HISTORY OF MATHEMATICS
MATH 409/409G – A75 (3 HOURS)
CRN – 27200/27201
Summer 2018 Syllabus

Instructor: Dr. Kanita K. DuCloux
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Course Hours & Location: *On-Line* (Web Course Delivery)

Prerequisites:
Six hours of approved mathematics courses at the 300- and/or 400-level or permission of instructor is required.

Materials:
- **Textbook:** ISBN: 978-1-93951-212-3

  Berlinghoff, W. P., & Gouvêa, F. Q. (2004). *Math through the ages: A gentle history for teachers and others* (Expanded edition). Farmington, ME & Washington, DC: A Joint Publication of Oxton House Publishers & The Mathematical Association of America.

- This course will utilize *Blackboard*. Course documents, such as the syllabus, handouts, or supplemental materials to the textbook will be posted on Blackboard. The instructor will post announcements, grades, comments, and etc. via Blackboard. Please contact the Information Technology Helpdesk at 270-745-7000 for more information and questions regarding Blackboard.

- This course will utilize the **TI-83 and/or TI-84 graphing calculators** throughout the semester.

Important Dates:

Classes Begin	*Monday, June 4*
YM Research Paper	**Saturday, June 23rd**
Independence Day observed (no classes)	**Wednesday, July 4th**
Classes End	**Friday, July 6th**

Note: *Due to a scheduled upgrade, there will be no access to Blackboard on Sunday, June 24 and Monday, June 25. Blackboard access will be restored by 8 AM on Tuesday, June 26. Please plan ahead to ensure you can complete all assignments on time.*

By looking back at the history of mathematics we are more able to appreciate the years and lives devoted by many individuals and the contributions that they have made in providing the quality of life we have today. Consider a typical day's activity and envision how it might be different without the contributions of mathematics.

Course Description:

This course traces the history of mathematics from ancient times through the development of calculus with emphasis on famous problems. The study of history in this course provides knowledge and appreciation useful in the classroom. This course cannot be accepted as part of the 35-hour requirement for the non-certifiable mathematics major. Written paper(s) required.

This course is intense in that it moves quickly (5 weeks) and requires reading about the history of mathematics, solving historical mathematical problems, and writing papers. Please do your best to not fall behind.

Learning Outcomes:

Through problem applications involving critical analysis, problem posing, and synthesizing historical underpinnings of mathematics, after the completion of this course, students will be able to:

1. Reason and communicate proficiently in various areas of mathematics.
2. Understand historical mathematical concepts embedded in algebra, geometry, logic, probability, and statistics through different representations and connections.
3. Understand the utility of mathematics during ancient times and the contributions to modern day mathematics.

Criteria for Determination of Grade, Including Evaluation Methods:

The quality of all course activities should be excellent and demonstrate extensive effort. All class participation should be active, inquisitive, and non-confrontational. Additional considerations for evaluating your progress toward achieving course objectives include:

1. Participation:

Even though this is an online course that utilizes an asynchronous environment, your participation is expected and therefore required. Several times each week, you will be **expected** to post comments, I/Qs (*See below*) and/or questions about any readings, assignments, and responses to your classmates' comments, questions, and/or I/Qs on the Blackboard discussion board. ***You will not be given points for your discussion board participation; however, you will lose points for not participating. You will***

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lose up to 2 points per discussion board assignment for not participating as required.

There are many benefits to online discussion boards. Participation in the online discussion boards can ...

- o Allow students to **learn** from one another and **share** ideas.
- o Allow time for in-depth **reflection**- students have more time to reflect, research & compose their thoughts before participating in the discussion.
- o Build **class community** by promoting discussion on course topics.
- o Facilitate learning by allowing students to **view & to respond** to the work of others.
- o Allow students to **work together** to create a product or to come to an agreement on some topic.
- o Develop **writing & critical thinking skills**.
- o Encourage **student leadership** by giving them a voice in the classroom.
- o (https://www.edutopia.org/pdfs/stw/edutopia-onlinelearning-mastering-online-discussion-board-facilitation.pdf)

2. Grade determination: Grades will be determined by dividing the total number of accumulated points by the total number of possible points to determine a percentage.

