

## Mathematics, Research Emphasis, B.S., Comprehensive Major

The following is a hypothetical schedule, based on the 2018-2019 catalog. It assumes no transferred credits, no requirements waived by placement tests, and no courses taken in the summer. UW-Eau Claire cannot guarantee all courses will be offered as shown, but will provide a range of courses that will enable prepared students to fulfill their requirements in a timely period. This is just a guide. Please consult your advisor, the catalog, and your degree audit for specific requirements.

### FIRST YEAR

FIRST SEMESTER			SECOND SEMESTER		
Subj/Area/Course	Title	Crs	Subj/Area/Course	Title	Crs
MATH 114	Calculus I (S2)	4	MATH 215	Calculus II (prereq for Math 324)	4
WRIT 114 or 116	Blugold Seminar (S1)	5	CJ 202	Fundamentals of Speech (S1)	3
LE Core Elective	Global Learning (R2) with (K2) or (K3) or (K4)	3	LE Core Elective	Equity, Diversity, inclusivity (R1) with (K2) or (K3)	3
LE Core Elective	Foreign Language 101 if BA Student (or another LE course if BS)	3	LE Core Elective	Social Science (K2) or Humanities (K3) or Fine Arts (K4)	3
			LE Core Elective	Foreign Language 102 if BA Student (or another LE course if BS)	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>16</b>

### SECOND YEAR

FIRST SEMESTER			SECOND SEMESTER		
Subj/Area/Course	Title	Crs	Subj/Area/Course	Title	Crs
MATH 216	Calculus III (prereq for Math 316)	4	MATH 425	Abstract Algebra I (prereq for Math 426)	3
MATH 324	Linear Algebra (prereq for Math 380, 425)	4	MATH ELECTIVE <sup>a</sup>		4
CS 145/163/170/ PHIL 250 <sup>b</sup>		3	MATH APP (2 <sup>nd</sup> course) <sup>c***</sup>		4
MATH APP (1 <sup>st</sup> course) <sup>c****</sup>		4	LE Core Elective	Equity, Diversity, Inclusivity (R1+DD)	3
<b>TOTAL</b>		<b>15</b>	<b>TOTAL</b>		<b>14</b>

### THIRD YEAR

FIRST SEMESTER – Apply for Admission to Major			SECOND SEMESTER		
Subj/Area/Course	Title	Crs	Subj/Area/Course	Title	Crs
MATH 380	Research Methods (S3)	3	MATH 480	Research Seminar	2
MATH 316	Real Analysis I (prereq for Math 317)	3	MATH 425 or 441 <sup>d</sup>	Abstract Algebra II or Linear Regression Analysis with Time Series	3-4
MATH ELECTIVE <sup>a</sup>		3	MATH ELECTIVE <sup>a</sup>		3
LE Core Elective	Natural Science (K1, if needed) <sup>c</sup>	4	LE Core Elective	Natural Science (K1, if needed) <sup>c</sup>	4
LE Core Elective**	(K2) or (K3) or (K4)	3	LE Core Elective	Integrative Learning (I1)*	3
<b>TOTAL</b>		<b>15-16</b>	<b>TOTAL</b>		<b>15-16</b>

### FOURTH YEAR

FIRST SEMESTER			SECOND SEMESTER		
Subj/Area/Course	Title	Crs	Subj/Area/Course	Title	Crs
MATH 317	Real Analysis II	3	MATH 480	Research Seminar	2
MATH ELECTIVE <sup>a</sup>		3-4	MATH ELECTIVE <sup>a</sup>		3-4
LE Core Elective	(K2) or (K3) or (K4)**	3	LE Core Elective	Civic and Environmental Issues (R3)	3
LE Core Elective	Integrative Learning (I1)*	3	Elective		3
Elective		3	Elective		3
<b>TOTAL</b>		<b>15-16</b>	<b>TOTAL</b>		<b>14-15</b>

**RECOMMENDATIONS FOR OPTIONAL HIGH IMPACT PRACTICES (HIPs)**

The University of Wisconsin-Eau Claire encourages all students to participate in High Impact Practices. The following information identifies any specific recommendations that faculty in this major have concerning which HIPs might be most beneficial to students, and any recommendations about when those HIPs best fit into the degree plan. Students should also consult their faculty advisor for information on HIPs.

