

# **Course Information**

Title:	Intermediate Algebra	
Section:	Т6	
CRN:	30180	
Credits:	Three	
Room:	D226	
Day/Time:	TR 11:00 pm-12:15 pm	
Office Hours:	12:20-1:30 Adjunct Faculty Office	

# Prerequisite

MAT\* K095 or MAT\* K095I with a "B-" grade or better or appropriate placement through multiple-measures assessment process.

# **Course Catalog Description**

This course cultivates understanding and different representations of functions. The course covers linear, quadratic, exponential, rational, radical functions, equations and expressions and operations on them with emphasis on modeling and solving real world problems.

# **Required Materials:**

- **Required Textbook**: Baratto, Bergman, & Hutchinson *Elementary and Intermediate Algebra,* 5th ed. New York: McGraw-Hill, 2014.
- Scientific calculator
  - > NOTE: You may not use the calculator on your phone, iPad, laptop, etc for in class work
  - > NOTE: You may not share a calculator with a classmate during any assessment
- o 3-ring Binder (recommended to keep course materials organized)
- pen and pencil

# Academic Integrity

The effective operation of any organization is dependent on the honesty and goodwill of its members. In an organization devoted to the pursuit of knowledge, acting with integrity is essential to effective teaching and learning. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. To emphasize the importance of academic integrity, Three Rivers Community College adheres to the Student Code of Conduct and Discipline Policy, as provided by the Connecticut State Colleges and Universities (CSCU) Board of Regents for Higher Education.

Since collaboration is central to the learning community, Three Rivers wishes to emphasize that this policy is not intended to discourage collaboration when appropriate, approved, and disclosed.

# For further information, see:

http://catalog.threerivers.edu/content.php?catoid=2&navoid=54#Academic\_Integrity\_Policy

## Board of Regents for Higher Education and Connecticut State Colleges and Universities Policy Regarding Sexual Misconduct Reporting, Support Services and Processes Policy:

# Public Act No. 14–11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus:

"The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking."

## Title IX Statement of Policy:

"Title IX of the Education Amendments Act of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students are protected by Title IX, regardless of their sex, sexual orientation, gender identity, part or full-time status, disability, race, or national origin, in all aspects of educational programs and activities."

Please Report Student Incidents to: Edward A. Derr, Student Diversity and Title IX Coordinator Admissions Welcome Center \* Office A116 574 New London Turnpike, Norwich CT 06360 860.215.9255 \* EDerr@trcc.commnet.edu

#### Course Objectives and Outcomes

At the completion of MAT\*137, the student will be able to do the following -

#### **Linear Functions**

- 1) Provide multiple representations (e.g., words, symbols, graphs, tables) of linear functions by hand and/or using technology.
- 2) Determine identifying characteristics of linear functions.
- 3) Model and solve real world applications with linear functions (e.g., car depreciation) and systems of linear equations.

#### Quadratic Functions and/or Expressions

- 1) Provide multiple representations of quadratic functions or expressions by hand and/or using technology.
- 2) Determine identifying characteristics of quadratic functions or expressions (e.g., factors).
- 3) Evaluate, simplify, and perform operations on quadratic functions or expressions.
- 4) Solve quadratic equations algebraically (e.g., factoring, completing the square, and quadratic formula with rational solutions) and/or graphically.
- 5) Solve real world applications involving quadratic equations and functions.

#### Exponential Functions and/or Expressions

- 1) Provide multiple representations (e.g., tables, graphs, symbols) of exponential functions or expressions by hand and/or using technology.
- 2) Determine identifying characteristics of exponential functions or expressions.
- 3) Evaluate, simplify, and perform operations on exponential functions or expressions.
- 4) Identify real world applications involving exponential functions and/or solve graphically.

### Rational Functions and/or Expressions

- 1) Provide multiple representations of simple rational functions or expressions by hand and/or using technology.
- 2) Determine identifying characteristics of rational functions or expressions.
- 3) Evaluate, simplify, and perform operations on simple rational functions or expressions.
- 4) Solve simple rational equations algebraically and/or graphically.
- 5) Solve real world applications involving rational functions.

## Radical Functions and/or Expressions

- 1) Provide multiple representations of simple radical functions or expressions by hand and/or using technology, with primary emphasis on square root.
- 2) Determine identifying characteristics of radical functions or expressions.
- 3) Evaluate, simplify, and perform operations on simple radical functions or expressions.
- 4) Solve simple radical equations algebraically and/or graphically.
- 5) Solve real world applications involving radical functions.
- 6) Identify imaginary numbers.

