

To Math 52 instructors:

(This information is most accurate for Yuba College. Instructors at Woodland Community College should check with Lewis Felver to see if any of the information here differs for you.)

- Department website: <<http://ms.yccd.edu/math>>. The Department website is a good resource for you and your students.
- To find any course outline, go to CurricUNET <<http://yccd.curricunet.com>> or to the Department website. Please look at the course outlines, for they are the principal guides for the courses.
- Please observe the following when you prepare your syllabuses.
 - Include the Course Objectives (CO) and the Course Student Learning Outcomes (SLO).
 - * CO: go to CurricUNET.
 - * SLO: go to <<https://ms.yccd.edu/course-slos>> or tracdat: <<https://yccd.tracdat.com>>.
 - Please file a copy of your syllabus with the division office.
- **Calculator** A scientific calculator such as the Texas Instruments TI-30X IIS is permitted.
- **Final Exam**
 - There is a **district-wide common final exam** in the fall and spring. There is no common final exam in the summer or intersession; however, it would be a very good idea to pattern the summer or intersession final exam after the common final exam.
 - * Students *may* have the use of a calculator during the final exam. The use of a cell phone, iPod, iPad, or other similar device on the final even as a calculator is not permitted.
 - * If you are going to allow your students to use scratch paper, you should provide the scratch paper and collect it.
 - * No formula sheet will be provided for the final exam, nor are students permitted to bring in their own formula sheets or cards.
 - * You should ensure that all of the topics listed are covered and you should hold your students responsible for the material regardless of whether the topics are on the final exam.
 - **Previous common final exams** for you and your students are available at <<http://ms.yccd.edu/downloads.aspx#samplefinals>>. These exams provide an example of the types of problems the students may expect and give an indication of the length of the exam. *Only these Math Department final exams may be distributed to the students.* However, an instructor may write his own review test or sample test.
 - Usual course grading scheme (%):
A: 90–100 B: 80–89 C: 70–79 D: 60–69 F: 0–59
 - * The final exam shall account for at least 25% of the grade.
 - * No more than 20% of the course grade may be derived from multiple-choice questions (including online homework).
 - Final exams should not be returned to students. Please keep all final exams for at least two years before discarding them.
- **Textbook:** Elayn Martin-Gay, *Beginning & Intermediate Algebra*, 6th edition, Pearson (2017). ISBN-13: 978-0-13-419617-6.

If you need a textbook or other instructor resources, please contact

Wdln: Matt Clark <mclark@yccd.edu>;

Yuba: Kristi Page <kpage@yccd.edu>.

Textbook sections to be covered:

The numbers 1a, 1b, 1c, and so on, are from the Course Lecture Content listed on the course outline (effective Spring 2017). These are followed by textbook section numbers. These are the barest sections that need to be covered to satisfy the course outline. You may wish to supplement these sections to round out your lessons.

1a: 1.5, 1.6	6a: 3.6	11: 7.5, 10.6
1b: 1.7	6b: 12.1	12: 12.8
1c: 10.2	6c: 12.1	13: 10.3
1d: 1.4	6d: 12.1	14a: 13.1
2a: 10.7	6e: 12.2	14b: 13.1
2b: 10.7	6f: 3.6, 12.1	14c: 13.1
2c: 10.7	6g: 8.2	15a: 2.5, 6.7
3: 6.1–6.5	7: 11.5, 11.6	15b: 2.5, 6.7
4a: 7.1	8a: 12.3, 12.5	15c: 7.6
4b: 7.3, 7.4	8b: 12.6	15d: 8.4
4c: 7.2	8c: 12.5	15e: 2.7, 7.6, 11.3
4d: 7.1	8d: 12.7	15f: 2.6, 2.7, 4.5*
5a: 10.1, 10.3	9a: 6.6, 6.7	15g: 7.6, 11.3
5b: 10.4	9b: 11.3	15h: 6.7, 10.6
5c: 10.4	10a: 11.1	16: 9.3, 11.4
5d: 10.5	10b: 11.2	

*In 4.5, some exercises require material from 4.4, which we do not cover.

N.B. Be sure to cover the associative, commutative, distributive, identity, and inverse properties; see the course outline.

If you have any questions, please contact

Wdln: Lewis Felver lfelver@yccd.edu or Yuba: Mukta Sharma msharma@yccd.edu.

