



Program Outcomes for Bachelor's Degree – Science Emphasis

As required of all students graduating with a bachelor's degree in Computer Science at Utah State University, students graduating with a **science emphasis** must demonstrate the following:

1. Proficiency in programming in at least two programming languages that have significance in industry
2. Mastery of the following core curriculum
 - a. Data structures and algorithms
 - b. Computer architecture and organization
 - c. Programming languages
 - d. Theory of computing
 - e. Software engineering
3. Understanding of the practices and dynamics required to develop software whether it be a single program or a major software product developed in a team environment
4. Proficiency in the use of mathematical tools including calculus, elementary statistics and probability
5. Sufficient mastery of fundamental knowledge of computer science to be a life-long learner
6. Understanding of the social and ethical issues that face computer scientists, and thus be able to contribute to society in a positive and productive manner
7. Ability to communicate information effectively both in writing and orally

In addition to the core objectives listed above, students who graduate with a **science emphasis** must also demonstrate the following.

1. Proficiency in the use of advanced mathematical tools, including discrete mathematics, multi-variable calculus, linear algebra, differential equations, and advanced statistics and probability
2. Understanding of the basics of science, specifically the scientific method