## Other Class Policies:

<u>Cell phones or cell text devices, beepers, music devices are not appropriate in class.</u> They should be turned off (or on vibrate for emergencies) and stored off the class desk. You may not use the calculator on your phone for assessments.

### Attendance

You are expected to attend each class. Essential factors of your success in this course are your attendance and attention to the information shared in each class. If you miss a class you are responsible to obtain any missed information, notes, etc. You are responsible for homework being up to date upon your return to class.

Please do not come in and out of class during class time.

In general, there are <u>no makeups</u>. If there is a problem, speak to me. If you miss a major test (and have a documented reason), you will need to make arrangements for a <u>make-up test</u> outside of class time. Arrangements for a make up test must be made <u>prior to the actual</u> <u>test date</u> or <u>within 24 hours of the absence</u>. Failure to make arrangements within 24 hours of the test will result in a test grade of <u>ZERO</u>. <u>A</u> student who is absent from an examination will be given a make-up examination as soon as possible.

No makeups for QUIZZES (This includes turning in take-home quizzes late; any out of class assignments will not be accepted late)

#### **Special Arrangements**

If you have a disability that may require accommodations, services for students with disabilities are coordinated through the Counseling Center. In accordance with federal law, students with documented disabilities may request reasonable accommodations. Students are required to submit a Self Disclosure Form, provide documentation, and meet with a Disability Service Provider before the start of the semester, if possible. Please call the Counseling Center for more information.

Please provide me with documentation regarding accommodations as soon as possible.

## Other College Policies of Importance to you:

#### Non-Discrimination Policy

Please refer to this site for details: http://www.trcc.commnet.edu/president/policies/college\_policies.shtml#Affirmative

#### Digication

All students are required to maintain an online learning portfolio in Digication that uses the college template. See this site for further details: <a href="http://www.trcc.commnet.edu/Div\_IT/EducationalTechnology/Digication.shtml">http://www.trcc.commnet.edu/Div\_IT/EducationalTechnology/Digication.shtml</a>

## Inclement Weather Delays, Cancellations, and Closings

http://www.trcc.commnet.edu/president/policies/weather.shtml

# **Evaluation Criteria and Grading Policy**

A student's course grade is based upon the following rubric: Quizzes & Homework weighted @ 10% 4 exams weighted @ 15% each Final Exam weighted @ 25% In class activities and class participation weighted @ 5%

The **FINAL COURSE AVERAGE** will be translated into a letter grade in accordance with the grade categories stated below.

If the average is	then final grade is
93 - 100	Α
90 - 92	А—
87 — 89	B+
83 — 86	В
80-82	B—
77 — 79	C+
73 — 76	С
70 – 72	С—
	_
66 — 69	D+
60 — 65	D
Below 60	F

# **HOMEWORK:** Remember in a college class <u>1 hour of class = 2-3 hours</u> of studying, homework, etc Best if you do a little every day

You are responsible for completing all homework neatly in your notebook, showing all work. You should always <u>check your answers in the back of the textbook for each example</u>. I should be able to see evidence of the fact that you have checked answers. Please come to class prepared with questions on each assignment.

In addition to written homework you will be expected to read the appropriate section(s) of the text (or find an appropriate video online) and complete the "Check Yourself" and "Read your Text" exercises in each section. (See the "Calendar Schedule of Topic Coverage" pages of this syllabus for more details)

CLASSWORK: In class, you will be expected to do some individual work as well as some group work

# Remember: <u>1 hour of class = 2-3 hours homework, studying etc</u>

## Disclaimer

The instructor maintains the right to adjust the course syllabus as needed. The syllabus provides a tentative framework. Therefore, these <u>dates</u> are <u>subject to change as needed</u>.

NOTE: <u>CY</u>: "Check Yourself": These will form the Basis for Class Discussion next class You are to demonstrate that you have attempted each of these exercises. <u>RYT</u>: "Read Your Text": These will help you to capture the important ideas in each section

If you prefer, you can find videos on "UTube" or "KahnAcademy.com" on the topic instead of reading text

