

New Course Request

Indiana University

EAST

Campus

Check Appropriate Boxes:

Undergraduate credit

Graduate credit

Professional credit

- 1. School/Division Natural Science & Mathematics 2. Academic Subject Code MATH
- 3. Course Number M123 (must be cleared with University Enrollment Services) 4. Instructor Walter Scott
- 5. Course Title COLLEGE ALGEBRA

Recommended Abbreviation (Optional) _____
(Limited to 32 Characters including spaces)

- 6. First time this course is to be offered (Semester/Year): FALL 2009
- 7. Credit Hours: Fixed at 4 or Variable from _____ to _____
- 8. Is this course to be graded S-F (only)? Yes _____ No X
- 9. Is variable title approval being requested? Yes _____ No _____

10. Course description (not to exceed 50 words) for Bulletin publication: _____
P. APPROPRIATE PLACEMENT ON SKILLS EXAM OR HS ALGEBRA.
GRAPHING OF LINEAR & NON-LINEAR FUNCTIONS, RADICAL EXPRESSIONS,
COMPLEX NUMBERS, EXPONENTIAL & LOGARITHMIC FUNCTIONS, MATRICES,
SOLVING LINEAR, QUADRATIC, RADICAL, EXPONENTIAL EQUATIONS,
SOLVING SYSTEMS OF EQUATIONS & INEQUALITIES.
OFFERED EVERY SEMESTER.

- 11. Lecture Contact Hours: Fixed at 4 or Variable from _____ to _____
- 12. Non-Lecture Contact Hours: Fixed at _____ or Variable from _____ to _____
- 13. Estimated enrollment: 225 of which _____ percent are expected to be graduate students.
- 14. Frequency of scheduling: EVERY SEMESTER Will this course be required for majors? NO

15. Justification for new course: COLLEGE ALGEBRA THAT FULFILLS NSM DISTRIBUTION REQUIREMENTS. REPLACES MATH M117

16. Are the necessary reading materials currently available in the appropriate library? _____

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials. SEE ATTACHED.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted. NSM at IU EAST HAS BEEN INFORMED & COPIED.

Submitted by: _____ Date _____
Department Chairman/Division Director

_____ Date _____
Dean of Graduate School (when required)

Approved by: _____ Date 10/13/08
Dean

_____ Date 10/13/08
Chancellor/Vice-President

_____ Date _____
University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

Indiana University East
Math-M123 College Algebra
Fall 2009 Course Policy (Draft 04/21/08)

Instructor:

Office:

Phone:

Office Hours:

E-Mail:

College Algebra is a one-semester 4-credit-hour course. Successful completion (with a grade of C or better) of Math-M007 (Elementary Algebra) or the equivalent is a prerequisite for this course unless COMPASS placement test scores merited placement in this class. Upon successful completion of College Algebra, you will be prepared for Math-M118 (Finite Mathematics) or Math-M125 (Pre-Calculus Mathematics). To perform well in this class, you should expect to spend a couple of hours each day working problems and reading the sections before they are discussed in class. When you go into your next math class, it will be assumed that you have mastered the material from College Algebra. Thus, you should strive to do as well as you possibly can while in this course and take advantage of any and all help that is available to you.

Textbook:

College Algebra, 3rd Edition, by Beecher, Penna, and Bittinger.

Course Coordinator:

Walter Scott

Office: Whitewater Hall, Room 200

Phone: 765-973-8608

Course Objectives: The IU East Faculty identified seven learning objectives for students at the university. The seven learning objectives are incorporated into the IU East Campus Strategic Plan and are listed on page 2 of the IU East 2005-2007 Catalog. At the completion of this course, each student should be able to:

Be able to interpret graphs in x-y coordinates.

- Be able to plot x-y coordinates onto the Cartesian Plane.
- Understand the concept of a graph of an equation as the collection of ordered pairs representing the solutions.
- Understand the graphs of linear equations including the concepts of intercepts, slopes, and various forms of linear equations.
- Understand the concept of a function.
- Understand the concept of domain and range of a function.
- Understand the concept of graph of a function and be able to find values at specified points by interpreting the graph of the function.
- Find the solutions (if they exist) of systems of linear equations by using the substitution and elimination methods.
- Find the solutions to radical equations.
- Find the solutions of quadratic equations by factoring, completing the square, and using the quadratic formula.
- Find the solution sets for absolute value equations and inequalities. Be able to write the solution sets in interval notation, set-builder notation, and graph the solution sets on the real number line.
- Perform algebraic operations on polynomials, rational, and radical expressions in one or several variables.
- Solve applications involving systems of two linear equations.

