



**CENTRAL
OREGON
COMMUNITY
COLLEGE**

College Algebra (Mth 111)

Fall 2015

Instructor Franz Helfenstein

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Times & Locations

CRN 40163	TuTh 10:15 - 12:00	HCC 190, Bend Campus	cocc-9020-4864
CRN 40164	TuTh 1:15 - 3:00	RDM 312, Redmond Campus	cocc-2939-0445

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

Text Options: Print or e-book: Algebra & Trig 4th ed w/ WebAssign, Stewart:

[ISBN 9781285858333](https://www.amazon.com/dp/9781285858333) or [ISBN 9781305719781](https://www.amazon.com/dp/9781305719781)

DO NOT OPEN YOUR BOOKSTORE PURCHASE UNTIL AFTER CLASS HAS MET

Help! *Regular office hours:* Tu 5:00-5:30 (Redmond), W 10:15-3:00 (Bend). 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 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). In addition to Bend, there is tutoring available in Redmond. See COCC's web site for the tutoring schedule (tutortest.cocc.edu). I encourage you to take advantage of the free tutoring. 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 me or contact the CAP center in the basement of the Library or visit their web sites.

cap.cocc.edu/CAP+Testing/testtips/ or cap.cocc.edu/Personal+counseling/

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 hard 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 may not be the best course for you. 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 or correctly placed.

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. Calculators that are part of cell phones, PDA's, tablets, etc. will not be allowed in testing situations.

Outside Effort: For this course, students should expect to spend ~8 hrs/wk outside of class. 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/Activities: You are expected to participate in class. Bring your calculator and scratch paper each day. We'll have many group activities/practice sessions that will begin during class. To be successful, it is imperative that you actively participate in these in-class sessions.

Homework: Math is not a spectator sport. Practice might not lead to perfection but it will lead to excellence. We will have regular in-class activities. You are expected to complete unfinished activities at home. In addition, there is 'Textbook homework' handled electronically by WebAssign.

Getting Started with WebAssign (WA)

- At www.webassign.net. Choose 'I have a Class Key', 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 Syllabus shows the day assignments are given out as well as links to any handouts.
- After each WA due date, you may request an automatic 1-week extension within WebAssign.
- WebAssign also provides a variety of free on-line help options.
- You are highly encouraged to **work in groups**, use the **COCC tutors** and drop by my office anytime.
- You are encouraged to ask questions concerning the homework during class, by e-mail or by phone.
- If you have a laptop, bring it to class and follow along when we discuss WA problems.

WebAssign Exam Reviews: In addition to the regular homework, there are two WebAssign Exam Review Assignments. These are done at home with your notes/book available to you.

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 graphing 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	20%
Projects/Labs (Instructor Graded Assignments) (drop 1):	20%
Three In-class Exams (drop 1):	60%

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

At any time you may check your grade (Bb) or locate assignments on my Web Page.

Some Grading Scenarios	WebAssign (20%)	Labs (20%)	Exams (60%)	Final Grade
<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/. 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 Jenkins](#), 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 7th week. After that, if you want to withdraw from the class, you must obtain your instructor's signature (or permission on-line) then submit the drop slip before the drop deadline; your grade will then 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.

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)

Week	Tuesday	Thursday
1	Syllabus, Prerequisites Solving Linear Equations I (extra credit review) Solving Quadratic Equations (extra credit review) Solving Equations Activity	Lines Review/Activity, Graphing Calculator Review/Activity WA #1, WA #2, WA #3, WA #4; Lab#1
2	Introduction to Functions The Rule of Four, Functions Activity; WA #5	Introduction to Piecewise Functions Piecewise Activity; WA #6, Lab #2
3	Introduction to Transforms Practice, Activity; WA #7, WA #8	Regression Review & Activity WA #9, WA #10, Lab #3
4	Modelling with Functions WA #11, WA #12	Function Notation Practice, Bonus Lab
5	In-class Review for Exam, WA Bonus 1	WA Exam 1 Due Outcomes/Study Guide Exam 1 , Exam 1 (in class)
6	The Exponential Function Exponent Rules (review);	The Logarithmic Function Logarithm Rules (summary); WA #13; WA #14, Lab #4
7	The Logarithmic Function Continued WA #15	Solving Exponential & Logarithmic Equations WA #16, Lab #5 Fri: Last day to drop w/o W
8	Applications w/ Exponential and Logarithmic Functions WA #17	More Applications; Quadratics & General Polynomials WA #18, Lab #6
9	Rational Functions WA #19, WA Bonus 2 In-class Review for Exam; Practice Exam	Thanksgiving Holiday No Classes- COCC Closed
10	WA Review 2 Due, Study Guide Exam 2; Exam 2 (in class)	Piecewise Picture (extra credit) Winplot, WinPlot Help Wed: Last day to drop class (signature req'd)
Finals	Final Exam Study Guide Redmond Class Final Exam - Tuesday 1:00 - 3:00	Final Exam Study Guide Bend Class Final Exam - Thursday 10:15 - 12:15