**ENGLISH Program Requirements**

**Minor or Double Major Requirements**

Students majoring in English must also complete a minor or a **double major** in another field.

**Program Requirements**

Required courses - 24 credits

- **ENGL 1005** - Introduction to World Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **ENGL 3001** - World Culture and Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **ENGL 3005** - Ancient to 17th Century World Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **ENGL 3006** - 18th Century to Contemporary World Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **WRIT 2223** - English Grammar and Usage (3.0 cr)
- **WRIT 3002** - Applied Literary Theory and Criticism (3.0 cr)
- **WRIT 3303** - Writing in Your Profession (3.0 cr)
- **WRIT 3900** - Seminar Experience in English (3.0 cr)

**English Electives**

Take 15 or more credits from the following.

**Upper Division**

- **COMM 3008** - Business Writing (3.0 cr)
- **COMM 3537** - Visual Communication (3.0 cr)
- **COMM 3857** - Technical Communication (3.0 cr)
- **COMM 4000** - News and Promotional Writing (3.0 cr)
- **COMM 4002** - Intercultural Communication (3.0 cr)
- **COMM 4802** - Publication Design and Management (3.0 cr)
- **ED 3301** - Creating Meaning Through Literature and Arts (4.0 cr)
- **ENGL 4000** - Intercultural Literature: Conversations Between Cultures (3.0 cr)

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**BIOLOGY Program Requirements**

**Biology Core Requirements**

Required Courses - 38 credits

- **BIOL 1805** - Nature of Life (2.0 cr)
- **BIOL 1009H** - Honors: General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)
- **BIOL 2032** - General Microbiology (4.0 cr)
- **BIOL 3022** - Principles of Genetics (3.0 cr)
- **BIOL 3027** - Cell Biology (3.0 cr)
- **BIOL 3122** - Evolution (3.0 cr)
- **BIOL 3822** - Techniques in Molecular Biology (4.0 cr)
- **BIOL 3899** - Pre-Internship Seminar (0.5 cr)
- **BIOL 3900** - Internship (1.0-2.0 cr)
- **BIOL 3901** - Post-Internship Seminar (0.5 cr)
- **BIOL 4101** - Biology Seminar (1.0 cr)
- **WRIT 3303** - Writing in Your Profession (3.0 cr)
- **NATR 3374** - Ecology [BIOL SCI] (4.0 cr)
- **BIOL 2012** - General Zoology (4.0 cr)
- or **BIOL 2022** - General Botany (3.0 cr)

**Chemistry Core Requirements**

Required Courses - 21 credits

- **CHEM 1061** - Chemical Principles I [PHYS SCI, PEOPLE/ENV] (3.0 cr)
- **CHEM 1062** - Chemical Principles II (3.0 cr)
- **CHEM 1065** - Chemical Principles I Laboratory [PHYS SCI, PEOPLE/ENV] (1.0 cr)
- **CHEM 1066** - Chemical Principles II Laboratory (1.0 cr)
- **CHEM 2301** - Organic Chemistry I (3.0 cr)
- **CHEM 2302** - Organic Chemistry II (3.0 cr)
- **CHEM 2310** - Organic Chemistry Laboratory I (2.0 cr)
- **CHEM 2311** - Organic Chemistry Laboratory II (2.0 cr)
- **CHEM 3021** - Biochemistry (3.0 cr)
- **ENGL 4007** - Advanced Topics in Literature (3.0 cr)

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A student wishing to double major in Biology and English would need the following:

- 74 required credits outlined in the Biology requirements
- 36 required credits outlined in the English requirements (as 1 required course - WRIT 3303 – Writing in Your Profession is required by both programs)
- 40 Liberal Education credits
- 10-12 Biology Major Electives
- 3 credits of technology

**DOUBLE MAJOR IN ENGLISH and BIOLOGY IN 163-165 credits** (need 120 to graduate)
· GNED 3000 - Global Seminar [GLOB PERSP] (1.0-3.0 cr)
· GNED 3804 - Individual Studies (1.0-3.0 cr)
· WRIT 3856 - Editing (3.0 cr)
· WRIT 3860 - Topics in Writing (3.0 cr)

