the course performance outcomes. The instructors will give you frequent feedback on your progress in meeting these performance outcomes.

Assignment	Points
Mathematical Discovery Blog (8 posts-30 points and 8 comments-10 points)	320
Teaching Analysis Blog (3 posts-30 points and 3 comments-10 points)	120
Midterm Exam	100
Final Exam	100
Mathematics History Project	100
<b>Total Points</b>	<b>740</b>

**Grading Scale**

93-100% = A, 90-93% = A-, 87-90% = B+, 83-87% = B, 80-83% = B-, 77-80% = C+, 73-77% = C, 70-73% = C-, 67-70% = D+, 63-67% = D, 60-63% = D-, 57-60% = F Please see the CWU Catalog for the eligibility requirements for an incomplete (I).

**Performance Expectations**

All of the assignments can be found in the *Assignments* menu and lessons in the *Content* menu of Blackboard. All

**COURSE POLICIES:****Instructor Feedback/Communication**

You will receive specific feedback on your blog assignments with in the blog and by e-mail. I will use the Announcements tool in Blackboard to communicate changes to the course and other course information.

**Suggestions for Success**

Take the responsibility for your own achievement of these performance objectives. You can get individual help by e-mail, phone, or in person in my office. If at any time you have trouble-using Blackboard or do not understand an assignment make sure to contact the instructor. Use the activities, assignments, and instructor to insure that you understand the concepts and can demonstrated this understanding in the assignments.

**Student Feedback/Communication**

I welcome all feedback on the course. My preferred method of communication with individual students is via email. I am also available for office hours. If you experience a legitimate emergency that will prevent you from completing required coursework on time, I expect you to communicate with me at the earliest reasonable opportunity.

**Late and Uncompleted Work**

- If extenuating circumstances exist, contact instructor.
- All course assignments must be completed to pass the course.

**UNIVERSITY POLICIES:****Academic Integrity**

Academic Integrity is a standard set for this course. Students are expected to complete all of their coursework and assignments using their original words and ideas and will properly cite the words and ideas of others. Students are also expected to be honest in their interactions with the instructor. A student found to have not upheld these expectations is subject to failing this course and shall be subject to disciplinary action or sanction. The University catalog defines the term "academic dishonesty" in all its forms including, but not limited to:

- cheating on tests;
- copying from another student's test paper;
- using materials during a test not authorized by the person giving the test;
- collaboration with any other person during a test without authority;
- knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of an unadministered test or information about an unadministered test;
- bribing any other person to obtain an unadministered test or information about an unadministered test; substitution for another student or permitting any other person to substitute for oneself to take a test; plagiarism" which shall mean the appropriation of any other person's work and the unacknowledged incorporation of that work in one's own work offered for credit;
- "collusion" unauthorized collaboration with any other person in preparing work offered for credit.

Documented incidences of Academic Dishonesty will be referred to Office of the Vice President of Student Affairs.

**Special Needs**

If you have a disability that may prevent you from meeting course requirements, contact the instructor immediately to file a Student Disability Statement and to develop an Accommodation Plan. Course requirements will not be waived but reasonable accommodations will be developed to help you meet the requirements. You are expected to work with the instructor and the CWU Disability Support Specialist to develop and implement a reasonable Accommodation Plan. For contact information at Center for Disability Services (CDS) please visit <http://www.cwu.edu/~dss/cms/>.