



**CENTRAL  
OREGON  
COMMUNITY  
COLLEGE**

## College Algebra (Mth 111)

Spring 2016

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**Times & Locations** CRN 21468 TuTh 1:15 – 3:00 RTEC 124, Redmond Campus WA key: cocc-2021-0440  
CRN 21469 TuTh 6:00 – 7:45 GRV 220, Bend Campus WA key: cocc-7950-0380

**Required Software:** WebAssign; Available on-line or through the COCC Bookstore.

**Text Options:** Paperback: College Algebra, 111; Stewart, et al w/ WebAssign: ISBN 978-1-13-353289-7  
OR e-book version of above textbook ISBN 0538738103.

**Help!** *Regular office hours:* Redmond: TuTh 12:30-1:15, Bend: TuTh 7:45 – 8:15. I encourage all of you to contact me anytime you are having difficulties with the course material or assignments. You are welcome to stop by my Bend office anytime or arrange another time to meet. Just let me know.

Free drop-in tutoring is available 7 days a week in the Bend Tutoring Center (library's lower level). There is limited tutoring available in Redmond. See [tutortest.cocc.edu](http://tutortest.cocc.edu) for the tutoring schedule. I encourage you to take advantage of the free tutoring and it's a good place to do homework because you can get instant help when you need it.

If you have experienced test anxiety consider attending HD\_100\_TT. Additional courses are offered for those who want to improve their study skills. If you have any issues that would affect your success at COCC please check with the CAP center in the basement of the Library or visit their web sites.

[cap.cocc.edu/CAP+Testing/testtips/](http://cap.cocc.edu/CAP+Testing/testtips/) or [cap.cocc.edu/Personal+counseling/](http://cap.cocc.edu/Personal+counseling/)

**Course Overview:** Introduces graphs and functions (linear, quadratic, polynomial, rational, exponential and logarithmic) using a graphing calculator. First term of a pre-calculus sequence for science students. Recommended prerequisite: MTH 95 or equivalent. Graphing calculator required.

**Preparation:** You should have successfully completed COCC's Mth 95 (B- or better) or its equivalent or tested into this class. If you decide to take this class even though you do not meet these prerequisites, be aware that you will have to work extra diligently to succeed in the class. Mth 111 assumes that a high degree of familiarity with the graphing calculator already exists. If you are not already familiar with the graphing calculator then this is not the course for you. Mth 95 provides initial instruction on use of the graphing calculator. If you have any concerns as to your preparedness for this class please speak to me the first day so I can help get you on track.

**Calculators and Technology:** I recommend the TI-83/84 (any model). Some of you may already have another calculator which is fine. – However, you are responsible for knowing how to use it. There are very few restrictions on your calculator use. Calculators that are part of cell phones or PDA's will not be allowed in testing situations.

**Outside Effort:** For this course, like most College courses, students should expect to spend two hours outside of class for every hour inside of class. (~8 hrs/wk) Those of you with less than stellar math skills should plan to spend extra time outside of class. As with most classes, what you get out of this course is directly proportional to what you put in.

## Evaluation

**Class Participation:** You are expected to participate in class. Bring your calculator and scratch paper each day.

**Homework:** Math is not a spectator sport. Practice might not lead to perfection but it will lead to excellence. Textbook 'homework' is handled electronically by WebAssign. I generally assign 'homework' every day and it is usually due the following class day. Since there may be problems you could not complete or have questions about, you will have until midnight to complete each homework assignment. Please ask me about anything you don't understand -- during class or outside of class. WebAssign also provides free on-line help.

## Getting Started

- ◆ I recommend running a current Browser with the latest [Java](#) version.
- ◆ Go to [www.webassign.net](http://www.webassign.net). Choose the 'I have a Class Key ' option. Use Class Key from Page 1.  
(verify class information, create account)
- ◆ You do not need to purchase anything at this time! Choose Free Trial Period option.
- ◆ The WebAssign Calendar shows due dates for each assignment.
- ◆ My Assignments page shows assignments on the day they are given out.
- ◆ After the due date, you may request a one-time automatic 1-week extension within WebAssign.
- ◆ You are encouraged to ask questions concerning the homework during class, by e-mail or by phone.
- ◆ You are highly encouraged to **work in groups, use the COCC tutors** and drop by my office anytime.

**WebAssign Exam:** In addition to the regular homework, there are two WebAssign Exams. These are done at home with your notes/book available to you. There will be limited help on the Exams and no extensions.

**WebAssign Opt-out Option:** For those of you who find WebAssign a hardship for any reason, you may opt out of the WebAssign portion of the course. In this case, your WebAssign points will be replaced by your Exam average. Under this option, I will suggest textbook homework but will not be collecting it.

**In-Class Tests:** There are two in-class paper exams scheduled plus a comprehensive final exam. You will not be allowed to consult your notes or textbook during these exams. You will need to use a calculator. In all cases, you must show your work and it must be legible for full credit. If you need to reschedule an exam, you must contact me prior to the exam. Your in-class test average is based on the best two out of the three exams.



