

MATH-M152 College Algebra for the Liberal Arts

Hank Hernandez (lecturer in Math and interim director of the Math Assistance Center [MAC]) has been working to develop a new math course entitled, *College Algebra for the Liberal Arts* (Math 15200), to serve as an alternative to Math 153 and Math 118 for students who are not majoring in STEM disciplines. The course has finally been approved by West Lafayette and Hank had been hoping to offer it this fall. Unfortunately, the Math department is now expressing reluctance to go through with offering the course because of the fear that it would likely not fill (the reason advanced for the fear is that it would not “count” in Liberal Arts– Math has already determined that it cannot count for Science majors).

Please note that this course is being developed with a ‘supplemental instruction’ component–peer mentors would be trained to provide ‘peer-led team learning’ (PLTL) support similar to that used in Chemistry to enhance students’ success.

➔ School of Liberal Arts Faculty Assembly, 2 March 2012, item presented under “new business” by Marianne S. Wokeck

The proposal to offer, and count for Liberal Arts student the newly developed course MATH-M152 as an alternative for M118 and M153 was brought to my attention too late for consideration and recommendation by the SLA Undergraduate Curriculum and Standards Committee; since registration for fall 2012 is very close and since SLA student my find the M152 alternative attractive, I seek the consent of the SLA FA, in principle, to enable students to enroll in this course with the understanding that the curriculum committee will exercise due diligence concerning this course in regard to its review and place in the liberal arts curriculum as soon as possible.

Bulletin Entry:

MATH-15200 College Algebra Credit Hrs: 3

P: MATH 11100 (Algebra) with a grade of C or better, MATH 11000 (Fundamentals of Algebra) with a grade of B or better, or placement. MATH15200 is a terminal course that covers college-level algebra designed to satisfy the liberal arts analytic skills requirement in mathematics. MATH 15200 is not considered a prerequisite for MATH15400.

Schedule Entry:

MATH 15200 COLLEGE ALGEBRA (3CR)

This course has a required common final exam to be taken on Friday, December 7, 6:00- 8:00am. Prerequisite for MATH 15200: MATH 11100 (Algebra) with a grade of C or better, MATH 11000 (Fundamentals of Algebra) with a grade of B or better, or placement. “All sections of MATH 15200 have required on-line homework assignments.” Students enrolling in MATH 15200 are required to attend Friday morning recitation in the Mathematics Assistance Center from 9:00-10:00am.

Course Description:

MA 15200 - College Algebra

MATH 15200 is a terminal course in college algebra which satisfies the liberal arts analytic skills requirement in mathematics. It is specifically designed for students who do not need the same technical skills as those required by students planning to continue with calculus. There will be an emphasis on applied problems and graphing techniques. Real numbers, linear functions, linear equations and systems of linear equations, absolute value equations, rational expressions, complex numbers, quadratic equations, exponential and logarithmic functions, circle, parabola, and the mathematics of finance including compound interest and annuities are topics covered in this course. Prerequisite: MATH 11100 (Algebra) with a grade of C or better, MATH 11000 (Fundamentals of Algebra) with a grade of B or better, or placement.

(Not available for credit toward graduation in the College of Science.)
This course is typically offered Fall Spring Summer.

3.00 Credit hours

MATH 15200 COLLEGE ALGEBRA List of Course Topics

Prerequisites: Fundamental Concepts of Algebra I

Algebraic Expressions and Real Numbers Exponents □ Radicals
and Rational Exponents Polynomials

Factoring Polynomials

Rational Expressions

Equations and Inequalities

Graphs □ Linear Equations and Rational Equations □ Models and
Applications □ Complex Numbers □ Quadratic Equations □ Other
Types of Equations □ Linear Inequalities and Absolute Value
Inequalities

Equations and Inequalities

Basics of Functions and Their Graphs □ Linear Functions and
Slope □ Quadratic Functions □ Combinations of Functions;
Composite Functions Distance and Midpoint Formulas; Circles

Functions and Graphs

Exponential Functions □ Logarithmic Functions □ Properties of
Logarithms □ Exponential and Logarithmic Equations

Exponential and Logarithmic Functions

Inverse Functions □ Exponential Functions □ Properties of
Logarithms □ Exponential and Logarithmic Equations

Systems of Equations

MATH 15200 COLLEGE ALGEBRA

Course Policy □ ****Generic—See instructor for section-specific course materials****

INSTRUCTOR: To be determined OFFICE PHONE: To be determined OFFICE: To be determined OFFICE HOURS: To be determined E-MAIL: To be determined

A working knowledge of the concepts of college algebra is essential for many courses in business, economics, health sciences, and more.

