

SYLLABUS

DATE OF LAST REVIEW:	09/2019
CIP CODE:	24.0101
SEMESTER:	Departmental Syllabus
COURSE TITLE:	History of Mathematics
COURSE NUMBER:	MATH0208
CREDIT HOURS:	3
INSTRUCTOR:	Departmental Syllabus
OFFICE LOCATION:	Departmental Syllabus
OFFICE HOURS:	Departmental Syllabus
TELEPHONE:	Departmental Syllabus
EMAIL:	Departmental Syllabus <i>KCKCC-issued email accounts are the official means for electronically communicating with our students.</i>
PREREQUISITES:	Students need to meet the correct placement measure for this course, OR grade of “C” or higher in MATH0105/106 College Algebra (w/wo review) OR Bachelor’s or higher degree

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, <http://www.kckccbookstore.com> for the required text for your particular class. The TI-83 or 84 Series graphing calculator is required.

COURSE DESCRIPTION: This course is designed to acquaint students with the development and practices of mathematics in ancient, medieval, and modern times. This worldwide multicultural development will then be brought up to date with the students’ exposure to current thought and philosophy in mathematics as well as the technology that has revolutionized our modern world.

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

- I. Cultural Contributions of Numbers and Numerals
 - A. Babylonian and Egyptian
 - B. Chinese

- C. Greek and Roman
 - D. Hindu-Arabic
 - E. Indian and Mayan
- II. Medieval & Renaissance Periods
- A. European
 - B. Hindu-Arabic
 - C. Native American (Mayan, Inca, & Aztec)
- III. Modern Period
- A. European
 - B. American
 - C. Other cultures
- IV. History of Algebra
- A. Function definitions
 - B. Fundamental Theorem of Algebra
- V. History of Geometry
- A. Main theorems
 - B. Geometry and art/architecture
- VI. History of Calculus
- A. Calculus controversies
 - B. Fundamental Theorem of Calculus
- VII. History of Modern Mathematics
- A. Shift of thinking
 - B. Descriptive statistics
 - C. Computers
 - D. Mathematics education

EXPECTED LEARNER OUTCOMES:

- A. The student will be able to identify the cultural contributions of numbers and numerals.
- B. The student will be able to differentiate between the contributions of the Medieval and Renaissance Periods.
- C. The student will be able to identify the contributions of the modern period.
- D. The student will be able to outline the main ideas of the history of algebra.
- E. The student will be able to generalize the main ideas of the history of geometry.
- F. The student will be able to recognize the main ideas of the history of calculus.
- G. The student will be able to interpret the main ideas of modern mathematics.

COURSE COMPETENCIES:

Upon successful completion of this course:

The student will be able to identify the cultural contributions of numbers and numerals.

1. The student will be able to describe the contributions of the Babylonians and Egyptians.
2. The student will be able to describe the contributions of the Chinese.
3. The student will be able to describe the contributions of the Greeks and Romans.
4. The student will be able to describe the contributions of the Hindu-Arabics.
5. The student will be able to describe the contributions of the Indians and Mayans.

The student will be able to differentiate between the contributions of the Medieval and Renaissance Periods.

6. The student will be able to explain the contributions of the Europeans.
7. The student will be able to explain the contributions of the Hindu-Arabics.
8. The student will be able to explain the contributions of the Mayas.

The student will be able to identify the contributions of the modern period.

9. The student will be able to explain the contributions of the Europeans.
10. The student will be able to explain the contributions of the Americans.
11. The student will be able to explain the contributions of other cultures.

The student will be able to outline the main ideas of the history of algebra.

12. The student will be able to define and demonstrate the concept of functions.
13. The student will be able to explain the Fundamental Theorem of Algebra.

The student will be able to generalize the main ideas of the history of geometry.

14. The student will be able to identify the main theorems of geometry.
15. The student will be able to demonstrate the connections between geometry and art/architecture.

The student will be able to recognize the main ideas of the history of calculus.

16. The student will be able to state the calculus controversy between Newton and Leibniz.
17. The student will be able to define and illustrate the Fundamental Theorem of Calculus.

The student will be able to interpret the main ideas of modern mathematics.

18. The student will be able to explain the shift in mathematical thinking in the modern era.
19. The student will be able to explain the history of descriptive statistics.
20. The student will be able to summarize the history of computers.
21. The student will be able to explain the history of mathematics education.

ASSESSMENT OF LEARNER OUTCOMES: Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:

This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college's policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the disabilities services office at (913) 288 -7664.

All enrolled students at Kansas City Kansas Community College are subject to follow all rules, conditions, policies and procedures as described in both the Student Code of Conduct as well as the Student Handbook. All Students are expected to review both of these documents and to understand their responsibilities with regard to academic conduct and policies. The Student Code of Conduct and the Student Handbook can be found on the KCKCC website.