

# MAT 135P - Math for Liberal Arts Plus

## Finance Content

Required course textbook: *Contemporary Mathematics* from OpenStax

### Finance Just-In-Time Math Skills Support

#### Prealgebra:

<b>Know the Following Definitions</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Define Variables	Sec 5.1, pg. 334	N/A
Define Algebraic Expression	Sec 5.1, pg. 334	N/A
Order of Operations	Sec 3.3, pg. 158-164; Sec 5.1, pg. 338  Sec 3.4, pg. 179-181	YOUR TURN 3.43-3.50, pg. 158-164  Sec 3.3 Exercises pg. 164-165 # 5-40  YOUR TURN 3.69-3.70, pg. 180-181  Sec 3.4 Exercises pg. 189 # 27-32
Similar (Like) Terms	Sec 5.1, pg. 339	N/A
Distributive Property	Sec 3.6, pg. 208; Sec 5.1, pg. 540	N/A
<b>Be Able To</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Apply the order of operations to simplify algebraic expressions	Sec 5.1, pg. 338-342	YOUR TURN 5.7-5.8, pg. 340  Sec 5.1 Exercises, pg. 345 # 31-34
Evaluate algebraic expressions	Sec 5.1, pg. 339 Example 5.6	YOUR TURN 5.6, pg.339  Sec 5.1 Exercises, pg. 345 # 21-30
Apply the distributive property to simplify algebraic expression	Sec 5.1, pg. 340-341	YOUR TURN 5.9-5.10, pg. 341  Sec 5.1 Exercises, pg. 345 # 35-38

## Solving Linear Equations:

<b>Know the Following Definitions</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Define Algebraic Equations	Sec 5.2, pg. 346	N/A
Addition Property of Equality	Sec 5.2, pg. 347	N/A
Multiplication Property of Equality	Sec 5.2, pg. 348	N/A
Formula	Sec 5.2, pg. 352	N/A
<b>Be Able To</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Apply the Addition Property of Equality to solve a linear equation in one variable	Sec 5.2, pg. 346-348	YOUR TURN 5.12-5.13, pg. 547-548  Sec 5.2 Exercises, pg. 355 # 1-10
Apply the Multiplication Property of Equality to solve a linear equation in one variable	Sec 5.2, pg. 346-348	YOUR TURN 5.12-5.13, pg. 547-548  Sec 5.2 Exercises, pg. 355 # 1-10
Apply both the Addition and Multiplication Property of Equality to solve a linear equation in one variable	Sec 5.2, pg. 346-348	YOUR TURN 5.12-5.13, pg. 547-548  Sec 5.2 Exercises, pg. 355 # 1-10
Apply both the Addition and Multiplication Property of Equality to solve a formula for a specified variable	Sec 5.2, pg. 352-353	YOUR TURN 5.19-5.20, pg. 552-553  Sec 5.2 Exercises, pg. 356 # 27-35
Construct and solve basic percent problems	Sec 3.4, pg. 165, 184-188  Sec 6.1, pg. 544-551	YOUR TURN 3.76-3.83, pg. 184-188  Sec 3.4 Exercises, pg. 189 # 37-46, 53-56  YOUR TURN 6.1-6.9, pg. 545-550  Sec 6.1 Exercises, pg. 551-552 # 1-25
Construct and solve number problems	Sec 5.1, pg. 334-337 ( <b>not a perfect match</b> )	YOUR TURN 5.1-5.3, pg. 335-337  Sec 5.1 Exercises, pg. 344 # 1-15
Write numbers in scientific notation and as they might appear on a calculator.	Sec 3.9, pg. 227-237	YOUR TURN 3.117-3.121, pg. 227-231  Sec 3.9 Exercises pg. 238 # 1-22

## Polynomials:

Know the Following Definitions	Contemporary Mathematics	Suggested HW or Practice Problems
Monomial	Sec 5.6, pg. 404	N/A
Binomial	Sec 5.6, pg. 404	N/A
Polynomial	Sec 5.6, pg. 404	N/A
Exponent	Sec 1.2, pg. 17, Sec 3.1, pg. 134	N/A
Base	Sec 3.1, pg. 134	N/A
Product Rule for Exponents: $a^m \cdot a^n = a^{m+n}$	Sec 3.8, pg. 218-219	YOUR TURN 3.107-3.108, pg. 219  Sec 3.8 Exercises pg. 226 # 1-4
Power to a Power Rule for Exponents: $(a^m)^n = a^{mn}$	Sec 3.8, pg. 222-223	YOUR TURN 3.113, pg. 222-223  Sec 3.8 Exercises pg. 226 # 20-29
Product to a Power Rule for Exponents: $(ab)^m = a^m b^m$	Sec 3.8, pg. 220 (they call it the <b>Distributive Rule for Exponents</b> )	YOUR TURN 3.110-3.111, pg. 221  Sec 3.8 Exercises pg. 226 # 13-16
Quotient Rule for Exponents: $\frac{a^m}{a^n} = a^{m-n}$	Sec 3.8, pg. 219-220	YOUR TURN 3.109, pg. 220  Sec 3.8 Exercises pg. 226 # 5-12
Negative Rule for Exponents: $a^{-n} = \frac{1}{a^n}$ where $a \neq 0$	Sec 3.8, pg. 223-224	YOUR TURN 3.114-3.115, pg. 223-224  Sec 3.8 Exercises pg. 226-227 # 30-37
Integer Exponents: $a^0 = 1$	Sec 3.8, pg. 220	N/A
Quotient to a Power Rule for Exponents: $\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$	Sec 3.8, pg. 221-222	YOUR TURN 3.112, pg. 222  Sec 3.8 Exercises pg. 226 # 17-19, 24-29
Be Able To	Contemporary Mathematics	Suggested HW or Practice Problems
Add Polynomials	Sec 5.1, pg. 338-342 (these are really PEMDAS with Algebraic expressions, there is not a separate polynomial +/- section)	Sec 5.1 Exercises, pg. 345 # 31-34

