MATHEMATICS, STATISTICS AND APPLIED MATHEMATICS EMPHASIS, MAJOR

 Liberal Arts (Code 180-209)

 University Requirements

 GRADUATION REQUIREMENTS FOR BACCALAUREATE DEGREE

 Credit Requirements

 Minimum total for graduation 1 120
 Upper division credits (courses numbered 300 and higher) 39
 Liberal Education Core (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header1) 36
 Academic Concentrations (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header16)
 Grade Point Requirements (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header14) 2

 Total 2.00 average
 Resident 2.00 average
 Major 2.00 average
 Minor 2.00 average
 Certificate 2.00 average

 Procedures Required for Graduation

 Obtain admission to the degree program and/or the College offering it.
 Apply for graduation on CampS.

 1 Certain programs exceed this minimum.
 2 See special requirements in each College.

 Applicability of Credits Toward Graduation

 Junior College or Two-Year College Credits. A maximum of 72 semester credits earned in a junior college or two-year college will be accepted as degree credits at UW-Eau Claire.

 Extension Credits. Credits earned in credit outreach courses offered by UW-Eau Claire are treated as resident credits. Credits earned in extension courses offered by other units of the University of Wisconsin System are treated as transfer credits. All other (non-UW) extension and correspondence credits are normally limited to one-fourth of the total required for graduation from any curriculum.

 WTCS Credits. A maximum of 72 semester credits earned in college parallel programs at Madison Area Technical College, Milwaukee Area Technical College, Nicolet Area Technical College, or Chippewa Valley Technical College may be accepted as degree credits at UW-Eau Claire. A set number of general education courses will be accepted from other technical schools. Occupational and technical courses may also be considered for transfer if the quality and content of the course work from the technical college is judged to be comparable to course work at UW-Eau Claire. Refer to the Transfer Credit Wizard (https://my.uwec.edu/psp/PUBLIC/EMPLOYEE/HRMS/c/EAU_SS_CUSTOM.EAU_TRNCRDWZ.GBL) or contact the UW-Eau Claire Admissions Office for information about the current transfer policy.

 USAFI Credit. UW-Eau Claire will accept up to 32 semester credits for work done through the United States Armed Forces Institute, under the provision for non-UW correspondence credit (see Extension Credits above).

 Activity Credit (band, chorus, drama, KINS 100-184 courses) Students may count toward graduation no more than one credit of KINS 110-184 courses. Students may count toward graduation no more than four credits earned in any single activity course and no more than 12 credits resulting from any combination of activity courses (excluding KINS 110-184 courses).

 Other Restricted Credits. For other University restrictions, see the following: Cooperative Education; Credit by Examination; Satisfactory/Unsatisfactory Registration; Transfer of Credits. College or departmental restrictions may also be placed on Independent Study (399-499 courses), Directed Study (395-495), and other types of credits.

 APPLICABILITY OF CREDITS TOWARD GRADUATION

<table>
<thead>
<tr>
<th>Credit Restrictions</th>
<th>SATISFACTORY/UNSATISFACTORY注册</th>
<th>TOTAL DEGREE CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total degree credit</td>
<td>maximum 12</td>
<td></td>
</tr>
<tr>
<td>Major, Standard</td>
<td>maximum 1 course</td>
<td></td>
</tr>
<tr>
<td>Major, Comprehensive</td>
<td>maximum 2 courses</td>
<td></td>
</tr>
<tr>
<td>Minor</td>
<td>maximum 1 course</td>
<td></td>
</tr>
<tr>
<td>Credit by Examination</td>
<td>maximum ¼ of total Major or minor</td>
<td>maximum ½ of total</td>
</tr>
<tr>
<td>Total KINS 100-184</td>
<td>maximum 1 credit</td>
<td></td>
</tr>
<tr>
<td>Total Band, chorus, drama</td>
<td>maximum 12 credits</td>
<td></td>
</tr>
<tr>
<td>Single course band, chorus, drama</td>
<td>maximum 4 credits</td>
<td></td>
</tr>
</tbody>
</table>

 Extension credits

 UW-System no maximum
 Other extension/correspondence maximum ¼ of total

 USAFI maximum 32 credits
Liberal Education Core
The University of Wisconsin-Eau Claire measures learning outcomes to ensure that its graduates have achieved a liberal education and prepared themselves to contribute to a complex society. Upon graduation, each undergraduate will have met the four learning goals of our liberal education core and the 11 learning outcomes they comprise.

