Professor:	Dr. Chris Black
Office:	Snoqualmie Hall #302B
Office Hours:	Tuesdays 10:15 - 11:15, and by arrangement
Office Phone:	(425) 640-1574 x3871
Email :	blackc@cwu.edu

Text:	*A History of Mathematics*, brief edition, Victor Katz, Addison-Wesley 2004

Supplementary Texts:	These are not required texts, but will be used as references throughout the course. They are available on reserve from the CWU-Lynnwood library.
	The Crest of the Peacock: Non-European Roots of Mathematics, George G. Joseph
	An Introduction to the History of Mathematics, Howard Eves
	A History of Mathematics, Jeff Suzuki, & *A History of Mathematics*, Carl Boyers

Goals for course:

As a student in Math 320, you will:

- Recognize and appreciate connections between various areas of mathematics.

- Increase your awareness of and appreciation for the context surrounding mathematical discoveries throughout history.

- Gain a deeper understanding of the way in which mathematical knowledge has evolved over centuries. *"We are like dwarfs standing upon the shoulders of giants, and so able to see more and see farther than the ancients"* – Bernard of Chartres, circa 1130 ce.

- Improve your understanding for and appreciation of the different ways various cultures have engaged with and in mathematics.

- Improve your ability to communicate mathematics in a smooth, informative, and coherent style, both verbally and in writing.

Course Philosophy:

As it is impossible to give a comprehensive survey of 4000 years of mathematics in a 3-credit course, we will focus on the development of the disciplines customarily taught in the high school curriculum. Thus, we will not consider history from a geographic or even chronological viewpoint, but rather, we will consider the contributions of different cultures to the development of a few of the branches of the mathematical tree.

Since the students enrolled in Math 320 at the Lynnwood Center are exclusively future teachers of mathematics, we will use this course to get additional practice in lesson planning and peer teaching. Students will have the freedom to choose content, methods and materials for preparing and delivering mathematics lessons, as well as gain experience in crafting & assessing assignments.

Course Mechanics:

Beginning in the third week of the quarter, the majority of lessons in this course will be planned and implemented by students. Working in pairs, students will each plan and deliver two lessons. For each lesson, the student-teachers will have full control of the classroom, and select, assign and assess an appropriate homework assignment. Each student-teacher will be responsible for 35 minutes of the class period.

Probable Course Topics:

- ▷ Numeration and arithmetic
- ▷ Development of geometry
- ▷ Development of algebra
- ▷ Development of number theory

- ▷ Development of combinatorics
- ▷ Development of analytic geometry
- ▷ Development of calculus
- ▷ Probability and games of chance.

Grading:

Homework:	380 points
Homework Rubrics:	20 points
Research Paper:	100 points
Lessons Taught:	50 points
Final Presentation:	25 points
Attendance/Participation/Citizenship:	25 points

Homework & Homework Rubrics:

The student-teachers designing each lesson will prepare a 20-point problem set for the rest of the class to do as homework. When designing your homework set, keep in mind that many of the problems in the text(s) can be solved by modern methods, but that the point of the course is to help us understand the classic techniques. Prescribed methods of solution must be used to receive full credit, unless the authors of the homework set have specified otherwise. The problem set will be graded by the student-teachers. I will review the graded homework for consistency, and reserve the right to alter assigned grades as necessary. There are 19 homework assignments.

Each student-teacher pair will submit a solution to their homework set with a grading rubric the class day before their lesson is to be taught. The rubrics are worth 10 points each, and the homework set must be graded according to the rubric.

Research Paper:

As detailed on a separate handout, each student will produce a research paper 8 - 10 pages in length on a topic that I will approve. This is meant to give an in-depth analysis of some aspect of mathematical history, with an emphasis on culture and diversity. Before the final version is submitted, each student will peer-review another's paper. We will adhere to a strict timeline for the paper development, to ensure it is finished on time. The final version is due on the last day of class. If writing is a challenge for you, be sure to contact the Writing Center early in the writing process. This paper will go into your secondary education portfolio.

Final Presentation:

In lieu of a final exam, each student will give a BRIEF 10 minute presentation summarizing the contents of his/her research paper during the final course meeting on **Wednesday, 12/8/2010 from 9:00am - 12:00pm.**

ATTENDANCE/PARTICIPATION/CITIZENSHIP:

Discussion, interaction, and group problem solving will all be important aspects of this course, which necessitate your attendance. Citizenship addresses your behavior and comportment with class members and the instructor. We each need to be respectful of other students, other cultures, and differing ideas within our learning community.

EMAIL:

To contact me outside of class time, please email blackc@cwu.edu. An email message will be answered much more promptly than a voice mail message. Be sure to include a relevant subject line in your email, as I often receive up to 50 email messages per day. *I do not answer email on Saturdays*, but will otherwise respond promptly. Assignments will not be accepted by email, unless under extreme circumstances with prior approval.

ACADEMIC HONESTY & AND RESPECT:

Each of us should consider our placement at this institution to be a privilege. We need to have respect for one another, and for ourselves. In light of these facts, cheating in any form will not be tolerated. You are encouraged to work together on homework problems, however anything you turn in with your name on it should have been written by you alone. The word "plagiarize" is defined by the New Oxford American Dictionary as "the practice of taking someone else's work or ideas and passing them off as one's own." Plagiarism includes, but is not limited to:

- Copying another student's work and submitting it as your own
- Submitting work copied from another text or from the internet
- Including the words of another source in your research paper without citation.
- Including a slightly reworded passage from another source in your research paper without citation.

Please be extremely careful about citing your sources and constructing a thorough bibliography for your paper. If you are unsure of proper citation protocol, please consult the Writing Center. Any incidence of plagiarism will not be tolerated, and will jeopardize your position in the program.

WRITING CENTER:

The CWU-Westside Writing Centers serve students on all Westside campuses. Students can receive help for any class and any writing assignment. The Writing Center will help with any writing-related concerns, including brainstorming, organization, content, research, APA format, grammar and mechanics, and much more. Appointments are recommended. Please email Prairie Brown at brownp@cwu.edu or call 206-651-6027 for more information.

DISABILITY SERVICES:

Students with disabilities may arrange for academic adjustments by providing the professor with a copy of the "Confirmation of Eligibility for Academic Adjustments" from the Disability Support Services Office as soon as possible. To obtain this form contact Bree Callahan, director of Disability Support Services for the Westside University Centers at (206) 439-3800 ext. 3866 or by email at bcallaha@cwu.edu.