### Lower Division

Take 0 - 6 credit(s) from the following:

- ENGL 1016 - American Literature: Race, Class, Gender, and the American Dream [HUMANITIES, HUMAN DIV] (3.0 cr)
- ENGL 1017 - British Literature (3.0 cr)
- ENGL 2000 - Topics in Literature (3.0 cr)
- WRIT 2335 - Introduction to Creative Writing [HUMANITIES] (3.0 cr)

### English Liberal Education Requirements

A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- COMP 1011 - Composition I [COMMUNICAT] (3.0 cr)
- COMP 1013 - Composition II [COMMUNICAT] (3.0 cr)
- SPCH 1101 - Public Speaking [COMMUNICAT] (3.0 cr)

### Technology Requirements

Take any 3 credits from the following courses. (If applicable, the course taken from below may be used to satisfy both the program and technology requirements.)

- CA 1015 - Word Processing and Publishing Applications (3.0 cr)
- or CA 1030 - Multimedia Applications (3.0 cr)
- or CA 1040 - Web Site Development (3.0 cr)
- or CA 1055 - Animation Software Applications (3.0 cr)
- or COMM 2110 - Communication Technology Trends (3.0 cr)

### Open Electives

Students must take enough open electives credits to meet the 120 credit graduation requirement.

### Math and Physics Core Requirements

Required Courses - 15 credits

- MATH 1150 - Elementary Statistics [MATH THINK] (3.0 cr)
- MATH 1271 - Calculus I [MATH THINK] (4.0 cr)
- PHYS 1101 - Introductory College Physics I [PHYS SCI] (4.0 cr)
- PHYS 1102 - Introductory College Physics II [PHYS SCI] (4.0 cr)

### Biology Liberal Education Requirements

A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- COMP 1011 - Composition I [COMMUNICAT] (3.0 cr)
- COMP 1013 - Composition II [COMMUNICAT] (3.0 cr)
- SPCH 1101 - Public Speaking [COMMUNICAT] (3.0 cr)

### Technology Requirement

Students must take 3 credits from the following courses. (If applicable, the course selected from below may be used to satisfy both the program and technology requirements.)

- CA 1xxx
- or CA 2xxx
- or CHEM 3022 - Chemical Analysis in the Biological and Environmental Sciences (4.0 cr)
- or MATH 1150 - Elementary Statistics [MATH THINK] (3.0 cr)

### Biology Major Electives

Take 10 - 12 credit(s) from the following:

- AGRO 3030 - Research Techniques in Agriculture and Natural Resources (3.0 cr)
- AGRO 3230 - Introduction to Plant Pathology (3.0 cr)
- ANSC 3203 - Animal Anatomy and Physiology (4.0 cr)
- ANSC 3304 - Reproduction, AI, and Lactation (4.0 cr)
- BIOL 2103 - Human Anatomy and Physiology I (4.0 cr)
- **BIOL 2104** - Human Anatomy and Physiology II (4.0 cr)
- **BIOL 3131** - Plant Physiology (3.0 cr)
- **BIOL 3140** - Histology (4.0 cr)
- **BIOL 3464** - Mammalogy (3.0 cr)
- **BIOL 3466** - Ornithology (3.0 cr)
- **BIOL 3722** - Limnology (3.0 cr)
- **BIOL 3994** - Undergraduate Research (1.0-3.0 cr)
- **BIOL 4361** - Developmental Biology (4.0 cr)
- **GEOL 1001** - Introductory Geology [PHYS SCI, PEOPLE/ENV] (3.0 cr)
- **HSCI 1123** - Fundamentals of Nutrition [BIOL SCI] (3.0 cr)
- **MATH 1272** - Calculus II (4.0 cr)
- **NATR 3364** - Plant Taxonomy (3.0 cr)
- **SOIL 1293** - Soil Science (3.0 cr)
- **AGRO 2573** - Entomology (3.0 cr)
  or **NATR 2573** - Entomology (3.0 cr)

**Open Electives**
Students must take enough open electives credits to satisfy the 120 credit graduation requirement.
English B.S.

