



Math 55 B

Course Information Sheet

Textbook: Rockswold, G., Krieger, T., Beginning & Intermediate Algebra, 2nd Ed., Pearson/Addison Wesley, 2009. ISBN-13: 978-0-321-50005-2.

- Cover all of Chapters 11, 12, and from Chapter 9, sections 9.1-9.2, and chapter 13, 13.1-13.3.

Course Outline of Record

- All course outlines can be found on the LPC Website under Programs/Courses: http://www.laspositascollege.edu/programs/course_outlines/math_index.php or on the Math Department Blackboard site.
- **Your teaching contract requires that you cover all of the material listed in the Course Outline of Record.**
- The Course Outline is our contract with our transfer institutions, with each other and with our students about what the course will include.
- Any instructor who does not carefully follow the course outline risks the possibility of not being allowed to teach that course again at LPC.

Math Lab Requirements

- There is a **required** TBA (to be arranged) lab hour attached to this course,
- Students are **required** to go to the **Open Math Lab** in the **Integrated Learning Center** to work on lab assignments for a minimum of 17 lab hours over the semester.
- Your syllabus must state the Math Lab requirement.
- Recommended - minimum of eight lab assignments. Students may be given more than one week to complete an assignment. Lab assignments must be something more than doing homework.
- Core Lab assignments for Math 55B are available on the Mathematics Department Blackboard website. There are also examples of math labs that other instructors have created; we encourage you to share labs with other instructors.
- The Open Math Lab also provides a place for students to get help on assignments.

Student Learning Outcomes

- Student Learning Outcomes, SLOs, are learning proficiencies the Department feels every student should be encouraged master. Course-level SLOs for Math 55 connect with our program level SLOs of communication, multiple representations and problem-solving.
- The following course-level SLOs for Math 55B should be listed in your course syllabus:

Math 55 Student Learning Outcomes

Multiple Representations	Upon successful completion of Math 55B, a student should be able to construct multiple representations of a function.
Communication	Upon successful completion of Math 55B, a student should be able to explain what a function is.
Modeling	Upon successful completion of Math 55B, a student should be able to solve an applied problem involving a quadratic function.
Problem Solving	Upon successful completion of Math 55B, a student should be able to identify the domain and range of a given function.

NEW SLO Policies:

- All SLOs in all courses will be assessed every semester. Math 55 SLOs will be assessed by inclusion in the final exam.
- Instructors are free to write their own assessments, but assessments should reflect the appropriate level of rigor for the course and must specifically address the SLO being assessed.
- For examples of appropriate assessment problems, please contact the course coordinators, or check the Mathematics Department Blackboard Website.

Math 55B Course Materials

- Are available on the math department's blackboard site. To gain access to this site, please contact the course coordinators Randy Taylor or Ashley McHale.
- These materials include:
 - the course outline of record;
 - a table summarizing teacher resources for this course (e.g., labs, group activities);
 - core lab assignments (these are also listed below);
 - sample homework lists; and,
 - a sample course calendar; and
 - sample assessments for SLOs.

Suggestions regarding content Chapters 11, 12, 9.1-9.2, 13.1-13.3

- Chapter 7: Rational Expressions and Chapter 11: Quadratic Functions and Equations do require a review of factoring. In Math 65 students may not have seen the factoring techniques for sum and difference of two cubes: $a^3 + b^3$ and $a^3 - b^3$. Our suggestion is to allow some time to go over this technique from chapter 6.4 and also do a review of factoring techniques from Chapter 6.5 prior to covering Chapter 7.
- Consider covering Chapter 9: Systems of Linear Equations and Chapter 13: Conic Sections together after Chapter 11. Note that we are including "Matrix solutions of Linear Systems" (chapter 9.2) in our new course content – this is a change from our previous course content with the Tussy Gustafson text. However we are still not including determinants – so omit chapter 9.3.
- Chapter 14: Sequences and Series should be omitted.

Math Department Policy on use of **OPTIONAL** online materials

- For Elementary and Intermediate Algebra, MyMathLab is the only online system to be used by instructors.
- Use of this system is optional.

Mathematics Department/Las Positas College policy for Adding Students:

For courses that are closed on opening day, we recommend instructors NOT add students until the second class meeting.

- Instructors are not required to add students and should not feel they are expected to do so.
- For instructors who wish to add students:
 - For all classes, open or closed, we recommend instructors NOT add more than 5 students above the enrollment cap of 35 students. This recommendation is based on pedagogical reasons and enrollment management concerns.
 - All instructors must follow the ADD policies established by Student Services:
Instructors should:
 - add by priority number and
 - accept only priority numbers printed on official documents.

CORE LAB assignments for Math 55 have been created and are available on the Mathematics Department Blackboard website for all LPC Math 55 instructors. Contact the Math 55 course coordinators Ashley McHale and Randy Taylor for more information. In addition, there are many examples of good math labs that other instructors have created; we encourage you to talk with other instructors and share labs.

Recommended **CORE LAB** assignments for Math 55

1. **Introduction to Functions** explores multiple representations, functions vs. relations, domain and range. [Based on section 8.1]
2. **Introduction to Rational Functions** supplements the text book's discussion of graphs of rational equations and asymptotes and ties the discussion of rational functions to function concepts learned in chapter 8. [Based on section 7.1]
3. **Rational Expressions and Equations.** This lab, originally written for Math 65, focuses on differentiating between the processes used to simplify rational expressions and perform operations with them, and the processes used to solve rational equations. [Based on section 7.6]
4. **Quadratic Functions: Max or Min?** This lab focuses on multiple representations for quadratic functions and using the vertex to find max or min value of a quadratic function. [Based on section 11.1]
5. **Exploring families of functions.** This lab extends the textbooks discussion about horizontal and vertical translation to other types of functions that the students have studied. [Based on section 11.2]
6. **Linear vs. Exponential Change.** This lab explores the distinction between linear and exponential change using models, tables and graphs. Recommendation: Start in class. [Based on section 12.2]
7. **Graphs of logarithms.** Students explore the relationship between logarithmic and exponential graphs. [Based on section 12.3]