Date	Topic/In Class Work	HW Assignment Due Next Class
W Aug 30	Introduction to Course	Complete Algebra Review
	Syllabus Review	Read, take notes 6.1 & 6.2. Do 6.1: CY: #1-10, RYT;
	Algebra Review	<b>6.2</b> : <i>C</i> Y: #1-9, RYT
W Sept 6	Algebra Review	
	6.1 Introduction to Factoring	<b>Pp486-9</b> : #13, 31, 39, 43, 59, 67, 71, 79, 82
	6.2 Factoring Special Products	<b>Pp497-8</b> :#1, 6, 13, 23, 25, 43, 51, 53, 59, 60, 65, 69
		Read, take notes 6.3 & 6.4.
		Do <b>6.3</b> : <i>C</i> Y: #1-5, RYT; <b>6.4</b> : <i>C</i> Y: #1-5, RYT
M Sept 11	6.3: Trial & Error Factoring	<b>Pp507-8</b> : #17, 22, 43, 53, 54, 57
	6.4: a • c Method of Factoring	<b>Pp517-8</b> : #2, 15, 21,31,32,38,40,59,60,78,82,89,93, 101
		Read, take notes 6.5. Do 6.5: CY: #1-6, RYT
W Sept 13	Review $6.1 \rightarrow 6.4$	
	6.5: Factoring Strategies	<b>Pp524-5</b> : #1, 17, 23, 31, 43, 44, 53, 59, 77, 81
		Read, take notes 6.6. Do 6.6: CY: #1-7, RYT
M Sept 18	Quiz: 6.1 → 6.5	
	6.6: Factoring & Problem Solving	<b>Pp537-9</b> : #5, 10, 21, 35, 45, 53, 58, 72, 9
W Sept 20	Review: $6.1 \rightarrow 6.6$	CH 6: Summary,Review,Test: pp 543-7
		Summary Ex: #5, 9, 13, 17, 19, 27, 31, 35, 45, 49, 53,
		57, 61, 69, 73, 81, 85, 107, 109, 111 <b>Test</b> : #1-20
M Sept 25	EXAM I: $6.1 \rightarrow 6.6$	Read, take notes 7.1 & 7.2.
		Do <b>7.1</b> : CY: #1-12, RYT; <b>7.2</b> : CY: #1-6, RYT
W Sept 27	7.1: Roots & Radicals	<b>Pp560-4</b> : <i>#</i> 1, 9, 14, 38, 49, 50, 57, 58, 59, 63, 65, 69, 72
	7.2: Simplifying Radical Expressions	<b>Pp573-5</b> : #1, 2, 10, 26, 27, 41, 49, 71, 72
		Read, take notes 7.3 & 7.4.
		Do <b>7.3</b> : CY: #1-10, RYT; <b>7.4</b> : CY: #1-5, RYT
M Oct 2	More on 7.2	
	7.3: Operations w Radicals	<b>Pp584-7</b> : #1, 6, 11, 30, 33, 58, 61, 67, 75, 89
	7.4: Solving Radical Equations	<b>Pp593-6</b> : #4, 8, 9, 16, 26, 27, 40, 48
		Read, take notes 7.5. Do 7.5: CY: #1-8, RYT
W Oct 4	Quiz: $7.1 \rightarrow 7.3$	
	More on 7.4	
	7.5: Rational Expressions	<b>Pp603-5</b> : <i>#</i> 1, 5, 6, 15, 23, 33, 46, 53, 65, 69, 77, 81, 82
		Read, take notes 7.6. Do 7.6: CY: #1-5, RYT
M Oct 9	Quiz: 7.4	
	7.6: Complex Numbers	<b>Pp611-3</b> : #1, 5, 11, 15, 27, 36, 40, 51, 55; <b>P652</b> : #46
	i to a power	Read, take notes 9.1. Do 9.1: CY: #1-10, RYT
W Oct 11	Review: 7.6	Begin CH 7: Summary, Review,Test: Pp614-21:
	Quiz: 7.5 & 7.6	Summary Ex: #1-125: 1 <sup>st</sup> ex in ea row plus #75, 91, 115,
		119, 122, 123, 124, 127 <b>Test</b> : all
M Oct 16	Review $7.1 \rightarrow 7.6$	Complete CH 7: Summary, Review,Test