Liberal Arts and Education

Academic Affairs

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2016
- Required credits to graduate with this degree: 120
- Required credits within the major: 39
- This program requires summer terms.
- Degree: Bachelor of Science

The BS in English prepares students to succeed in professional organizations in myriad fields. Concepts learned and skills developed through the English major will be advantageous in a wide range of employment situations, such as education, media, business, and in technical writing, proofreading, editing, publishing, freelance work, and any career requiring skills in analysis, problem-solving, research, or written and verbal communication, such as paralegals, newsletter editors, critics, marketing coordinators, proofreaders, researchers, librarians, managers, sales associates, and media analysts. Substantial numbers of English graduates find work in business, law, ministry, libraries, and other applied fields. A degree in English can also prepare students for graduate study in English, humanities, law, and medicine. English graduates will gain an understanding and appreciation of the English language, develop critical thinking and theoretical application skills through the study and critique of literature, and gain insight into the importance of diversity. The required minor or double major in another field allows students to further focus their professional career preparation. Program outcomes for graduates: • demonstrate proficiencies in the intensive writing processes through invention, organization, drafting, revision, and editing for professional presentation • use authority, point-of-view, and individual voice and style in personal and professional writing • demonstrate multicultural awareness of the scope and variety of literary works from around the world, literary movements, and literary theories • locate, evaluate, and synthesize in a responsible manner material from diverse sources and points of view, and understand those works as expressions of individual and human values within global contexts • think critically, analyze, interpret, and articulate an informed personal reaction to world literature through writing, discussion, and presentation • participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding

Program Delivery
This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements
For information about University of Minnesota admission requirements, visit the [Office of Admissions website](https://www.umn.edu/admissions).

General Requirements
All students are required to complete general University and college requirements. For more information, see the [graduation requirements](https://www.umn.edu/registrar/graduation).

Program Requirements
A minimum of 40 upper division credits are required to graduate.

Minor or Double Major Requirements
Students majoring in English must also complete a minor or a double major in another field.

Program Requirements
Required courses - 24 credits
- **ENGL 1005** - Introduction to World Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **ENGL 3001** - World Culture and Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **ENGL 3005** - Ancient to 17th Century World Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **ENGL 3006** - 18th Century to Contemporary World Literature [HUMANITIES, GLOB PERSP] (3.0 cr)
- **WRIT 2223** - English Grammar and Usage (3.0 cr)
- **WRIT 3002** - Applied Literary Theory and Criticism (3.0 cr)
- **WRIT 3303** - Writing in Your Profession (3.0 cr)
- **WRIT 3900** - Seminar Experience in English (3.0 cr)
Liberal Education Requirements
A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required.
- COMP 1011 - Composition I [COMMUNICAT] (3.0 cr)
- COMP 1013 - Composition II [COMMUNICAT] (3.0 cr)
- SPCH 1101 - Public Speaking [COMMUNICAT] (3.0 cr)

Technology Requirements
Take any 3 credits from the following courses. (If applicable, the course taken from below may be used to satisfy both the program and technology requirements.)
- CA 1015 - Word Processing and Publishing Applications (3.0 cr)
- CA 1030 - Multimedia Applications (3.0 cr)
- CA 1040 - Web Site Development (3.0 cr)
- CA 1055 - Animation Software Applications (3.0 cr)
- COMM 2110 - Communication Technology Trends (3.0 cr)

English Electives
Take 15 or more credits from the following.