3. Grades will be based on the following **EIGHT** – point scale:

Percentage	Letter Grade
92 – 100%	A
84 – 91%	B
76 – 83%	C
68 – 75%	D
Below 67%	F

4. Final course grades will be calculated as follows:

Introductory Blog (10 POINTS):
To begin a dialogue among you, complete the assignment, ***GETTING ACQUAINTED.*** This assignment is a way to get you talking to and learning about each other!
(See Getting Acquainted assignment in the Content folder)

I/Q Discussion:
To facilitate your discussion of the readings, after you have read the assigned reading (called a Sketch), post an I/Q and then to read and respond to 1 classmate's posts.

What is an I/Q? I/Q is an acronym for a Statement of **Interest** or a **Question**. After reading each Sketch, post something you found *interest*ing about the reading OR a *question* that the reading raised for you.

To help your classmates and the discussion, please identify the Sketch # and whether you are posting a statement of interest or a question.

Keep in mind that I/Qs are due by **11:59 pm** and responses are due the following day by 11:59 pm UNLESS otherwise noted. Please follow the calendar!

Sketch Assignments
To appreciate and understand the history of mathematics you need experience in working some of the mathematical problems of the time. The problems provide this experience by your working mathematics problems dating from 3000 B.C. to A.D. 1700. You will also engage in making connections between the development of mathematical contributions and historical events that occurred during that time.

These are suggested problems only and will not be graded. However, you will be assessed on the content through timed weekly online quizzes. I strongly encourage you to complete he problems and discuss them on Blackboard.

(See the Homework Calendar in the Content folder for more details.)

Weekly Grades Assignments (Problems & Projects) (8 x 5 = 40 POINTS)
Each week, you will have 1 – 2 assignments that will be graded. These will consist of problems and mini projects from the textbook or other source.

Weekly Online Quizzes (4 x 10 = 40 POINTS)
Each week on a Monday, unless otherwise noted, you will have a timed online quiz that assesses information from the indicated Sketches. The question format will vary. You will need to know both the historical aspects and mathematics from the Sketches.

Your Mathematician (YM) Research Project (20 POINTS) Due June 23 by noon
To further your appreciation and understanding of the history of mathematics, you will research and write a paper on a famous mathematician.

To see your choice of mathematicians, see *Your Mathematician* in the content folder under *YM Project Documents*.

For project assignment, please see the *YM Research Paper* document in the content folder.

Points will be deducted for late assignments.

Reflective Paper (10 POINTS) Due Saturday, June 30 by 11:59 pm
Read and write a reflective paper of the following article:
"Who? How? What? A Strategy for Using History to Teach Mathematics"

(link article in Content folder)

See Calendar for more details on the assignment.

Graduate Students:

In order to receive graduate credit, please choose and complete 4 of the 5 GRADUATE STUDENTS ONLY ASSIGNMENTS. *See the Homework Activities Document in the Content folder for more details.* These projects are due at the same time as the assignment. You will also research a historical event as part of your YM project. **Failure to satisfactorily complete these assignments will result in a grade no higher than a D.**

University Policies:

- Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf and Discrimination and Harassment Policy (#0.2040) at https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf. Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

- In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in Downing University Center A-200. The OFSDS telephone number is (270) 745-5004; TTY is (270) 745-3030. Per university policy, please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

- **Academic dishonesty will not be tolerated and may result in failing grade.** This includes any form of cheating or plagiarism. The policy is found on the web at **http://www.wku.edu/coursecatalog/**.

Student Assistance/Tutoring:

Should you require academic assistance with this course, or any other General Education Course, there are several places that can provide help. The Learning Center, located in the Academic Advising and Retention Center, DSU 2141, has tutors in most major undergraduate subjects and course levels throughout the week—they can also direct you to one of many tutoring and assistance Centers across campus. To make an appointment, or request a tutor for a specific class, call (270) 745-5065 or stop by DSU 2141. Log on to TLC's web site at http://www.wku.edu/tlc for tutoring for students at a distance. TLC summer hours: Monday-Thursday, 7:30 am – 4:00 pm, Friday 7:30 am – 12:30 pm.

The Writing Center is also available to you for assistance with writing. See link provided for location, hours of operation, and additional information. Scroll down for summer hours.
https://www.wku.edu/writingcenter/