TEXTBOOK: Purdue College Algebra, Pearson Custom Edition by Blitzer, Lial, Hornsby, McGinnis, Harshbarger, and Yocco, Pearson Custom Publishing. The textbook is shrink-wrapped with a 3-ring binder and the MyMathLab Student Access Kit that is for registration for online homework.

CALCULATOR: No calculators are allowed on quizzes and exams until after exam1; however, you may need a calculator for homework prior to exam 1. After Exam 1, a non-programmable scientific calculator will be required. *Graphing calculators* will not be allowed on quizzes or exams since some problems will require you to show that you have the ability to draw graphs of functions without the aid of such tools. Bring your scientific calculator with you to every class period. **DO NOT BRING A GRAPHING CALCULATOR TO CLASS.**

PREREQUISITES: It is assumed that you have recently mastered the material of MATH 11100 (Algebra) with a grade of C or better or the material of MATH 11000 (Fundamentals of Algebra) with a grade of B or better within the last two years. If this is not the case then you should talk to your instructor as soon as possible to decide if this is the correct class for you. The main reason people have difficulty with MATH 15200 is because of insufficient background. If you are unsure whether this is the right class for you, talk to your instructor before the end of

the first week of the semester. It is not difficult to determine which class is your correct choice.

WITHDRAW DATES: Advisor and instructor (or math department member) signatures required after the last day to withdraw with automatic grade of W. Requests for withdraw after the last day to withdraw with grade of W or F require extraordinary circumstances and are rarely granted. If you stop attending class without officially withdrawing by the last withdraw date, your grade will be an F for the course. If you find it necessary to withdraw from the course, we encourage you to first talk to your instructor and/or your advisor so that they can assist you in deciding what alternative options best fit your needs. The academic calendar on the Registrar's Office website (<http://www.registrar.iupui.edu>) lists the withdraw dates for the semester.

ATTENDANCE: Attendance is required of all students without exception. A student absent from class bears full responsibility for all material covered in class. Quizzes may be given at the beginning of class, during class, or at the end of class, so please be on time with the expectation of remaining for the entire period. If you anticipate having to leave class early, please inform your instructor know prior to the beginning of class. Regular attendance is crucial for success in this course.

ADMINISTRATIVE WITHDRAWAL POLICY: A basic requirement of this course is that you will participate in class and conscientiously complete writing and reading assignments. Keep in touch with your instructor if you are unable to attend class or complete an assignment on time. **If you miss more than half the class meetings within the first four weeks of the semester without contacting your instructor, you may be administratively withdrawn.** This class meets twice per week; thus if you miss more than four classes in the first four weeks, you may be withdrawn. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period; therefore, if you are administratively withdrawn from the course, you will not be eligible for a tuition refund. If you have questions about the

administrative withdrawal policy, please contact your instructor.

Generic Course Policies:

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CAMPUS-WIDE POLICIES: There are a number of campus-wide policies governing the conduct of courses at IUPUI. These can be found at http://registrar.iupui.edu/course_policies.html.

REQUEST FOR COURSE ACCOMMODATION DUE TO RELIGIOUS OBSERVANCE:

Students seeking accommodation for religious observances **MUST** make a written request to the course instructor by the end of the 2nd week of the semester. This request **MUST** be made using the IUPUI Registrar's "Request for Course Accommodation Due to Religious Observation Form" (see <http://registrar.iupui.edu/religiousholidayform.html>). Make-up exams must be taken prior to the regularly scheduled exam date and time. Failure to comply with this university policy will result in no accommodations given later in the semester.

ACADEMIC INTEGRITY: The IUPUI Department of Mathematical Sciences expects all students to adhere to the regulations put forth in the "IUPUI Code of Student Rights, Responsibilities, and Conduct" (see www.iupui.edu/code/) concerning academic or personal misconduct. Cheating on assignments and tests or other academic works is a violation of university policy. Any behavior that is construed as cheating or academic dishonesty will not be tolerated in this course. This includes, but it is not limited to, plagiarism, cheating during exams, acquisition of tests or other academic materials, as well as aiding and abetting others in committing the violation. The classroom protocol will be guided by the Student Code of Conduct which, among other things, asserts IUPUI's commitment "to maintain a spirit of civility in a community in which diversity is welcomed. Every student,

staff, and faculty member plays a significant role in promoting an environment that is conducive to academic excellence by fostering a climate of civility and mutual respect.”

STUDENT SERVICES: Phoning the **IUPUI Mathematics Information Line at (317) 278-2468** is a convenient way to find out details about mentoring/tutoring, placement testing, office location, hours, and so forth. The IUPUI Math Department web page also offers quick access to information about courses and programs offered through the Mathematics Department (www.math.iupui.edu).

If you have a disability which requires some special accommodation, please contact the instructor within the first two weeks of the semester to discuss the appropriateness of the instructor’s methods in this class or any other accommodation you need. You may also contact Adaptive Education Services (<http://aes.iupui.edu/>) for additional information on services available.