*In all cases, if you are going to miss an exam you must make **prior arrangements** for rescheduling that exam. Failure to make **prior arrangements** will result in a **zero** for that exam.*



**Labs/Projects:** A Lab/Project is more extensive than a homework problem. Often there will be a written component that complements the mathematics. They may begin during class in a group setting. Learning to communicate your ideas to your peers and to work together effectively is a part of this course. I highly encourage you to work in teams but I realize you may not be able to work with others outside of class so you will turn in individual labs. I will drop the lowest score on these assignments. Late or messy projects will be penalized.

**Final Grade:** Your grade will be based on:

|  |     |
|--|-----|
| WebAssign Homework & Exam Reviews                          | 20% |
| Projects/Labs (Instructor Graded Assignments) (drop 1):    | 20% |
| Two In-class Midterm Exams + Final Exam (best 2 out of 3): | 60% |

**Grading Scale:** 100% -- **A** -- 90% -- **B** -- 80% -- **C** -- 70% -- **D** -- 60% -- **F** -- 0%.

At any time you may check your grade in Blackboard or locate assignments on my Web Page.

| <b>Some Grading Scenarios</b>   | <b>WebAssign<br/>(20%)</b> | <b>Labs<br/>(20%)</b> | <b>Exams<br/>(60%)</b> | <b>Final<br/>Grade</b> |
|---|----------------------------|-----------------------|------------------------|------------------------|
| <i>Attends every day, works hard, does all the homework, but does poorly on in-class exams.</i> | 100%                       | 100%                  | 60%                    | 76%                    |
| <i>Opts-out of WA, blows off half the Labs but aces the tests.</i>                              | 0%                         | 0%                    | 95%                    | 76%                    |
| <i>Does so-so throughout.</i>   | 75%                        | 75%                   | 75%                    | 75%                    |

**Cheating or Plagiarism:** You are highly encouraged to work together and help each other. However cheating or plagiarism on any assignment or test will result in a zero being recorded for that item and may result in an F for your final course grade.

**Behavior:** At all times, I expect you to abide by the behavior guidelines for COCC students. Cell phone use (including texting), social chatting during lecture, foul language, arriving late or leaving early are just a few of the disruptive behaviors that are inappropriate in a college class. Your rights and responsibilities are detailed at [studentlife.cocc.edu/Policies/Rights+and+Responsibilities/](http://studentlife.cocc.edu/Policies/Rights+and+Responsibilities/). Failure to abide by these guidelines will result in notification to Student Life and can result in dismissal from the class. If you have a special situation that requires cell phone use, leaving early or arriving late, please let me know.

**Discrimination Policy:** Faculty, staff and students are protected from discrimination and harassment under Title VII of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972. It is the policy of the Central Oregon Community College Board of Directors that there will be no discrimination or harassment on the basis of age, disability, gender, marital status, national origin, color, race, religion, sexual orientation or veteran status in any educational programs, activities or employment. Persons having questions about equal opportunity and nondiscrimination should contact the Equal Employment Officer, c/o COCC's Human Resources office, (541) 383-7216. COCC is an affirmative action, equal opportunity institution.

**ADA Statement:** Students with documented disabilities who may need accommodations, those who have any emergency medical information the instructor should know of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, no later than the first week of the term. Students may also wish to contact [Anne Walker](#), the **Coordinator of Services for Students with Disabilities** (541) 383-7743.

**Withdrawing from the Course:** You may drop this class (and receive no grade) by submitting a drop form at the Boyle Center (BEC) or using the on-line BANNER system, without an instructor's signature, through the 7<sup>th</sup> week. After that, if you want to withdraw from the class, you must obtain your instructor's signature then turn in the drop slip at BEC (before the drop deadline); your grade will be a W. The last day to withdraw is Wednesday, the last week of regular classes. If you intend to quit the class, do not wait until the last minute to drop! If you do not formally drop the class, but just stop coming, you will receive an F.

**Cell phone use during class is absolutely inappropriate!  
Cell phones must be off and out of sight.**

**Course Description:**

Mth 111 is a course designed to examine, in detail, the applied, real-world, and theoretical mathematical implications of the mathematical concept of a function. The symbolic, numerical, and graphical representations of the mathematical concept of a function introduced in Mth 95 will be expanded and explored. Emphasis will be on solving problems symbolically, numerically and graphically and understanding the connections among these methods in interpreting and analyzing results. Quadratic, polynomial, rational, exponential, and logarithmic functions will be studied. A graphing calculator is required.

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Mth 111 has the competencies from Mth 95: Intermediate Algebra as prerequisites; the course is college-transferable. Mth 111 is a 4 credit hour (quarter system) course.

