DEVELOPMENTAL MATH COURSE STRUCTURE
7 Modules for MAT 0018 – DEVELOPMENTAL MATH I
8 Modules for MAT 0028 – DEVELOPMENTAL MATH II*

*MAT 0028 includes 1 review module from MAT 0018
DO I NEED COLLEGE ALGEBRA?

Selected UCF programs are presented below. You should always consult with an advisor to discuss appropriate math selections.

**LIBERAL ARTS PATH**

- Advertising - Public Relations, Radio/Television
- Art (History track)
- Communications
- Criminal Justice
- Early Childhood Development & Education
- English
- History
- Music
- Nursing (prefer MAC 1105 at UCF)
- Political Science
- Psychology (prefer MAC 1105 at UCF)
- Social Sciences
- Sport and Exercise Science

**STEM or BUSINESS PATH**

- Architecture
- Art (selected tracks)
- Biology
- Business (Accounting, Finance, Management, Marketing, Real Estate)
- Chemistry
- Computer Science
- Engineering
- Health Sciences - Pre Clinical Track
- Hospitality Management
- Nursing
- Physics
- Psychology

*Students who successfully complete MAT 0028 can take either MAT 1100 or MAT 1033.
Exempt students may begin with either MAT 1033, MAT 1100 or MTB 1370. All students should meet with an advisor to discuss appropriate math selection based on intended university major.*
**STEM or Business**
Mathematics Pathway

- **MAT 0018** Developmental Mathematics I
- **MAT 0028** Developmental Mathematics II
- **MTB 1370** Math for Health Related Professions 1 elective credit
- **MAT 1033** Intermediate Algebra 3 elective credits
- **MAC 1105** College Algebra 3 math credits
- **MAT 0027** Developmental Mathematics II for Liberal Arts
- **MGF 1106** Liberal Arts Math 3 math credits
- **MGF 1107** Explorations In Math 3 math credits
- **MAC 1140** Precalculus Algebra 4 math credits
- **MAC 1114** Trigonometry 3 math credits
- **MAC 2233** Calculus for Business 3 math credits
- **MAC 2311** Calculus I 4 math credits
- **MAC 2312** Calculus II 4 math credits
- **MAC 2313** Calculus III 4 math credits
- **MAP 2302** Differential Equations 3 math credits

* It is suggested that MAC 1140 be taken prior to MAC 1114. Both courses are required for MAC 2311.

**Liberal Arts**
Mathematics Pathway

- **MAT 0018** Developmental Mathematics I
- **MAT 0028** Developmental Mathematics II
- **MTB 1370** Math for Health Related Professions 1 elective credit
- **MAT 1100** Intermediate Math for Liberal Arts 3 elective credits
- **MGF 1106** Liberal Arts Math 3 math credits
- **MGF 1107** Explorations In Math 3 math credits
- **STA 2023** Elementary Statistics I 3 math credits
- **MAP 2301** Elementary School Mathematics 4 elective credits
- **MAC 2311** Calculus I 4 math credits
- **MAC 2312** Calculus II 4 math credits
- **MAC 2313** Calculus III 4 math credits

* MAT 0028 is an alternative prerequisite for MAT 1100 and for MTB 1370
** MAT 1033 is an alternate prerequisite for MGF 1106 and MGF 1107

- Students seeking the Associate in Arts (A.A.) degree must successfully complete two general education math courses noted in blue above.
- All students should meet with an advisor to discuss appropriate math selection based on intended university major.
Handouts for AMATYC 2016
Denver, Colorado

Session Title:
Emporiums, Redesigns, Pathways, & Calculators

Friday, November 18, 2016
10:15 am – 11:05 am

Presenters:
Alissa Sustarsic
Judy Stimpson
Natalie “Talie” Souders
Sybil Brown

American Mathematical Association of Two-Year Colleges
Annual Conference

Disclaimer:
“The contents of this presentation regarding the redesign of our classes using an Emporium model were
developed under a grant from the Department of Education. However, those contents do not necessarily
represent the policy of the Department of Education, and you should not assume endorsement by the Federal
Government.”
## Contacts

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<thead>
<tr>
<th>Faculty Name</th>
<th>Email</th>
<th>Redesign, Pathways &amp; Emporium Roles</th>
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</thead>
<tbody>
<tr>
<td><strong>Alissa Sustarsic</strong></td>
<td><a href="mailto:SustarsA@LSSC.edu">SustarsA@LSSC.edu</a></td>
<td>➢ Original Developmental Redesign Lead&lt;br&gt; ➢ Original Intermediate Algebra Team Member&lt;br&gt; ➢ Leesburg and Sumter Emporiums Liaison&lt;br&gt;   ➢ Developmental Lead&lt;br&gt;   ➢ Intermediate Algebra Lead</td>
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<td>Developmental&lt;br&gt; Intermediate Algebra&lt;br&gt; Calculus for Business&lt;br&gt; Liberal Arts</td>
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<tr>
<td><strong>Judy Stimpson</strong></td>
<td><a href="mailto:StimpsoJ@LSSC.edu">StimpsoJ@LSSC.edu</a></td>
<td>➢ Original College Algebra Redesign Lead&lt;br&gt; ➢ Original Intermediate Algebra Team Member</td>
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<td>College Algebra&lt;br&gt; PreCalculus&lt;br&gt; Trigonometry&lt;br&gt; Calculus</td>
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<tr>
<td><strong>Natalie “Talie” Souders</strong></td>
<td><a href="mailto:SoudersN@LSSC.edu">SoudersN@LSSC.edu</a></td>
<td>➢ College Algebra Lead&lt;br&gt; ➢ South Lake Emporium Liaison&lt;br&gt;   ➢ Developmental Lead&lt;br&gt;   ➢ Intermediate Algebra Lead&lt;br&gt; ➢ Non-Stem Pathways Team Member</td>
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<td>College Algebra&lt;br&gt; Trigonometry&lt;br&gt; Liberal Arts&lt;br&gt; Intermediate Math/non-STEM</td>
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<tr>
<td><strong>Sybil Brown</strong></td>
<td><a href="mailto:BrownS@LSSC.edu">BrownS@LSSC.edu</a></td>
<td>➢ Original Redesign Coordinator&lt;br&gt; ➢ Emporium Liaison Coordinator&lt;br&gt; ➢ Non-Stem Pathways Team Member</td>
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<td>Developmental/non-STEM&lt;br&gt; College Algebra&lt;br&gt; Statistics</td>
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## LSSC Courses and Calculator Requirements