HELP OUTSIDE OF CLASS: There will not be enough time to answer all questions from the homework assignments, quizzes, exams, etc.. If you need more time to ask questions there are several options for help that are available. First, you can seek help during your instructor’s office hours. Second, tutoring/mentoring is available in the Math Assistance Center (MAC). The MAC is located in University College. To find out more about the tutoring/mentoring schedule and other general information about the MAC, check out the MAC web page at <http://www.math.iupui.edu/mac/>. Third, the Math Department offers optional Math 15200 recitations on Fridays from 9:00A-10:00A for students seeking additional help. And lastly, private tutors are available. If you need more information about the above services you can call the Department of Mathematics Information Line at **(317) 278- 2468**. You are also encouraged to form and participate in study groups.

STUDYING FOR THE CLASS: This is a college class and is much different than one taught in high school. We cover a lot of material and have limited time in class. You should expect to spend two to three hours studying on your own for each hour spent in class. Try to read the

section to be covered in class before hand. Read the sections very slowly and carefully. Make sure every word makes sense. If you have read carefully, you should be able to work the examples when they appear in the reading materials. If you are unable to do so, reread the information presented leading to that example and try again. The most important part of your learning of the material will be the time you spend working outside of class. You cannot expect to digest the material from just seeing it explained in class. Sometimes it will click and the lecture will have been useful. Other times the lecture will not make sense until you go over the material later. Talking about mathematics with classmates is very useful. Again, you are encouraged to form study groups and to work on textbook homework together.

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To perform as well as you can in this class, you should expect to spend several hours each day working problems and reading the sections before they are discussed in class. After working through a set of problems, sit back and ask yourself what you have just learned. Is there a common thread, concept, or technique that runs through the problem set? All problems (Homework, Quiz, and Exam) should be done completely, neatly, and accurately.

HOMEWORK: Homework is very important in any math course. Most homework will be done online using MyMathLab. Doing your homework is your best way to be prepared for quizzes and exams. Homework assignments are scaled to 100 points of the 700 points toward the grade. **No make-ups will be allowed when online homework is not completed by the shut off time for an assignment. Online assignments are due at the beginning of the class period following the introduction of the materials in class.** If you have difficulty understanding the materials, you should seek additional help using your instructor's office hours, the MAC, your study group, or a tutor. Again, the assignment is due at class time. All of your homework for this class should be kept in a 3-ring notebook along with your old quizzes and exams. Periodically reviewing errors on old papers is a

valuable study skill. In addition to attending all lectures, you need to do all the homework problems to be adequately prepared for the quizzes and exams.

QUIZZES: To receive credit for quiz and exam problems you must show all your work. If you are absent the day of a quiz, that quiz will be counted as zero. You are allowed to drop your 2 lowest quiz scores. **THERE WILL BE NO MAKE-UP QUIZZES. NO EXCEPTIONS. SO USE YOUR DROP QUIZZES WISELY.** Quizzes may be given at the beginning of class, during class, or at the end of class, so plan to arrive on time and to remain the entire period. Quizzes missed due to late arrival or early departure will not be eligible for make-up. Again, there are no make-up quizzes. Total quiz score is weighted the same as one exam.

EXAMS: There will be four in-class exams. Each exam will be based on 100 points. If you are absent the day of an exam, that exam will be counted as zero. During the course, you may find that you must be absent the day of an exam due to personal or family illness, accident, business trip, etc. For this reason, you are allowed to drop one exam score. **THERE WILL BE NO MAKE-UP EXAMS. NO EXCEPTIONS. SO USE YOUR DROP EXAM WISELY .**

The purpose of the drop exam and drop quizzes is not to boost your grade, but rather to give you some flexibility in the event a personal situation prevents you from being present on the day of an exam or quiz.

FINAL EXAM: The final exam is a departmental comprehensive exam and will be administered on Friday evening of the last full week of classes from 6:00P-8:00P (see course materials for your particular section or visit the Registrar's Office final exam schedule at www.registar.iupui.edu). The location of the final exam will be announced later. It will be worth 200 points, i.e., it will be weighted the same as two in-class exams. More information about the common departmental final exam (practice problems, practice finals, etc.) can be found on the Math Department web page (www.math.iupui.edu). **Be sure that you do not have any conflicts (work, personal or class)**

with the time and date of the final exam.

GRADES: Your letter grade for the course will be determined from your total scores which will be computed as follows.

TOTAL POSSIBLE POINTS

Best 3 out of 4 in-class exams 300 Homework 100 Quizzes 100 Final Exam 200 Total 700

Pluses and minuses will be awarded on the final grades. MATH 15200
- Course Policy

GRADES

630-700 A's 560-629 B's 490-559 C's 420-489 D's

0 - 419 F's