**Performance Based Outcomes in Mathematics**

Students who successfully complete any mathematics course at COCC will be able to:

1. *Work independently to explore mathematical applications and models, and to develop algebraic/symbolic, graphical, numerical, and narrative skills in solving mathematics problems.*
2. *Work as a member of a group/team on projects or activities that are designed to explore mathematical applications and models.*
3. *Use both written and oral skills to communicate about mathematical concepts, processes, complete mathematical solutions and their implications.*
4. *Use a variety of problem solving tools including symbolic/algebraic notation, graphs, tables, and narratives to identify, analyze, and solve mathematical problems.*
5. *Develop mathematical conjectures and use examples and counterexamples to examine the validity and reasonableness of those conjectures.*
6. *Create and analyze mathematical models of real world and theoretical situations, including the implications and limitations of those models.*
7. *Use appropriate technologies to analyze and solve mathematics problems, and verify the appropriateness and reasonableness of the solution(s).*

**Specifically, students who complete Math 111: College Algebra will be able to:**

- model and solve applied, real-world, and theoretical mathematical problems requiring the solution of linear, quadratic, polynomial, rational, exponential, and logarithmic functions. 1, 2, 4, 5, 6
- use a graphing calculator to create appropriate graphs that represent mathematical models, determine appropriate viewing windows and accurately interpret and draw inferences regarding the meaning, implications and limitations of the graphs. 4, 5, 6, 7
- examine a variety of relationships stated in symbolic, graphical, or tabular form and determine which represent functions; determine what the domain and range of functions are; and draw inferences regarding the meaning, implications and limitations of the given representation of the function.
- modify and combine algebraic and graphical representations of functions and describe the relationship between the methods and functional representations.
- investigate and solve one-variable non-linear inequalities by coordinate graphing and algebraic means and explain the relation between the methods and solutions.

Mth 111- Assignments (Updated at [coccweb.cocc.edu/fhelfenstein](http://coccweb.cocc.edu/fhelfenstein))

| Week   | Tuesday  | Thursday  |
|--------|--|---|
| 1      | Syllabus, <a href="#">Prerequisites</a><br><a href="#">Solving Linear Equations I (extra credit review)</a><br><a href="#">Solving Quadratic Equations (extra credit review)</a> | Lines Review, Graphing Calculator Review<br><a href="#">WA #1</a> , <a href="#">WA #2</a> , <a href="#">WA #3</a> , <a href="#">WA #4</a> ; <a href="#">Lab#1</a> |
| 2      | Introduction to Functions<br><a href="#">WA #5</a><br><a href="#">Solving Equations II (extra credit)</a>  | <a href="#">WA #6</a> , <a href="#">Lab #2</a>  |
| 3      | <a href="#">Transformations Activity</a><br><a href="#">WA #7</a> , <a href="#">WA #8</a>  | <a href="#">WA #9</a> , <a href="#">Regression Review</a> , <a href="#">Lab #3</a>  |
| 4      | <a href="#">WA #10</a> , <a href="#">WA #11</a>  | <a href="#">Function Notation Practice</a> , <a href="#">Bonus Lab</a>  |
| 5      | <a href="#">In-class Review for Exam</a><br><a href="#">WA Bonus</a>   | <a href="#">WA Exam 1 Due</a><br><a href="#">Outcomes/Study Guide Exam 1</a><br>Exam 1 (in class)   |
| 6      | The Exponential Function<br><a href="#">Exponent Rules (review)</a> ; <a href="#">WA #12</a>   | <a href="#">WA #13</a> , <a href="#">Lab #4</a>   |
| 7      | The Logarithmic Function<br><a href="#">Logarithm Rules (summary)</a><br><a href="#">WA #14</a> , <a href="#">WA #15</a>   | Solving Exponential & Logarithmic Equations<br><a href="#">WA #16</a> , <a href="#">Lab #5</a><br>Fri: Last day to drop w/o W                                     |
| 8      | Applications w/ Exponential and Logarithmic Functions<br><a href="#">WA #17</a>  | Quadratics & General Polynomials<br><a href="#">Lab #6</a>  |
| 9      | Rational Functions<br><a href="#">WA #18</a> , <a href="#">WA #19 (Bonus)</a> , <a href="#">WA #20 (Bonus)</a>   | <a href="#">In-class Review for Exam</a>  |
| 10     | <a href="#">WA Review 2 Due</a><br><a href="#">Outcomes &amp; Exam 2 Study Guide</a><br>Exam 2 (in class)  | <a href="#">Piecewise Picture (extra credit)</a><br><a href="#">Winplot</a> , <a href="#">WinPlot Help</a><br>Wed: Last day to drop class (signature req'd)       |
| Finals | <a href="#">Final Exam Study Guide</a> , <a href="#">Practice</a><br>Redmond Final Exam Tuesday 1:00 pm-3:00 pm<br>Bend Final Exam Tuesday 6:00 pm-8:00 pm                       |   |