Upper Division
Take 9 - 15 credit(s) from the following:
- COMM 3008 - Business Writing (3.0 cr)
- COMM 3537 - Visual Communication (3.0 cr)
- COMM 3857 - Technical Communication (3.0 cr)
- COMM 4000 - News and Promotional Writing (3.0 cr)
- COMM 4002 - Intercultural Communication (3.0 cr)
- COMM 4802 - Publication Design and Management (3.0 cr)
- ED 3301 - Creating Meaning Through Literature and Arts (4.0 cr)
- ENGL 4000 - Intercultural Literature: Conversations Between Cultures (3.0 cr)
- ENGL 4007 - Advanced Topics in Literature (3.0 cr)
- GNED 3000 - Global Seminar [GLOB PERSP] (1.0-3.0 cr)
- GNED 3804 - Individual Studies (1.0-3.0 cr)
- WRIT 3856 - Editing (3.0 cr)
- WRIT 3860 - Topics in Writing (3.0 cr)

Lower Division
Take 0 - 6 credit(s) from the following:
- ENGL 1016 - American Literature: Race, Class, Gender, and the American Dream [HUMANITIES, HUMAN DIV] (3.0 cr)
- ENGL 1017 - British Literature (3.0 cr)
- ENGL 2000 - Topics in Literature (3.0 cr)
- WRIT 2335 - Introduction to Creative Writing [HUMANITIES] (3.0 cr)

Open Electives
Students must take enough open electives credits to satisfy the 120 credit graduation requirement.

Biology B.S.
Math, Science and Technology
Academic Affairs

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2016
- Required credits to graduate with this degree: 120
- Required credits within the major: 74
- This program requires summer terms.
- Degree: Bachelor of Science
The BS in biology provides students with a broad knowledge of the biological sciences while introducing them to the practical skills needed in today's biotech industries and the background required to be successful applicants to graduate programs. Students may choose from advanced courses designed to emphasize studies in either animal or plant systems while participating in a common core of courses which provide knowledge in the basic principles relevant to both areas. Program outcomes for graduates: • explain and reconstruct the scientific method and can apply this mode of inquiry in a laboratory setting • explain and apply basic principles of biology in work setting • demonstrate teamwork skills • apply, critique, and synthesize protocols from current literature • demonstrate and critique effective oral and written communication skills • formulate proper data collection and analysis methods • interpret and practice professional and ethical behavior related to biological research • identify, provide examples, differentiate, and integrate current biology techniques into their scientific investigations

**Program Delivery**
This program is available:

- via classroom (the majority of instruction is face-to-face)

### Admission Requirements
For information about University of Minnesota admission requirements, visit the [Office of Admissions website](#).

### General Requirements
All students are required to complete general University and college requirements. For more information, see the [graduation requirements](#).

