MATHEMATICS DEPARTMENT
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http://dixie.edu/math/

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Dean
Dr. Victor Hasfurther
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(435) 879-4801

Administrative Assistant
Ruth Bruckert
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Program Description
The Dixie State College Mathematics Department helps students to achieve their academic, career, and life goals, including those related to basic computational skills, mathematical processes, and knowledge that develops real-life applications, modeling, and problem solving. The Department’s comprehensive and integrated offerings help students master mathematical competencies for future career and educational endeavors.

As part of an open-door admissions institution, the Department offers a broad spectrum of Mathematics classes that are useful for skill levels from developmental to selected four-year degree requirements.

The Mathematics faculty is dedicated to providing opportunities that promote student success.

Students may enroll in the Bachelor of Science Mathematics degree or the Bachelor of Science in Mathematics Education degree. In addition, students can select Mathematics as an emphasis in the Integrated Studies Bachelor of Art or Bachelor of Science programs. The DSC Mathematics Department also offers all coursework necessary to obtain a Utah Secondary Education Math Endorsement. The Utah State Office of Education Educator Quality & Licensing information for Secondary Mathematics Endorsements can be found here: http://www.schools.utah.gov/cert/Endorsements/endmath.htm.

Course Prefixes:
- MATH

Degrees & Certificates
- Bachelor of Science in Mathematics
- Bachelor of Sciences in Mathematics Education
- Secondary Education Mathematics Endorsement courses

Bachelor of Science in Mathematics
120 credits

A Bachelor of Science in Mathematics degree has four basic components:
1. General Education & Institutional Requirements
2. Mathematics Core Requirements
3. Mathematics Required Electives
4. Mathematics Program Requirements

General Education & Institutional Requirements
All DSC General Education and Institutional requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSC’s minimum General Education standards in American Institutions, English, and Mathematics.

<table>
<thead>
<tr>
<th>Institutional Requirement</th>
<th>Complete one of the following:</th>
</tr>
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<tbody>
<tr>
<td>CIS 1200</td>
<td>Computer Literacy</td>
</tr>
<tr>
<td>CIS 1201</td>
<td>Computer Literacy Exam</td>
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</table>
Graduation Requirements
1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSC for institutional residency
4. Grade C or higher (not C-) required in each Core Discipline Requirement, Mathematics Required Elective, and Mathematics Program Requirement course.
5. Cumulative GPA 2.0 or higher

Bachelor of Science in Mathematics Education
124 credits

Bachelor of Science in Mathematics Education degree has four basic components:
1. General Education & Institutional Requirements
2. Mathematics Core Requirements
3. Mathematics Program Requirements
4. Secondary Education pre-professional and professional courses

General Education & Institutional Requirements
All DSC General Education and Institutional requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSC’s minimum General Education standards in American Institutions, English, and Mathematics.

Institutional Requirement
Complete one of the following:
CIS 1200  Computer Literacy 3
CIS 1201  Computer Literacy Exam 0

General Education Requirements
Complete the following:
ENGL 1010  Intro to Writing 3
ENGL 2010  Intermediate Writing 3
LIB 1010  Information Literacy 1

Complete the following:
Mathematics GE course 3-5
American Institutions GE course 3
Life Sciences GE course 3-5
Physical Science GE course 3-5
Laboratory Science GE course 0-1
Fine Arts GE course 3
Literature / Humanities GE course 3
Social & Behavioral Sciences GE course 3
Exploration GE course 3-5
Two (2) Global & Cultural Perspectives Courses 0-6

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Core Discipline Requirements
Complete the following:
MATH 1210  Calculus I 5
MATH 1220  Calculus II 4
MATH 2200  Discrete Mathematics 3
MATH 2210  Multivariable Calculus 3
MATH 2270  Linear Algebra 3
MATH 2280  Ordinary Differential Equations 3
MATH 3200  Introduction to Analysis I 3
MATH 3400  Probability & Statistics 3
MATH 3900  Number Theory 3
MATH 4000  Foundations of Algebra 3
MATH 4900  Senior Capstone Seminar 3

Mathematics Required Electives
Complete 12 credits from the following:
MATH 3000  History of Mathematics 3
MATH 3100  Euclidean / Non-Euclidean Geometry 3
MATH 3210  Introduction to Analysis II 3
MATH 3500  Numerical Analysis 3
MATH 4010  Abstract Algebra 3
MATH 4100  Introduction to Topology 3
MATH 4200  Complex Analysis 3

Mathematics Program Requirements
Complete the following:
CS 1400  Fundamentals of Programming 3
PHYS 2210/15  Physics for Scientists/Engineers I / Lab 4/1
PHYS 2220/25  Physics for Scientists/Engineers II / Lab 4/1

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PHYS 2220/25  Physics for Scientists/Engineers II / Lab 4/1
Secondary Education Teaching (SET) Program Admission

To be admitted to the SET program and enroll in Professional courses, students must have completed all Pre-Professional Education class with 3.0 or higher GPA with no D credit and students must pass the appropriate PRAXIS II content area subject test(s). In addition, one of the following must be completed:

- Students with BA/BS degrees in progress must have completed at least 95% of major coursework and have approval of major academic content area department advisor
- Students with completed BA/BS or higher degrees must have their transcripts reviewed by content area department advisor

Secondary Education Professional Requirements

### Semester I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SCED 3720</td>
<td>Reading / Writing in Content Areas</td>
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<tr>
<td>SCED 4100</td>
<td>Curriculum, Instruction, Assessment</td>
<td>3</td>
</tr>
<tr>
<td>SCED 4600</td>
<td>Classroom Management</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4500</td>
<td>Methods of Teach Secondary Math</td>
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### Semester II

<table>
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<tr>
<th>Course Code</th>
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<td>SCED 4900</td>
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<tr>
<td>SCED 4989</td>
<td>Student Teacher Seminar</td>
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Graduation Requirements

1. Complete a minimum of 124 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSC for institutional residency.
4. Cumulative GPA 2.75 or higher.
5. Grade C or higher required (not C-) in each Mathematics Core Requirement and Program requirement course.
6. Grade C- or higher in each pre-professional and professional Education and Secondary Education course and 3.0 GPA in pre-professional and professional courses required.
### Suggested Courses Leading to Utah Mathematics Endorsements

#### Level II

<table>
<thead>
<tr>
<th>Course</th>
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<td>College Algebra / Pre-Calculus</td>
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<tr>
<td>MATH 1060</td>
<td>Trigonometry</td>
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<td>MATH 1210</td>
<td>Calculus I</td>
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<td>MATH 2010</td>
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<tr>
<td>MATH 2020</td>
<td>Math Elementary Teaching II</td>
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<tr>
<td>MATH 4500</td>
<td>Methods of Teaching Secondary Math</td>
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<td>Trigonometry</td>
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<td>4.0</td>
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<tr>
<td>MATH 2270</td>
<td>Linear Algebra</td>
<td>3.0</td>
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<tr>
<td>MATH 3100</td>
<td>Euclidean/Non-Euclidean Geometry</td>
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<td>Probability &amp; Statistics</td>
<td>3.0</td>
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<tr>
<td>MATH 2280</td>
<td>Ordinary Differential Equations</td>
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<td>MATH 3000</td>
<td>History of Math</td>
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<tr>
<td>MATH 3100</td>
<td>Euclidean/Non-Euclidean Geometry</td>
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</tr>
<tr>
<td>MATH 3200</td>
<td>Introduction to Analysis I</td>
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