Yuba Community College District

Yuba College Course Outline

Course Information

Course Number: MATH 52
Full Course Title: Intermediate Algebra
Short Title: Interm Algebra
TOP Code: -
Effective Term: Spring 2017

Course Standards

Course Type: Credit - Degree Applicable
Units: 4.0
Lecture hours: 72.0
Repeatable: No
Grading Method: Letter Grade or Pass/No Pass

Minimum Qualifications for Instructors

- Mathematics (Masters Required)
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Course Description

To prepare students to take transfer-level mathematics or statistics courses. Topics include: real and complex numbers; factoring of polynomials; rational and radical expressions and equations; functions (general); linear, quadratic, exponential, and logarithm functions and equations; graphs; distance, midpoint, and circles in the Cartesian plane; application problems.

Conditions of Enrollment

Satisfactory completion of: MATH 101 or MATH 101B or (Placement Exam Score)Qualifying score on the mathematics placement test. To allow the student who is prepared for Math 52 not to take the prerequisite course.

Advisories

- **Language - recommended eligibility for English 1A**
To be able to read and understand the textbook. To be able to read and understand word problems.
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Content

Course Lecture Content

1. Basic operations
 - a. Addition and subtraction

- b. Multiplication and division
 - c. Powers (rational exponents) and nth roots of real numbers
 - d. The order of operations
2. Introduction to complex numbers
 - a. Addition and subtraction
 - b. Multiplication and division
 - c. Powers (nonnegative integer exponents)
3. Factor polynomials
4. Rational expressions
 - a. Simplify
 - b. Add and subtract
 - c. Multiply and divide
 - d. Evaluate
5. Radical expressions
 - a. Simplify
 - b. Add and subtract
 - c. Multiply and divide
 - d. Rationalize numerator or denominator
6. Functions
 - a. Function notation
 - b. Add and subtract
 - c. Multiply and divide
 - d. Compose
 - e. Invert
 - f. Evaluate
 - g. Graph
7. Quadratic functions and their graphs
8. Exponential and logarithm functions
 - a. Graphs
 - b. Properties
 - c. Relation between exponential and logarithm
 - d. Change of base of logarithm
9. Nonlinear equations in one variable
 - a. Solve by factoring
 - b. Solve by changing variables (including equations of quadratic type)
10. Quadratic equations in one variable
 - a. Solve by completing the square
 - b. Solve using the quadratic formula
11. Equations in one variable that contain rational or radical expressions
12. Equations in one variable that contain exponential or logarithm function
13. Distance and midpoint between two points in the Cartesian plane
14. Circles
 - a. Graph
 - b. Equation
 - c. Center and radius
15. Applications that require one equation or a system of two equations
 - a. Perimeter
 - b. Area
 - c. Proportion
 - d. Direct and inverse variation
 - e. Distance-rate-time
 - f. Mixture
 - g. Job-rate
 - h. Pythagorean theorem
16. OPTIONAL: Nonlinear inequalities in one variable.

Objectives

1. Perform basic operations.
2. Factor polynomials.
3. Manipulate rational expressions.
4. Manipulate radical expressions.
5. Translate between rational exponent notation and radical notation.
6. Add, subtract, multiply, divide, compose, invert, evaluate, and graph functions; use function notation.
7. Graph quadratic, exponential, and logarithm functions.
8. Solve equations in one variable. ****Requires Critical Thinking****
9. Solve quadratic equations and equations of quadratic type. ****Requires Critical Thinking****
10. Find the distance and midpoint between two points in the Cartesian plane.
11. Analyze circles.
12. Solve applications that require one equation or a system of two equations. ****Requires Critical Thinking****

Student Learning Outcomes

1. Factor a polynomial expression.
2. Demonstrate understanding of logarithmic properties.
3. Perform operations on rational expressions.
4. Analyze and graph a quadratic function.
5. Solve a problem involving exponential equations.
6. Solve a problem involving quadratic equations.
7. Perform operations on radical expressions.

Methods of Instruction

- Lecture/Discussion

Distance Education

Delivery Methods

- Online
- Broadcast Education

Assignments

Reading Assignments
Writing Assignments
Other Assignments

A selection of problems from the end of each section of the textbook.

Methods of Evaluation

- Exams
 - Homework
 - Oral Tests/Class Performance
 - Quizzes
 - Other
 - Skills test
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Course Materials

Textbooks:

1. Martin-Gay, Elayn. *Beginning & Intermediate Algebra – A Custom Edition for the Yuba Community College District*, 1st custom ed ed. Pearson Learning Solutions, 2012, ISBN: 1256811173
Equivalent text is acceptable

Other:

1. Scientific calculator: Texas Instruments TI-30X IIS
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