LIBERAL EDUCATION CORE REQUIREMENTS

Knowledge Goal

Knowledge Outcome 1 (K1): Natural Sciences (http://catalog.uwec.edu/undergraduate/attribute-k1/)
Two (2) learning experiences

Knowledge Outcome 2 (K2): Social Sciences (http://catalog.uwec.edu/undergraduate/attribute-k2/)
Two (2) learning experiences

Knowledge Outcome 3 (K3): Humanities (http://catalog.uwec.edu/undergraduate/attribute-k3/)
Two (2) learning experiences

Knowledge Outcome 4 (K4): Fine Arts (http://catalog.uwec.edu/undergraduate/attribute-k4/)
One (1) learning experience

Skills Goal

Skills Outcome 1 (S1): Written and Oral Communication (http://catalog.uwec.edu/undergraduate/attribute-s1/)
Two (2) learning experiences

One S1 must meet the University Writing Requirement (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header10)

Skills Outcome 2 (S2): Mathematics (http://catalog.uwec.edu/undergraduate/attribute-s2/)
One (1) learning experience

One S2 to meet the University Mathematics Requirement (http://catalog.uwec.edu/undergraduate/graduation-requirements/#header11)

Skills Outcome 3 (S3): Creativity (http://catalog.uwec.edu/undergraduate/attribute-s3/)
One (1) learning experience

Responsibility Goal

Responsibility Outcome 1 (R1): Equity, Diversity, and Inclusivity (http://catalog.uwec.edu/undergraduate/attribute-r1/)
Two (2) learning experiences

One R1 must satisfy Design for Diversity (http://catalog.uwec.edu/undergraduate/attribute-DDIV/#header13)

Responsibility Outcome 2 (R2): Global Perspectives (http://catalog.uwec.edu/undergraduate/attribute-r2/)
One (1) learning experience

Responsibility Outcome 3 (R3): Civic and Environmental Issues (http://catalog.uwec.edu/undergraduate/attribute-r3/)
One (1) learning experience

Integration Goal
Integration Outcome 1 (I1): Integration (http://catalog.uwec.edu/undergraduate/attribute-i1/)
Two (2) learning experiences

Service-Learning Goal
Service-Learning (http://catalog.uwec.edu/undergraduate/attribute-SL/#header13)
30 hours

College Degree Requirements

Bachelor of Arts or Bachelor of Science Degree (B.A./B.S.)

University Graduation Requirements. All candidates for degrees must fulfill the requirements for credits, curriculum, GPA, and University residency as specified in the section of this catalog titled University Graduation Requirements (http://catalog.uwec.edu/undergraduate/graduation-requirements/).

College Graduation Requirements: Grade Point Averages. All candidates for degrees in the College of Arts and Sciences must earn minimum resident and total GPAs of 2.00 in the major, the minor, and the certificate. The resident and total GPAs for the major are computed using all attempted credits applicable to the major including those offered by departments other than the major department. The resident and total GPAs for the minor and the certificate are computed similarly.

Major-Minor and Major-Certificate Requirements. A standard major (a minimum of 36 credits) must be supplemented by a minor (a minimum of 24 credits) or by a certificate (12 to 18 credits) to meet graduation requirements for completing a first and second degree program. No minor or certificate is required with a Comprehensive Major (60 or more credits) or with two majors of 36 or more credits each.

Certain degree programs, which include Comprehensive Majors, may require more than the minimum of 120 credits for graduation.

