**MATHEMATICS COURSE SEQUENCE CHART**

**EFFECTIVE FALL 2022**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Degree</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 100 (+)</td>
<td>Mathematics for General Education</td>
<td>3</td>
<td>D, CSU</td>
<td></td>
</tr>
<tr>
<td>Math 101 (+)</td>
<td>College Algebra</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
<tr>
<td>Math 104 (+)</td>
<td>Trigonometry</td>
<td>3</td>
<td>D, CSU</td>
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<tr>
<td>Math 110 (+)</td>
<td>Mathematics for Elementary School Teachers I</td>
<td>4</td>
<td>D, CSU</td>
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<tr>
<td>Math 111</td>
<td>Mathematics for Elementary School Teachers II</td>
<td>4</td>
<td>D, CSU</td>
<td></td>
</tr>
<tr>
<td>Math 112</td>
<td>Children's Mathematical Thinking</td>
<td>1</td>
<td>D, CSU</td>
<td></td>
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<tr>
<td>Math 119 (+)</td>
<td>Elementary Statistics</td>
<td>4</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
<tr>
<td>Math 118 (+)</td>
<td>Finite Mathematics</td>
<td>3</td>
<td>D, UC</td>
<td>CSU</td>
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<tr>
<td>Math 120 (+)</td>
<td>Calculus for Business Analysis</td>
<td>4</td>
<td>D, CSU</td>
<td>UC</td>
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<tr>
<td>Math 121 (+)</td>
<td>Applied Calculus</td>
<td>3</td>
<td>D, CSU</td>
<td></td>
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<td>Math 122</td>
<td>Applied Calculus II</td>
<td>3</td>
<td>D, CSU</td>
<td></td>
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<tr>
<td>Math 124</td>
<td>Pre-Calculus with Trigonometry</td>
<td>6</td>
<td>D, CSU</td>
<td>UC</td>
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<tr>
<td>Math 1265</td>
<td>Discrete Structures</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
<tr>
<td>Math 130</td>
<td>Introduction to Computer Programming</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
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<tr>
<td>Math 140</td>
<td>Data Structures and Algorithms</td>
<td>3</td>
<td>D, CSU</td>
<td></td>
</tr>
<tr>
<td>Math 144</td>
<td>Analytic Geometry and Calculus II</td>
<td>5</td>
<td>D, CSU</td>
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<tr>
<td>Math 150</td>
<td>Analytic Geometry and Calculus II</td>
<td>4</td>
<td>D, CSU</td>
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<td>Math 194</td>
<td>Intro to Linear Algebra</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
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<tr>
<td>Math 230</td>
<td>Computer Organization and Architecture</td>
<td>3</td>
<td>D, CSU</td>
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<tr>
<td>Math 244</td>
<td>Intro to Differential Equations</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
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<tr>
<td>Math 250</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
<td>D, CSU</td>
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<tr>
<td>Math 251</td>
<td>Analytic Geometry and Calculus II</td>
<td>4</td>
<td>D, CSU</td>
<td></td>
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<tr>
<td>Math 252</td>
<td>Analytic Geometry &amp; Calculus III</td>
<td>4</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
<tr>
<td>Math 253</td>
<td>Intro to Differential Equations</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
<tr>
<td>Math 254</td>
<td>Intro to Linear Algebra</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
<tr>
<td>Math 265</td>
<td>Discrete Structures</td>
<td>3</td>
<td>D, CSU</td>
<td>UC</td>
</tr>
</tbody>
</table>

**Liberal Arts and Other Non-Science Majors**

Math 60 or Math 72 may be a prerequisite for some transfer level courses. Students placing into these transfer courses may petition to take either Math 60 or Math 72. Please see a Counselor or the Math Department chair for more information.

**Resource Courses**

- NC 146: Algebra Refresher Level 1
- NC 147: Algebra Refresher Level 2
- NC 1104: Trigonometry Refresher

NC 146 and NC 147 are recommended to students in any course who wish to refresh their algebra skills. NC 1104 is recommended to students in Math or Physics who wish to refresh their trigonometry skills.