Be Able To	Contemporary Mathematics	Suggested HW or Practice Problems
Subtract Polynomials	Sec 5.1, pg. 338-342 (these are really PEMDAS with Algebraic expressions, there is not a separate polynomial +/- section)	Sec 5.1 Exercises, pg. 345 # 31-34
Multiply Polynomial	Sec 5.6, pg. 404-406	YOUR TURN 5.47-5.48, pg. 405-406  Sec 5.1 Exercises, pg. 345 # 35-38 (not called polynomials in the text at this point)  Sec 5.6 Exercises, pg. 423 # 1-6
Simplify expressions using Product Rule for Exponents	Sec 3.8, pg.218-219	YOUR TURN 3.107-3.108, pg. 219  Sec 3.8 Exercises pg. 226 # 1-4
Simplify expressions using Power-to-a-Power Rule for Exponent	Sec 3.8, pg. 222-223, 224-225	YOUR TURN 3.113, 3.116, pg. 222-225  Sec 3.8 Exercises pg. 226 # 20-29
Simplify expressions using Product-to-a-Power Rule for Exponents	Sec 3.8, pg. 220 (they call it the <b>Distributive Rule for Exponents</b> )	YOUR TURN 3.110-3.111, pg. 221  Sec 3.8 Exercises pg. 226 # 13-16
Simplify expressions using Quotient Rule for Exponents	Sec 3.8, pg. 219-220	YOUR TURN 3.109, pg. 220  Sec 3.8 Exercises pg. 226 # 5-12
Simplify expressions using Negative rule for Exponents	Sec 3.8, pg. 223-224	YOUR TURN 3.114-3.115, pg. 223-224  Sec 3.8 Exercises pg. 226-227 # 30-37
Simplify expressions using Integer Exponents Rule	Sec 3.8, pg. 220	N/A
Simplify expression using Quotient-to-a-Power Rule for Exponents	Sec 3.8, pg. 221-222, 224-225	YOUR TURN 3.112, 3.116, pg. 222-225  Sec 3.8 Exercises pg. 226 # 17-19, 24-29

## Finance Applications

<b>Know the Following Definitions</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Simple Interest	Sec 6.3, pg. 566-567	N/A
Compound Interest	Sec 6.4, pg. 579	N/A
Arithmetic growth	N/A	N/A
Geometric growth	Sec 6.4, pg. 579 ( <b>references back to Sec 3.11 on Geometric Sequences</b> )	N/A
Sink Funds	Sec 6.6, pg. 608 ( <b>they don't use the term Sink Fund</b> )	N/A
Principal	Sec 6.3, pg. 566	N/A
Interest	Sec 6.3, pg. 566	N/A
Annuity Functions	Sec 6.6, pg. 605	N/A
<b>Be Able To</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Apply the simple interest formula to calculate the balance of a savings account	Sec 6.3, pg. 567-571 ( <b>Loans and Savings Account problems</b> )	YOUR TURN 6.27-6.32, pg. 567-571 Sec 6.3 Exercises, pg. 577 # 7-24
Apply the compound interest formula to calculate the balance of a savings account	Sec 6.4, pg. 580-582 Sec 6.6, pg. 602-604	YOUR TURN 6.39-6.43, pg. 580-582 Sec 6.4 Exercises, pg. 587 # 4-16 YOUR TURN 6.55-6.57, pg. 603-604 Sec 6.6 Exercises, pg. 610-611 # 5-10, 27-30
Apply the interest formula for continuous compound interest to calculate the balance of a savings account	N/A	N/A
Use the savings formula to determine required deposits into a sinking fund	Sec 6.6, pg. 608-609	YOUR TURN 6.61, pg. 609 Sec 6.6 Exercises, pg. 610-611 # 21-26, 33, 34

<b>Be Able To</b>	<b>Contemporary Mathematics</b>	<b>Suggested HW or Practice Problems</b>
Solve the simple interest formula to find the amount of a loan over time	Sec 6.3, pg. 567-571 ( <b>Loans and Savings Account problems</b> )	YOUR TURN 6.27-6.32, pg. 567-571 Sec 6.3, pg. 577 # 7-24
Use the amortization formula to determine the payments required to fully amortize a loan	Sec 6.8, pg. 632-634	YOUR TURN 6.78, pg. 634 Sec 6.8 Exercises pg. 640-642 # 10-17, 38, 39
Use the annuity formula	Sec 6.6, pg. 605-607	YOUR TURN 6.59-6.60, pg. 606-607 Sec 6.6 Exercises, pg. 610-611 # 15-20, 31,32