

# LEARNING OUTCOMES: MATHEMATICS & COMPUTER SCIENCE, BSLAS

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Learning Outcomes for the degree of Bachelor of Science in Liberal Arts & Sciences Major in Mathematics & Computer Science

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By the time of graduation, students will have:

## **Computer Science:**

1. An ability to apply knowledge of computing and mathematics appropriate to the discipline
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
3. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
4. An ability to function effectively on teams to accomplish a common goal
5. An understanding of professional, ethical, legal, security and social issues and responsibilities
6. An ability to communicate effectively with a range of audiences
7. An ability to analyze the local and global impact of computing on individuals, organizations, and society
8. A recognition of the need for and an ability to engage in continuing professional development
9. An ability to use current techniques, skills, and tools necessary for computing practice
10. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices
11. An ability to apply design and development principles in the construction of software systems of varying complexity

## **Mathematics:**

1. An ability to construct proofs and recognize when proofs are complete
2. An ability to use theorems in order to solve problems
3. Technical proficiency in calculus and linear algebra