**Business, Computer Science, Science, Engineering and Math Majors**

*Please consult with a Counselor prior to selecting a Calculus sequence.*

- Math 110 (+): Mathematics for Elementary School Teachers I
- Math 111: Mathematics for Elementary School Teachers II
- Math 112: Children’s Mathematical Thinking
- Math 119 (+): Elementary Statistics
- Math 120 (+): Calculus for Business Analysis
- Math 121 (+): Applied Calculus I
- Math 122: Applied Calculus II
- Math 130: Introduction to Computer Programming
- Math 140: Data Structures and Algorithms
- Math 144: Pre-Calculus with Trigonometry
- Math 150: Analytic Geometry and Calculus I
- Math 194: Intro to Linear Algebra
- Math 230: Computer Organization and Architecture
- Math 244: Intro to Differential Equations
- Math 250: Analytic Geometry and Calculus I
- Math 251: Analytic Geometry and Calculus II
- Math 252: Analytic Geometry & Calculus III
- Math 253: Intro to Differential Equations
- Math 265: Discrete Structures

(+) Some sections of these courses may be linked to a co-requisite support course.

**Based on their placement, students may:**
- Need to take a section with support.
- Place into the course without support, but opt to enroll in a section with support.

*These courses may be taken in any order after completion of Math 251; however, students are advised to complete Math 252 and Math 254 before enrolling in Math 253.*
**MATHEMATICS COURSE PATHWAYS FOR LIBERAL ARTS AND OTHER NON-SCIENCE MAJORS**

**EFFECTIVE FALL 2022**

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### AA DEGREE OR LIBERAL ARTS MAJORS

- **Choose** one of the four paths listed below
- Please speak to a Counselor to ensure you are choosing the correct path for your major and transfer institution
- Math 100, Math 118, and Math 119 may require enrollment into a co-requisite support course depending on placement
- Students may choose co-requisite support even if it is not required
- Depending on placement, students may opt to begin in Math 60—Intermediate Algebra I prior to enrolling in Math 118 or Psyc/Soc 270

1. **Math 100**
   - Mathematics for General Education
   - (3 units; D, CSU)

2. **Math 118**
   - Finite Mathematics
   - (4 units; D, CSU; UC)

3. **Math 119**
   - Statistics
   - (3 units; D, CSU; UC)

4. **Psyc/Soc 270**
   - Statistics for the Behavioral Sciences
   - (3 units; D; CSU; UC)

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### MATH EDUCATION MAJORS

- Math 110 may require enrollment into a co-requisite support course depending on placement
- Students may choose co-requisite support even if it is not required
- Depending on placement, students may opt to begin in Math 60—Intermediate Algebra I prior to enrolling in Math 110

1. **Math 110**
   - Mathematics for Elementary School Teachers I
   - (4 units; D, CSU; UC)

2. **Math 112**
   - Children’s Mathematical Thinking (1 unit; D, CSU)

3. **Math 111**
   - Mathematics for Elementary School Teachers II
   - (4 units; D, CSU; UC)

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### OPTIONAL COURSE

Depending on placement, students may opt to enroll in the following course if they wish to improve their algebra skills:

- Prior to taking a transfer level math course (Math 100, 110, or 118)
- For personal enrichment

- **Math 60**
  - Intermediate Algebra I
  - (4 units)
MATHEMATICS COURSE PATHWAYS FOR
MATH, ENGINEERING AND COMPUTER SCIENCE MAJORS
EFFECTIVE FALL 2022

MATH AND ENGINEERING
Based on Placement students:
⇒ May be required to enroll in Math 101 with support
⇒ May choose co-requisite support even if it is not required
⇒ May be able to enroll in Math 244 directly
⇒ May opt to begin in Math 72—Intermediate Algebra I & II prior to enrolling in Math 101 or Math 244

Math 101
College Algebra
(3 units)
(D, CSU, UC)

Math 104
Trigonometry
(3 units)
(D, CSU)

Math 83 Support
Concurrent enrollment may be required (+ 2 units)

Math 244
Pre-calculus
(6 units)
(D, CSU, UC)

Math 250
Analytic Geometry and Calculus I
(prerequisite: Math-244 OR Math-101 and 104)
(5 units; D, CSU, UC)

Math 251
Analytic Geometry and Calculus II
(4 units; D, CSU, UC)

Math 252
Analytic Geometry and Calculus III
(4 units)
(D, CSU, UC)

Math 253 *
Introduction to Differential Equations
(3 units)
(D, CSU, UC)

Math 254
Intro to Linear Algebra
(3 units)
(D, CSU, UC)

AND

Math 86 Support
Concurrent enrollment may be required (+ 2 units)

Math 250
Analytic Geometry and Calculus I
(prerequisite: Math-244 OR Math-101 and 104)
(5 units; D, CSU, UC)

Math 251
Analytic Geometry and Calculus II
(4 units; D, CSU, UC)

Math 252
Analytic Geometry and Calculus III
(4 units)
(D, CSU, UC)

Math 253 *
Introduction to Differential Equations
(3 units)
(D, CSU, UC)

* Students are advised to complete Math 252 and Math 254 before enrolling in Math 253