Acceptable academic program combinations are determined at the college level. A major and a minor or a major and certificate or two majors (if available) may not be elected in the same department or program, except in the approved combinations listed here (http://catalog.uwec.edu/undergraduate/arts-sciences/#academicprogramstext).

College Credits. Earn at least 90 credits in courses offered by the College of Arts and Sciences.

Bachelor of Arts Degree in the College of Arts and Sciences (B.A.)

Fulfillment of all University Graduation Requirements (which includes the Liberal Education Core); all College-level degree requirements (major and minor/certificate emphases, GPAs, earning at least 90 credits in Arts and Sciences course work); foreign language competency at the 102 level. Foreign language competency may be met in one of two ways: (1) Achieve a score on the foreign language placement test that qualifies the student to enter the 201-level course in a foreign language. (2) Earn a grade of at least C (not C-) or a mark of S in a 102-level foreign language course (or AIS 112 or AIS 122 / LANG 122 or CSD 103).

Bachelor of Science Degree in the College of Arts and Sciences (B.S.)

Fulfillment of all University Graduation Requirements (which includes the Liberal Education Core); all College-level degree requirements (major and minor/certificate emphases, GPAs, earning at least 90 credits in Arts and Sciences course work); mathematics competency at the MATH 111, MATH 112
or MATH 113 level. Mathematics competency can be met in one of three ways: (1) Achieve a score on the mathematics placement test that qualifies the student to enter MATH 114. (2) Earn a grade of at least C (not C-) or a mark of S in MATH 111, MATH 112, or MATH 113. (3) Achieve a satisfactory score on the MATH 112 competency test. This test may be attempted no more than two times.

**Major Requirements**

**Liberal Arts (Code 180-209)**

The statistics and applied mathematics emphasis is appropriate for students interested in either scientific or engineering applications of mathematics, careers in business, industry or statistics, data science, or graduate work in areas such as engineering, operations research, optimization, or statistics. Because of the variety of courses available, students are encouraged to consult a mathematics advisor early and frequently while pursuing this emphasis.

A minimum of 36 credits from mathematics courses must be earned as described below.

**Required:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 114</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 215</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 216</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 316</td>
<td>Introduction to Real Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 324</td>
<td>Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 425</td>
<td>Abstract Algebra I</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus additional mathematics courses numbered above 305 including ten credits from the Elective Requirements as noted below.

**Elective Requirements**

At least ten credits from the following, four credits of which must be from MATH 312 or MATH 347:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 307</td>
<td>Mathematics and Music</td>
</tr>
<tr>
<td>MATH 312</td>
<td>Differential Equations and Linear Algebra</td>
</tr>
<tr>
<td>MATH 313</td>
<td>Digital Signal Processing</td>
</tr>
<tr>
<td>MATH 318</td>
<td>Introduction to Complex Variables</td>
</tr>
<tr>
<td>MATH 345</td>
<td>Introduction to Probability and Mathematical Statistics</td>
</tr>
<tr>
<td>MATH 346</td>
<td>Introduction to Probability</td>
</tr>
<tr>
<td>MATH 347</td>
<td>Mathematical Statistics</td>
</tr>
<tr>
<td>MATH 351</td>
<td>Numerical Analysis I</td>
</tr>
<tr>
<td>MATH 352</td>
<td>Numerical Analysis II</td>
</tr>
<tr>
<td>MATH 354</td>
<td>Introduction to Mathematical Modeling</td>
</tr>
<tr>
<td>MATH/PHYS 440</td>
<td>Digital Image Processing</td>
</tr>
<tr>
<td>MATH 441</td>
<td>Linear Regression Analysis, with Time Series</td>
</tr>
<tr>
<td>MATH 443</td>
<td>Experimental Design and Analysis</td>
</tr>
<tr>
<td>MATH 445</td>
<td>Survey Sampling</td>
</tr>
<tr>
<td>MATH 447</td>
<td>Nonparametric Statistics</td>
</tr>
</tbody>
</table>

Three credits required, not counted toward credits in major, from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 250</td>
<td>Symbolic Logic</td>
</tr>
</tbody>
</table>