

BACHELOR OF SCIENCE/BACHELOR OF ARTS IN **MATHEMATICS**

OVERVIEW

As mathematics and computer science have become a part of everyday life, the demand for skills in these areas has increased. At Lewis University the curriculum in Mathematics prepares students for careers as mathematicians, computer scientists, statisticians, actuaries, high school math teachers, and quantitative specialists in other fields. The computer science major prepares students for careers as programmer/analysts, systems operators, software developers, networking specialists, and professionals in Internet/Web page design.

Both the Mathematics major and the Computer Science major offer two degrees: the Bachelor of Science (B.S.) and the Bachelor of Arts (B.A.). In either case, the Bachelor of Science is the more difficult program. Students in either the B.S. program or the B.A. program in Computer Science can choose several courses that suit their particular interests.

HIGHLIGHTS

Computer science majors have the opportunity for internships that give them hands-on experience, while providing the chance to work directly with faculty. Other students work as lab assistants in the computer labs or in other labs located on campus. Students in the Mathematics and Computer Science program have also been accepted for internships at Argonne Laboratories. This not only offers valuable experience, but students are paid for their work.

The department participates in the annual Associated Colleges of the Chicago Area (ACCA) competition in both mathematics (calculus) and computer science. Students find these to be both beneficial and stimulating. They provide them with the opportunity to work challenging problems while honing their skills.

Mathematics students who meet the criteria can apply for membership in the Lewis chapter of Kappa Mu Epsilon, the mathematics honor society. Application has been made on behalf of outstanding computer science students to Upsilon Pi Epsilon, an international computer science honor society.

The department also hosts an active computer science club, open not only to computer science students but to students in other majors as well. At this time, plans are being made to begin a mathematics club.

The Mathematics and Computer Science programs also offers students small classes. Seven full-time faculty members get to know their students personally. This affords the opportunity for individual attention and assistance. The department also pays close attention to student needs and areas for improvement. Graduating seniors offer either evaluations or "exit interviews" during which they make suggestions for changes in curriculum. Such feedback helps the department to evaluate what is being done well and where there is room for improvement.

CONTACT

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BACHELOR OF ARTS/MATHEMATICS

Total Credit Hours: 128
Major Credit Hours: 40

I. Core Courses (28)

- 13-200 Calculus I (4)
- 13-201 Calculus II (4)
- 13-250 Calculus III (4)
- 13-275 Linear Algebra (4)
- 13-360 Advanced Calculus I (4)
- 13-440 Abstract Algebra I (4)
- 13-361 Advanced Calculus II (4)
- OR
- 13-441 Abstract Algebra II (4)

II. Select three electives from the following courses: (12)

- 13-210 Discrete Mathematics (4)
- 13-300 Differential Equations (4)
- 13-315 Probability and Statistics (4)
- 13-320 Topics in Geometry (4)
- 13-330 History of Mathematics (4)
- 13-350 Numerical Analysis (4)
- 13-361 Advanced Calculus II (4)
- 13-430 Complex Variables (4)
- 13-441 Abstract Algebra II (4)

III. The advanced writing requirement for Mathematics majors is satisfied by completing either a full year of Advanced Calculus (13-360 and 13-361) or a full year of Abstract Algebra (13-440 and 13-441).

MINOR IN MATHEMATICS

Minor Credit Hours: 20

I. Core Courses (16)

- 13-200 Calculus I (4)
- 13-201 Calculus II (4)
- 13-250 Calculus III (4)
- 13-275 Linear Algebra (4)

II. Select one additional upper-division mathematics course. (4)

BACHELOR OF SCIENCE/MATHEMATICS

Total Credit Hours: 128
Major Credit Hours: 54

I. Core Courses (50)

- 13-200 Calculus I (4)
- 13-201 Calculus II (4)
- 13-250 Calculus III (4)
- 13-275 Linear Algebra (4)
- 13-300 Differential Equations (4)
- 13-315 Probability and Statistics (4)
- 13-360 Advanced Calculus I (4)
- 13-361 Advanced Calculus II (4)
- 13-430 Complex Variables (4)
- 13-440 Abstract Algebra I (4)
- 13-441 Abstract Algebra II (4)
- 70-200 Computer Science I: Programming and Algorithm Design (3)
- 70-210 Computer Science II: Data Structures (3)

II. Select one elective from the following: (4)

- 13-320 Topics in Geometry (4)
- 13-330 History of Mathematics (4)

III. The advanced writing requirement for Mathematics majors is satisfied by completing either a full year of Advanced Calculus (13-360 and 13-361) or a full year of Abstract Algebra (13-440 and 13-441).

SECONDARY EDUCATION TEACHER CERTIFICATION

The Department of Mathematics and Computer Science has a fully approved teacher education program which prepares candidates to teach mathematics at the secondary level within public schools in the State of Illinois. The program is approved by the State Teacher Certification Board in conjunction with the Illinois State Board of Education and is based on the requirements for the Bachelor of Arts degree in Mathematics.

Students seeking teacher certification in mathematics must complete *Special Methods: Teaching Mathematics in the Secondary Schools*, (3 credit hours). Students must also complete the following specific courses as part of their course work in the major: *Probability and Statistics*, *Topics in Geometry*, and *History of Mathematics*.

Students should also consult each semester with their advisors in the College of Education prior to registration.