- Solve rational equations.
- Perform elimination using matrices.
- Graph inequalities in two variables.
- Understand basic concepts of complex numbers.
- Solve applications involving quadratic equations.
- Sketch graphs of quadratic functions using the vertex and axis of symmetry.
- Be able to perform the composition of two functions and to determine the inverse of a function (if it exists.)
- To graph and apply exponential functions.
- To understand connections between logarithmic and exponential functions.
- To learn and apply properties of logarithmic functions.
- To comprehend the base e and natural logarithms.
- To solve exponential and logarithmic equations.

Homework: There are daily homework assignments. When you are working on even-numbered exercises, you should use the odd-numbered exercises, with corresponding solutions in the back of the text, as a check that you are working the exercises correctly. At the end of each chapter, there are review problems and a practice test. These problems will not be assigned, but they are good practice for exams. Your homework should be done neatly, completely, and as accurately as possible. If you have trouble with homework problems, be sure to see your instructor or a tutor right away. Your two lowest homework scores will be dropped. The total homework score will be calculated as a percent and will represent 150 points in the final grade.

Attendance: In order to pass this class, a student must attend at least 24 out of the 30 scheduled class sessions. This represents a minimum of 80% attendance to qualify for a passing grade in College Algebra. Perfect attendance in this class is worth 50 points towards your course grade.

Quizzes: There are 8 quizzes. The lowest quiz score will be dropped. The total quiz score will be calculated as a percent and will represent 200 points in the final grade. If you are absent on the day of a quiz, that quiz will be counted as a zero. Calculators are allowed on all quizzes. (Instructors: Schedule the 8 quizzes at your discretion.)

Exams: There are two in-class exams. Exams 1 and 2 will be worth 150 points and 200 points, respectively. Each exam will be graded on a percent basis. If you are unable to attend an exam, you must inform your instructor in advance to arrange an alternate time. Failure to do so will result in an exam score of zero. Calculators are allowed on all exams. A comprehensive Final Exam is given at the end of the semester. The Final Exam is worth 250 points towards your course grade. All students must take the final exam in order to pass this course. Failure to take the Final Exam will result in a course grade of F.

Mastery Skills: All students must pass a series of Mastery Skills Quizzes with a 90% or better by the end of the semester to be eligible to pass this course. See your instructor for details.

MyMathLab: A component of this course will be the use of MyMathLab from the textbook publisher. This will allow the students to continually refresh their skills throughout the semester. On line assignments must be completed successfully in order to pass this course.

Calculators: Calculators may be used although they are not required. A small, self-powered scientific calculator will probably be sufficient. Graphing calculators may also be used. Check with your instructor or the Math Lab to see if extra assistance with calculators is offered.

Tutoring: Free tutoring assistance is provided for this course through Tutorial Services in Springwood Hall, Suite 202. See your instructor for further information about this program.

Student Support Services: The University will provide auxiliary aids and services for persons of first generation, economic disadvantage, and disability. Students should notify me of any special needs and go to Student Support

Services in Whitewater 110 to establish documentation of the disability. Also, if you will need assistance in the event of an emergency evacuation of the classroom or building, please let me know immediately.

Grading: College Algebra is a course **that does satisfy** the Natural Sciences and Mathematics Division distribution requirement.

Points:			Grading Scale:	
Attendance	50		90-100%	A
Homework	150		80-89%	B
Quizzes	200		70-79%	C
Exam 1	150		0-69%	F
Exam 2	200			
Final Exam	250			
TOTAL	1000			

Testing Out: To try and test out of this course, you may take a written exam at Tutorial Services, Springwood Hall, Suite 202, any time during the first week of classes. (8:00am-6:30pm Tuesday through Thursday and 8:00am-3:30pm Friday). No appointment is necessary.