### Program Requirements

#### Biology Core Requirements
Required Courses - 38 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1805</td>
<td>Nature of Life (2.0 cr)</td>
<td></td>
</tr>
<tr>
<td>BIOL 1009H</td>
<td>Honors: General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)</td>
<td></td>
</tr>
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<td>BIOL 2032</td>
<td>General Microbiology (4.0 cr)</td>
<td></td>
</tr>
<tr>
<td>BIOL 3022</td>
<td>Principles of Genetics (3.0 cr)</td>
<td></td>
</tr>
<tr>
<td>BIOL 3027</td>
<td>Cell Biology (3.0 cr)</td>
<td></td>
</tr>
<tr>
<td>BIOL 3122</td>
<td>Evolution (3.0 cr)</td>
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<td>BIOL 3822</td>
<td>Techniques in Molecular Biology (4.0 cr)</td>
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</tr>
<tr>
<td>BIOL 3899</td>
<td>Pre-Internship Seminar (0.5 cr)</td>
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<tr>
<td>BIOL 3900</td>
<td>Internship (1.0-2.0 cr)</td>
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<td>BIOL 3901</td>
<td>Post-Internship Seminar (0.5 cr)</td>
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<td>BIOL 4101</td>
<td>Biology Seminar (1.0 cr)</td>
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<tr>
<td>WRIT 3303</td>
<td>Writing in Your Profession (3.0 cr)</td>
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<tr>
<td>NATR 3374</td>
<td>Ecology [BIOL SCI] (4.0 cr)</td>
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<tr>
<td>BIOL 2012</td>
<td>General Zoology (4.0 cr)</td>
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</tr>
<tr>
<td>or BIOL 2022</td>
<td>General Botany (3.0 cr)</td>
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#### Chemistry Core Requirements
Required Courses - 21 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CHEM 1061</td>
<td>Chemical Principles I [PHYS SCI, PEOPLE/ENV] (3.0 cr)</td>
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<tr>
<td>CHEM 1062</td>
<td>Chemical Principles II (3.0 cr)</td>
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<tr>
<td>CHEM 1065</td>
<td>Chemical Principles I Laboratory [PHYS SCI, PEOPLE/ENV] (1.0 cr)</td>
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<tr>
<td>CHEM 1066</td>
<td>Chemical Principles II Laboratory (1.0 cr)</td>
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<tr>
<td>CHEM 2301</td>
<td>Organic Chemistry I (3.0 cr)</td>
<td></td>
</tr>
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<td>CHEM 2302</td>
<td>Organic Chemistry II (3.0 cr)</td>
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<td>CHEM 2310</td>
<td>Organic Chemistry Laboratory I (2.0 cr)</td>
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<td>CHEM 2311</td>
<td>Organic Chemistry Laboratory II (2.0 cr)</td>
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<tr>
<td>CHEM 3021</td>
<td>Biochemistry (3.0 cr)</td>
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#### Math and Physics Core Requirements
Required Courses - 15 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 1150</td>
<td>Elementary Statistics [MATH THINK] (3.0 cr)</td>
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<tr>
<td>MATH 1271</td>
<td>Calculus I [MATH THINK] (4.0 cr)</td>
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<tr>
<td>PHYS 1101</td>
<td>Introductory College Physics I [PHYS SCI] (4.0 cr)</td>
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</tr>
<tr>
<td>PHYS 1102</td>
<td>Introductory College Physics II [PHYS SCI] (4.0 cr)</td>
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</tr>
</tbody>
</table>
Liberal Education Requirements
A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- **COMP 1011** - Composition I [COMMUNICAT] (3.0 cr)
- **COMP 1013** - Composition II [COMMUNICAT] (3.0 cr)
- **SPCH 1101** - Public Speaking [COMMUNICAT] (3.0 cr)

Technology Requirement
Students must take 3 credits from the following courses. (If applicable, the course selected from below may be used to satisfy both the program and technology requirements.)

- **CA 1xxx**
- **CA 2xxx**
- **CHEM 3022** - Chemical Analysis in the Biological and Environmental Sciences (4.0 cr)
- **MATH 1150** - Elementary Statistics [MATH THINK] (3.0 cr)

Biology Major Electives
Take 10 - 12 credit(s) from the following:

- **AGRO 3030** - Research Techniques in Agriculture and Natural Resources (3.0 cr)
- **AGRO 3230** - Introduction to Plant Pathology (3.0 cr)
- **ANSC 3203** - Animal Anatomy and Physiology (4.0 cr)
- **ANSC 3304** - Reproduction, AI, and Lactation (4.0 cr)
- **BIOL 2103** - Human Anatomy and Physiology I (4.0 cr)
- **BIOL 2104** - Human Anatomy and Physiology II (4.0 cr)
- **BIOL 3131** - Plant Physiology (3.0 cr)
- **BIOL 3140** - Histology (4.0 cr)
- **BIOL 3464** - Mammalogy (3.0 cr)
- **BIOL 3466** - Ornithology (3.0 cr)
- **BIOL 3722** - Limnology (3.0 cr)
- **BIOL 3994** - Undergraduate Research (1.0-3.0 cr)
- **BIOL 4361** - Developmental Biology (4.0 cr)
- **GEOL 1001** - Introductory Geology [PHYS SCI, PEOPLE/ENV] (3.0 cr)
- **HSCI 1123** - Fundamentals of Nutrition [BIOL SCI] (3.0 cr)
- **MATH 1272** - Calculus II (4.0 cr)
- **NATR 3364** - Plant Taxonomy (3.0 cr)
- **SOIL 1293** - Soil Science (3.0 cr)
- **AGRO 2573** - Entomology (3.0 cr)
- **NATR 2573** - Entomology (3.0 cr)

Open Electives
Students must take enough open electives credits to meet the 120 credit graduation requirement.