Student/Faculty Research-Students in the Research Emphasis are required to participate in student/faculty research. We recommended this during the semesters the student takes Math 480: Research Seminar. During Math 324, students will be introduced to the research interests of the faculty and are encouraged to contact the faculty member they are interested in working with. Recruitment for research projects also occurs during the year by email and announcements.

Study Abroad-Upper level math courses can be taken at the University of Glasgow and the University of Aberdeen. Math 312 and 324 can be taken during the summer at the University of Glasgow. Immersion programs offer at least R2 and LE requirements can be fulfilled in numerous programs.

**NOTES****Liberal Education Core (LE Core)**

The LE Core comprises 17 learning experiences across 11 learning outcomes. Students must complete a minimum of 36 credits in courses approved for the LE Core.

- K1 – Natural Sciences; two experiences (one lab science experience is required in K1 or K2).
- K2 – Social Sciences; two experiences (one lab science experience is required in K1 or K2).
- K3 – Humanities; two experiences.
- K4 – Fine Arts; one experience.
- S1 – Written and Oral Communication; two experiences (one experience must satisfy the University writing requirement).
- S2 – Mathematics; one experience (must satisfy the University math competency requirement).
- S3 – Creativity; one experience (can be fulfilled in a student's major).
- R1 – Equity, Diversity, and Inclusivity; two experiences (one experience must meet the UW System Design for Diversity (DD) requirement).
- R2 – Global Perspectives; one experience.
- R3 – Civic and Environmental Issues; one experience.
- I1 – Integration; two experiences (one experience can be fulfilled in a student's major).

**Additional LE Core Information**

- Most LE Core learning experiences are course based, and many courses meet more than one learning outcome (e.g., K3 and R2 or K1 and R3).
- Some learning experiences can also be met outside of a traditional course (e.g., undergraduate research (S3), study abroad (I1)).
- S1 – An English placement score that fulfills the University writing requirement fulfills one S1 experience.
- S1 – A foreign Language placement score that qualifies the student to enter the 102 level satisfies one S1 experience.
- S1, R2 – A foreign language placement score that qualifies the student to enter the 202 level satisfies one experience in S1 and the R2 experience.
- S2 – A math placement score that qualifies the student to enter Math 111, 112, 113 or 114 fulfills the S2 experience.
- S3 – Completion of two credits from any approved music ensemble fulfills the S3 experience.
- I1 – Any semester long study abroad program can fulfill one I1 experience.

**Course Suggestions (if applicable)**

\*One of the two experiences required for Integrative Learning (I1) may be fulfilled with a math course with the I1 designation such as Math 307 or Math 462.

\*\*In this 4-year plan, the experiences for (K2), (K3), and (K4) are listed together. The appropriate number of experiences from each learning outcome will be required. See LE Core above.

\*\*\* In the MATH APP sequence, many courses could fulfill (K1) and (K1+lab).

a – Additional Math credits from courses numbered above 305; these courses are 3 or 4 credits.

b- Students must complete as least three credits to be selected from PHIL 250, CS 145, 163, 170, or another computer science course approved by the math department.

c- MATH APP: A minimum of 6 credits must be earned in a sequence selected from BIOL 221/222, CHEM 105/106/109, CHEM 115, CHEM 103/104, CS 245/335, ECON 103/104, PHYS 231/232, or another sequence approved by the math department. These sequences will vary on credit load. If K1 is *not* satisfied by the courses used for the MATH APP requirement, then K1 must be satisfied via other LE elective courses.

d-Student can choose from MATH 426 or MATH 441 for the depth requirement. Prereqs for MATH 441 are MATH 345 or MATH 347 or MATH 246 and 114 with the consent of the instructor.