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course #</th>
<th>Sample Content</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>No Calculator</strong></td>
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</table>
| Developmental Math I              | MAT 0018  | • Decimals, Fractions, Integers  
• Solve Linear Equations  
• Ratios, Rates, Proportions | 4       |
| Developmental Math II             | MAT 0028  | • Factor Polynomials (GCF, trinomials, special)  
• Linear Graphing Equations & Inequalities  
• Intro to Algebra – Polynomials, Exponents  
• Solve Linear Equations  
• Percents, Conversions | 4       |
| **Basic 4-Function Calculator**   |            |                                                                                 |         |
| Intermediate Algebra              | MAT 1033  | • Solve Linear, Quadratic, Rational & Absolute Value Equations  
• Factor Polynomials  
• Graph Linear Functions  
• Solve Linear Inequalities  
• Simplify Expressions with Exponents, Radicals & Imaginary Numbers | 3       |
| **Scientific Calculator**         |            |                                                                                 |         |
| Developmental Math II for Liberal Arts | MAT 0027 | • Order of Operations  
• Proportional Reasoning  
• Solve Linear Equations  
• Intro to Algebra (factoring, polynomials)  
• Graph Linear Equations  
• Problem Solving/Applications | 4       |
| Math for Health-Related Professions | MTB 1370  | • Fractions & Decimals  
• Dosage Calculations  
• Conversions (temperature, time, metric)  
• Body Surface Area  
• I.V. Drip Rate | 1       |
<table>
<thead>
<tr>
<th>Course</th>
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<th>Topics</th>
<th>Credits</th>
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| Intermediate Math for Liberal Arts | MAT 1100 | • Introduction to Sets  
• Geometry  
• Conversions (metric & English)  
• Order of Operations  
• Variation  
• Introduction to Probability  
• Measures of Center | 3       |
| Liberal Arts Math              | MGF 1106 | • Sets  
• Symbolic Logic  
• Introduction to Statistics  
• Introduction to Probability  
• Geometry | 3       |
| Explorations in Math           | MGF 1107 | • Graph Theory  
• Consumer Math  
• Non-base Ten Arithmetic  
• Voting Methods  
• Linear Regression | 3       |
| College Algebra                | MAC 1105 | • Function Properties and Behavior  
Piecewise-Defined, Quadratic, Rational, Exponential & Logarithmic Functions  
• Inverse Functions  
• Absolute Value Inequalities  
• Direct, Inverse, & Joint Variation | 3       |
| Elementary Statistics*         | STA 2023 | • Histograms, Frequency Tables  
• Measures of Center & Variation  
• Probability  
• Binomial Probability  
• Normal Probability  
• Confidence Intervals  
• Hypothesis Testing | 3       |
| Elementary School Mathematics  | MAE 2801 | • Sets of Numbers  
• Geometry and Measurement  
• Learning Sequences  
• Error Patterns  
• Problem-Solving Techniques | 4       |
<table>
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| Calculus for Business                       | MAC 2233 | • Continuity  
• Limits  
• Derivatives  
• Applications for Business |         |
| Trigonometry                                | MAC 1114 | • Trigonometric Functions & Identities  
• Conditional Equations | 3       |
| Precalculus Algebra                         | MAC 1140 | • Polynomial & Rational Functions  
• Exponential and Logarithmic Functions  
• Systems (linear & non-linear)  
• Partial Fractions  
• Conics  
• Sequences & Series | 4       |
| Calculus I with Analytic Geometry           | MAC 2311 | • Limits, Derivative, Continuity  
• Indefinite & Definite Integrals | 4       |
| Calculus II with Analytic Geometry          | MAC 2312 | • Techniques of Integration  
• First-order Differential Equations  
• Parametric Equations & Polar Coordinates  
• Infinite Sequences & Series | 4       |
| Calculus III with Analytic Geometry         | MAC 2313 | • Two & Three-Dimensional Vectors  
• Calculus of Vector Fields  
• Multiple Integration  
• Partial Derivatives | 4       |
| Differential Equations                      | MAP 2302 | • Solve Ordinary Differential Equations by Various Methods  
• Boundary Value Problems  
• Series Solutions to Ordinary Differential Equations  
• Use LaPlace Transforms  
• Linear Systems of Differential Equations | 3       |

*Students have the option of using a scientific multi-view screen calculator or a graphing calculator.*