NORTHERN NEW MEXICO COLLEGE

DEGREE SHEET / 2016-2017 CATALOG
Student name:
Eagle ID:
Eagle Email:
Phone:

BS Mathematics

The curriculum of the BS Mathematics degree prepares students for a career in mathematics or a mathematics related field and emphasizes applied mathematics courses including ordinary differential equations, linear algebra, numerical analysis, partial differential equations, and probability and statistics. The degree does offer students a choice of chemistry, general engineering, physics, and information technology concentrations. However, the concentration is optional. Should a concentration not be chosen, students must complete enough approved upper-division (300 or above) math, chemistry, engineering or physics courses in order to fulfill our requirement of at least 40 credit hours of upper-division coursework. The total number of hours required for graduation is 120 credits.

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GENERAL EDUCATION REQUIREMENTS (38 CR)	SEMESTER	GRADE
AREA I: COMMUNICATIONS (9 CR)		
ENG 111 English Composition I (3) Prerequisites: ENG 109 or adequate score on the Course Placement Evaluation		
SPCH 130 Public Speaking (3) Prerequisite: ENG 109 or adequate score on the Course Placement Evaluation		
Choose ONE of the following two courses:		
ENG 112 English Composition II (3) Prerequisite: ENG 111		
ENG 116 Technical Writing (3) Prerequisite: ENG 111		
AREA II: MATHEMATICS (3 CR)		
Choose ONE of the following courses:		
MATH 145 Introduction to Probability and Statistics (3)		
MATH 150 College Algebra (3)		
MATH 155 Trigonometry (4)		
AREA III: LABORATORY SCIENCES (8 CR)		

AREA IV: SOCIAL/BEHAVIORAL SCIENCES (6-9 CR)*		
AREA V: HUMANITIES and FINE ARTS (6-9 CR)*		
Second Language Requirement (3) required for all Bachelor's degrees		
AREA VI: FIRST YEAR EXPERIENCE (3 CR)		
FYE 101 Freshman Year Experience (3)		
PROGRAM REQUIREMENTS (37 CR)		
Choose one of the following sequences (CHEM 121/L and CHEM 122/L) (8) (PHYS 121/L and PHYS 122/L) (8) (CHEM 121/L and PHYS 121/L) (8) 8 hours total		
EECE 152L Computer Programming (4)		
MATH 162 or 162E Calculus I (4)		
MATH 163 or 163E Calculus II (4)		
MATH 264 Calculus III (4)		
MATH 375 Numerical Computing (3)		
MATH 314 Linear Algebra with Applications (3)		
MATH 316 Applied Ordinary Differential Equations (3)		
MATH 401 Advanced Calculus (4)		
MAJOR (24 CR)		

MATH 311 Vector Analysis (3)		
MATH 312 Partial Differential Equations for Engineering (3)		
MATH 313 Complex Variables for Engineering (3)		
MATH 327 Discrete Structures (3)		
MATH 345 Elements of Applied Statistics and Probability (3)		
MATH 395 Practicum in Mathematics (3)		
MATH 466 Mathematical Methods in Science and Engineering (3)		
MATH 402 Advanced Calculus II (3) or MATH 441 Probability (3) or MATH 464 Applied Matrix Theory (3)		
CONCENTRATIONS		
No Concentration (3 CR)		
3 credit hours upper-division (300 or 400) science, engineering, or mathematics course		
General Engineering (20 CR)		
ENGR 110 Introduction to Engineering (2)		
ME 202 Engineering Statics (3)		
EECE 203L Circuit Analysis (3)		
ME 160L Mechanical Engineering Design (3)		
ME 301 Thermodynamics (3)		
ME 306 Dynamics (3)		
ME 317 Fluid Mechanics (3)		
Information Technology (18 CR)		
EECE 132 Computer Networks I (3)		
EECE 231 Intermediate Programming (3)		
IT 250 Introduction to Databases (3)		
EECE 330 Computer Networks II (3)		
EECE 342 Wireless and Mobil Computing (3)		