Date	Topic/In Class Work	HW Assignment Due Next Class
W Oct 18	<b>EXAM II</b> : 7.1 → 7.6	Read, take notes 8.1 & 8.2.
		Do <b>8.1</b> : <i>C</i> Y: #1-10, RYT; <b>8.2</b> : <i>C</i> Y: #1-10, RYT
M Oct 23	8.1: Solving Quadratics	<b>Pp633-5</b> : #1, 8, 11, 22, 34, 35, 46, 55, 63, 83
	8.2: Quadratic Formula	<b>Pp651-5</b> : #2, 5, 8, 21, 29, 55, 72, 73
		Read, take notes 8.3. Do 8.3: CY: #1-6, RYT
W Oct 25	More on 8.1 & 8.2	
	8.3: Intro to Parabolas	<b>Pp665-9</b> : #1, 2, 3, 9, 14, 21, 25, 35, 45
M Oct 30	Quiz: 8.1, 8.2	Take Home Quiz: 8.3 due Monday Nov 6
	More on 8.3	Correct/complete hw 8.3
		Read, take notes 8.4. Do 8.4: CY: #1-8, RYT
W Nov 1	8.4: Quadratic Equations & Problem Solving	<b>Pp678-80</b> : #1, 3, 6, 23, 31, 35, 37
		Begin CH 8: Summary/Review
		<b>Pp681-7</b> : Summary Ex: #1, 3, 7, 10, 13, 17, 21, 23-25,
		27, 35, 37, 41, 45, 49, 51, 55, 59, 63, 67, 75, 77, 79, 81,
		83, 85,88 <b>Test</b> : #1-170DDS; 18, 19, 21-290DDS, #30
		Read, take notes 9.1 & 9.2.
		<b>Do 9.1 CY</b> : #1-10; RYT and <b>9.2</b> : CY: #1-5, RYT
M Nov 6	Take Home Quiz: 8.3 due today	
	9.1: Simplifying Rational Expressions	<b>Pp698-703</b> : #2, 10, 18, 25, 36, 48, 67, 74, 79
	9.2: Mult, Div Rational Expressions	<b>Pp710-2</b> : #2, 6, 11, 17, 28, 34, 37, 44
		Complete Ch 8 Summary/Review
		<b>Do Ch 9 Summary/Review: pp770-771:</b> #1-24 ODDS;
		<b>TEST: p774:</b> #1, 4, 6, 7, 9, 13, 14, 15, 19
W Nov 8	Review: $8.1 \rightarrow 8.4$ ; $9.1 \rightarrow 9.2$	Complete Ch 8 & 9 Summary/Review
M Nov 13	EXAM III: $8.1 \rightarrow 8.4$ ; $9.1 \rightarrow 9.2$	Read, take notes 9.3: CY: #1-8, RYT
W Nov 15	9.3: Add, Subtr Rational Expressions	<b>Pp721-4</b> : #1, 11, 23, 33, 36, 43, 55, 60
		Read, fake notes 9.6. Do 9.6: Cy: #1-12, Ry 1
		Read, Take hotes 10.4. Do 10.4: Cy: #1-5, Ry 1
M Nov 20	9.6: Rational Equations	<b>Pp/62-7</b> : #2, 3, 18, 25, 51, 61, 67, 81
	10.4: Exponential Functions	<b>Pp819-25</b> : $\#1, 2, 3, 10, 25, 37, 51, 59$
Nov 22.26	ть	Read, Take holes 10.5. Do 10.5: Cy: #2-5, Ry 1
100 22-20	Thanksgiving Break	
M Nov 27		
14( INOV 27	Deview 96 & 10 4	
	10 5: Logarithmic Functions	Pn832-6. #7 11 15 25 29 33 43 45 47 49 53 55
	10.3. Logar million and monor	57 59 67 85 87
		<b>Read</b> take notes 10 6 Do 10 6: CY:#1-4 RYT
		<b>Read</b> take notes 10 7 Do 10 7: CY:#1-5 7 8 RYT
W Nov 29	10.6 Properties of Logarithmic Functions	<b>Pp 848-851</b> : #1 5 9 13 17 19 23 25 57 59 67 69
		81. 83. 85
	10.7: Logarithmic & Exponential Equations	<b>Pp 859-862</b> : #1, 2, 14, 21, 31, 39, 47, 53, 57
M Dec 4	Quiz: 9.6 & 10.7	Begin CH 9 & 10.4 → 10.7: Summary, Review, Test:
		pp 768-74: Summary Ex: #1-130DDS; #25, 28, 31,
		34, 36, 37, 73, 76, 79, 82, 85, 87
		<b>Test</b> : #19, 20
		<b>Pp863-74</b> : Summary Ex: #63-69; #125-143 ODDS
		Test: #110-13; 17, 18, 20, 21, 22, 26-30
W Dec 6	Review: 9.3 & 9.6; $10.4 \rightarrow 10.7$	Complete Ch 9 & 10 Summary/ Review Ex
M Dec 11	<b>EXAM IV</b> : 9.3 & 9.6; 10.4 → 10.7	Final Exam Prep
W Dec 13	Review for Final Exam	Final Exam Prep
M Dec 18		Final Exam