



BA, Mathematics

Major requirements (89 credits):

Required Courses

Course Number	Course Name	Credits	Prerequisites	Quarters Offered
Math 161	Calculus I	5	Math 106 and Engl 101	Fall, winter, spring, summer
Math 162	Calculus II	5	Math 161	Fall, winter, spring
Math 163	Calculus III	5	Math 162	Fall, winter, spring
Math 241	Calculus IV	5	Math 163	Fall, spring
Math 225	Foundations of Mathematics	5	Math 161	Fall, winter, spring
Math 231	Linear Algebra	5	Math 106	Fall, winter, spring
Math 360	Continuous Functions	4	Math 225 and 231	Fall
Math 431	Introduction to Modern Algebra I	4	Math 225 and 231	Fall
Math 432	Introduction to Modern Algebra II	4	Math 431	Winter
Math 461	Advanced Calculus I	4	Math 241 and 360	Winter
Math 462	Advanced Calculus II	4	Math 461	Spring
Math 494	Senior Seminar	2	Math360 or 432 (or concurrent)	Winter

Mathematics Electives (Select six courses from the following)

Course Number	Course Name	Credits	Prerequisites	Quarters Offered
Math 345	Numerical Analysis I	4	Math 225 and 231, High-Level Computer Language	Winter (even), Spring (odd)
Math 347	Introductory Differential Equations	4	Math 163	Fall (odd)
Math 385	Probability and an Introduction to Statistics	4	Math 163 and 225	Fall, Winter (odd), Spring (even)
Math 430	Advanced Linear Algebra	4	Math 231	Spring (even)
Math 433	Introduction to Modern Algebra III	4	Math 432	Spring (odd)
Math 445	Numerical Analysis II	4	Math 345	Spring (even)
Math 447	Differential Equations	4	Math 225,231 and 347	Winter (odd)
Math 470	Foundations of Geometry	4	Math 225 and 231 (or concurrent)	Spring (odd)
Math 481	Complex Analysis	4	Math 360	Fall (even)
Math 485	Theoretical Probability and Mathematical Statistics	4	Math 241 and 385	Spring (odd)

Supporting Courses (Select at least 5 credits from List A and at least 8 credits from List B.)

List A

Course Number	Course Name	Credits	Prerequisites	Quarters Offered
CSCD 210	Programming Principles I	5	CSCD 110 or previous programming experience, MATH 114 (minimum grade 2.5) or MPT into MATH 105 or above.	Fall, Winter, Spring
CSCD 211	Programming Principles II	5	CSCD 210 and MATH 105	Fall, Winter, Spring
CSCD 255	C Programming for Engineers	5	MATH 105 or Math Proficiency	Spring, Summer
CSCD 305	C++ Programming	4	CSCD 255 or (211 and 240) Minimum grade 2.7	Spring

List B

Course Number	Course Name	Credits	Prerequisites	Quarters Offered
Phys 151	General Physics I	4	Math 161 (or concurrent)	Fall
Phys 152	General Physics II	4	Math 162 (or concurrent), Phys 151	Winter
Phys 153	General Physics III	4	Math 163 (or concurrent), Phys 152	Spring
Chem 421	Physical Chemistry	4	Chem 304, Phys 133 or 153, Math 162	Fall
Chem 422	Physical Chemistry	3	Chem 421	Winter
Chem 423	Physical Chemistry	3	Chem 422	Spring
CSCD 420	Automata	4	Math 225 or CSCD 310 or permission from instructor.	Fall even years
CSCD 501	Theory of Computing I	4	By permission of Instructor	Contact CS Dept
CSCD 502	Theory of Computing II	4	By permission of Instructor	Contact CS Dept
Econ 430	Mathematical Economics	5	Econ 200 or permission	Contact Econ Dept

Minor requirements (29 credits):

Required Courses:

Course Number	Course Name	Credits	Prerequisites	Quarters Offered
Math 161	Calculus I	5	Math 106 and Engl 100	Fall, winter, spring
Math 162	Calculus II	5	Math 161	Fall, winter, spring
Math 163	Calculus III	5	Math 162	Fall, winter, spring
Math 225	Foundations of Mathematics	5	Math 161	Fall, winter, spring
Math 231	Linear Algebra	5	Math 106	Fall, winter, spring

Electives (select one course):

Course Number	Course Name	Credits	Prerequisites	Quarters Offered
Math 345	Numerical Analysis I	4	Math 225 and 231, High-Level Computer Language	Winter (even), Spring (odd)
Math 360 or 460	Continuous Functions	4	Math 163	Fall (odd)
Math 385	Probability and an Introduction to Statistics	4	Math 163 and 225	Fall, Winter (odd), Spring (even)
Math 370	Survey of Geometries	5	Math 225	Winter

SCHEDULE FOR NEW FRESHMEN

ASSUMPTIONS: This assumes that the student is initially placed in college-level English Composition, and Mathematics (advanced placement), and has completed the Foreign Language requirement. Otherwise, the student also may need to take any or all of the following: ENGL 100, Math 103, Math 104, Math 105, Math 106 and courses in a foreign language.

	Fall	Winter	Spring
Freshman	MATH 161 - 5 cr. MATH 231 - 5 cr. CPLA 100/101 – 2 cr. ENGL 101 - 5 cr.	MATH 162 - 5 cr. ENGL 201 – 5 cr. GEGR - 5 cr.	MATH 163 - 5 cr. MATH 225 - 5 cr. GEGR – 5 cr.
Sophomore	MATH 241 - 5 cr. GEGRs (two) – 10 cr.	MATH Elective -4 cr. CSCD 255 – 5 cr. GEGR - 5 cr.	MATH Elective -4 cr. GEGR – 5 cr. Cultural Div. – 4-5 cr.
Junior	MATH 360 - 4 cr. PHYS 151 – 4 cr. Intern. Studies – 4-5 cr.	MATH 461 – 4 cr. PHYS 152 – 4 cr. GEGR - 5 cr.	MATH 462 – 4 cr. GEGR - 5 cr. Free Elective – 4-5 cr.
Senior	MATH 431 - 4 cr. MATH elective - 4 cr. ITGS 400 – 4 cr. Free Elective – 4-5 cr.	MATH 432 - 4 cr. MATH 494 - 2 cr. MATH Elective – 4 cr. Free Elective – 4-5 cr.	MATH Electives (two) – 8 cr. Free Elective – 4-5 cr.

If the major or minor shown above is your chosen program, you should meet with the Department Chair to plan your first quarter of classes and to be assigned to a departmental adviser. Please contact:

Dr. Barbara L. Alvin
Department Chair
Department of Mathematics
Phone (509) 359-2203
E-Mail: balvin@ewu.edu