EECE 440 Advanced Computer Networks (3)		
Chemistry (19 CR)		
CHEM 121/L General Chemistry I with lab (4) *		
CHEM 122/L General Chemistry II with lab (4) *		
CHEM 301/L Organic Chemistry I with lab (4)		
CHEM 302/L Organic Chemistry II with lab (4)		
CHEM 311 Physical Chemistry (3)		
(*) No course can count more than once toward a degree at Northern. If you pursue this concentration, you will not have taken CHEM 121/L and CHEM 122/L as part of the "supporting courses" in the catalog		
Physics (20 CR)		
PHYS 215/L Engineering Physics with lab (4)		
PHYS 262/L General Physics with lab (4)		
PHYS 331 Thermodynamics and Statistical Methods (3)		
PHYS 302 Optics (3)		
PHYS 330 Introduction to Modern Physics (3)		
PHYS 405 Electricity and Magnetism (3)		
ELECTIVES Electives may be chosen from any NNMC College or department subject to advisor consultation.		
No Concentration (18 CR additional electives required)		
General Engineering Concentration (1 CR additional elective required)		
Information Technology Concentration (3 CR additional electives required)		
Chemistry Concentration (2 CR additional electives required)		
Physics Concentration (1 CR additional elective required)		

TOTAL 120 CR		
ADVISOR APPROVAL	**DATE**	

SUGGESTED SEQUENCE OF COURSES

First Semester (17 crs)
- FYE 101 First Year Experience (3)
- ENG 111 English Composition I (3)
- MATH 130L Accelerated Intermediate Algebra (5)
- HUM/ART/SOC/PSY (3)
- Elective (3)

Second Semester (16 crs)
- SPCH 130 Public Speaking (3)
- MATH 150 College Algebra (3)
- CHEM 121/L or GEOL 101/L or ASTR 110/L or PHYS 121/L or BIOL 110/L (4)
- HUM/ART/SOC/PSY (3)
- Second Language (3)

Third Semester (15 crs)
- ENG 112 or ENG 116 (3)
- MATH 155 Trigonometry and Precalculus (4)
- CHEM 122/L or GEOL 102/L or ASTR 110/L or PHYS 122/L or BIOL 110/L (4)
- EECE 152L Computer Programming (4)

Fourth Semester (17 crs)
- MATH 162 Calculus I (4)
- CHEM 121/L or GEOL 101/L or ASTR 110/L or PHYS 121/L or BIOL 110/L (4)
- HUM/ART/SOC/PSY (3)
- HUM/ART/SOC/PSY (3)
- Elective (3)

Fifth Semester (14 crs)
- MATH 145 Introduction to Probability and Statistics (3)
- MATH 163 Calculus II (4)
- MATH 314 Linear Algebra (3)
- CHEM 122/L or GEOL 102/L or ASTR 110/L or PHYS 122/L or BIOL 110/L (4)

Sixth Semester (13 crs)
- MATH 264 Calculus III (4)
- MATH 375 Introduction to Numerical Computing (3)
- MATH 316 Ordinary Differential Equations (3)
- MATH 327 Discrete Structures (3)

Seventh Semester (15 crs)
- MATH 313 Complex Analysis (3)
- MATH 311 Vector Analysis (3)
- MATH 312 Partial Differential Equations (3)
- MATH 345 Applied Statistics and Probability (3)
- 300 or 400 level course in MATH, PHYS, ENGR, BIOL, or CHEM (3)

Eighth Semester (13 crs)
- MATH 395 Practicum in Mathematics (3)
- MATH 401 Advanced Calculus I (4)
- MATH 466 Mathematical Methods in Science and Engineering (3)
- MATH 441 Probability (3) OR MATH 464 Applied Matrix Theory (3)

EDUCATIONAL PLANNING FORM (Semester)

FALL SEMESTER	SPRING SEMESTER	SUMMER
Total Units	Total Units	Total Units
FALL SEMESTER	SPRING SEMESTER	SUMMER
Total Units	Total Units	Total Units
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