Additional Math Electives
Math 130
Intro to Computer Programming
Math 265
Discrete Structures
Math 119
Elementary Statistics

COMPUTER SCIENCE
Based on Placement students:
⇒ May opt to begin in Math 72—Intermediate Algebra I & II prior to enrolling in Math 130

Math 254
Intro to Linear Algebra
(3 units)
(D, CSU, UC)

Math 253 *
Introduction to Differential Equations
(3 units)
(D, CSU, UC)

Math 265
Discrete Structures
(prerequisite: Math 251 OR 122; AND Math 130)
(3 units; D, CSU, UC)

Math 130
Introduction to Computer Programming
(3 units; D, CSU, UC)

Math 122**
Applied Calculus II
** Please see Life Science Program for Math 122 prerequisites.

Math 252
Analytic Geometry and Calculus III
Math 254
Intro to Linear Algebra
Math 253
Intro to Differential Equations

Additional Math Electives
Not ADT applicable; consult with a Counselor prior to choosing elective

OPTIONAL COURSE
Depending on placement, students may opt to enroll in the following course if they wish to improve their algebra skills:
⇒ Prior to taking a transfer level math course (Math 101, 104, 130, 121, 120, 119, or 244)
⇒ For personal enrichment

Math 72
Intermediate Algebra I & II
(6 units)

* Please see Math and Engineering Program for Math 251 prerequisites.
MATHEMATICS COURSE PATHWAYS FOR
BUSINESS AND LIFE SCIENCE MAJORS
EFFECTIVE FALL 2022

LIFE SCIENCE

Based on Placement results, students:
⇒ May be required to enroll in concurrent support for Math 121
⇒ May choose co-requisite support even if it is not required
⇒ Depending on placement, may opt to begin in Math 72—Intermediate Algebra I & II prior to taking Math 121

<table>
<thead>
<tr>
<th>Math 121</th>
<th>Applied Calculus I (3 units; D, CSU, UC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 85 Support</td>
<td>Concurrent enrollment may be required (+ 2 units)</td>
</tr>
<tr>
<td>Math 122</td>
<td>Applied Calculus II (3 units; D, CSU, UC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Math 121</th>
<th>Applied Calculus I (3 units; D, CSU, UC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 85 Support</td>
<td>Concurrent enrollment may be required (+ 2 units)</td>
</tr>
<tr>
<td>Math 122</td>
<td>Applied Calculus II (3 units; D, CSU, UC)</td>
</tr>
</tbody>
</table>

Some transfer institutions may require a different Calculus sequence.
Please consult with a Counselor

BUSINESS

Based on Placement results, students:
⇒ May be required to enroll in concurrent support for Math 119 or Math 120
⇒ May choose co-requisite support even if it is not required
⇒ If placement requires support, successful completion of Math 120+Math 85 clears the support requirement for Math 119
⇒ If placement requires support, successful completion of Math 119+Math 84 does NOT clear the support requirement for Math 120. This order should only be recommended for BSTEM 1 placement.
⇒ Depending on placement, may opt to begin in Math 72—Intermediate Algebra I and II prior to taking Math 120 or Math 119

<table>
<thead>
<tr>
<th>Math 120</th>
<th>Calculus for Business Analysis (4 units; D, CSU, UC)</th>
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<tbody>
<tr>
<td>Math 85 Support</td>
<td>Concurrent enrollment may be required (+ 2 units)</td>
</tr>
<tr>
<td>Math 119</td>
<td>Elementary Statistics (4 units; D, CSU, UC)</td>
</tr>
<tr>
<td>Math 84</td>
<td>Concurrent enrollment may be required (+ 2 units)</td>
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<table>
<thead>
<tr>
<th>Math 120</th>
<th>Calculus for Business Analysis (4 units; D, CSU, UC)</th>
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<tbody>
<tr>
<td>Math 85 Support</td>
<td>Concurrent enrollment may be required (+ 2 units)</td>
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<tr>
<td>Math 119</td>
<td>Elementary Statistics (4 units; D, CSU, UC)</td>
</tr>
<tr>
<td>Math 84</td>
<td>Concurrent enrollment may be required (+ 2 units)</td>
</tr>
</tbody>
</table>

OPTIONAL COURSE

Depending on placement, students may opt to enroll in the following course if they wish to improve their algebra skills:
⇒ Prior to taking a transfer level math course (Math 101, 104, 130, 121, 120, 119, or 244)
⇒ For personal enrichment

| Math 72 | Intermediate Algebra I & II (6 units) |

Some transfer institutions may require a different Calculus sequence.
Please consult with a Counselor

Last updated: 3/17/2022