

# A CLOSER LOOK

## BS Computer Science

### Computer Science

The Bachelor of Science Degree in Computer Science prepares students for a variety of careers, including computer programming, systems integration, network management, systems analysis, database applications, computer applications and Windows application development. Students in the Computer Science program are given real world hands-on experience by working in many mainstream areas of Computer Programming such as algorithm, programming languages, compilers, databases, Artificial Intelligences and more. These experiences assist students when applying to graduate programs or entering the job market.

### What are the Requirements to Enter the Program?

Because the B.S. in Computer Science has specific entrance and degree requirements, it is highly recommended that students first meet with an academic advisor to ensure that they have met the following requirements before submitting their application for admission to The University of Arizona:

- Completion of 60 or more transferable credits from a regionally accredited institution
- A minimum 2.0 GPA in all transferable units
- Completion of lower division major and minor requirements; including the equivalent of CSC 110 and 120.
- *All Computer Science applicants are admitted to the UA as Pre-Computer Science majors. After at least one semester at the UA and completion of the major admission criteria, pre-computer science majors who meet the auto-admit criteria will be moved to the Computer Science major.*

Please contact us if you have any questions about admission and/or to receive a pre-evaluation of your previously taken coursework to ensure your eligibility and readiness for the program.

### About Faculty:

Dr. Li Xu is an Associate Professor in Computer Science at the University of Arizona South. She attended Shandong University in China as an undergraduate, and the University of Science and Technology of China for a MS in Computer Science. She obtained her PhD in Computer Science at Brigham Young University. In 2003, she became a faculty member at the University of Arizona South. Her research interests include Computer Science Education, computational thinking, programming, data management, and machine learning.

### Career Outlook

This degree prepares graduates for job opportunities in potential career areas such as:

#### Potential Career Areas

- Programming
- Design
- Web/system Security
- Data Management and Analysis
- Information Systems Management

#### Sample Employers

- Legal offices
- Information Technology Producers
- Entertainment Technology Industry
- Technology Retailers
- Technology Consulting/Design Firms

Computer Science provides a marketable skill set to apply to further studies in linguistics, geography, and life sciences.



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THE UNIVERSITY OF ARIZONA  
UA South

### Sample Courses in the Program

**CSCV 335- Object Oriented Programming and Design** - Fundamentals of object-oriented software development. Includes design principles, inheritance, polymorphism, Unified Modeling Language (UML), testing, event-driven programming with graphical user interfaces, applications of design patterns, and use of existing frameworks. Weekly laboratory.

**CSCV 345 - Analysis of Discrete Structures** - Introduction to and analysis of algorithms and characteristics of discrete structures. Course topics include algorithm analysis techniques, recurrence relations, structural induction, hierarchical structures, graphs, hashing, and sorting.

**CSCV 471- Artificial Intelligence**- Emphasis of the course is knowledge representation and reasoning techniques in the design and implementation of intelligent systems. Topics include problem formulation, problem solving and search, knowledge based systems and inference, and machine learning.

**CSCV 473 - Automata, Grammars and Languages** - Introduction to models of computation (finite automata, pushdown automata, Turing machines), representations of languages (regular expressions, context-free grammars), and the basic hierarchy of languages (regular, context-free, decidable, and undecidable languages)



### Average Job Salary Range

As more students pursue their degree in Computer Science, there is a growing need to illuminate the best career paths in the field:

Computer Scientist	\$57,480 - \$97,970
Information Security Analyst	\$49,960 - \$86,170
Database Programmer	\$42,930 - \$77,080
Website Developer	\$33,550 - \$62,500
Network Administrator	\$44,330 - \$72,560
Computer Forensics Specialist	\$32,000 - \$84,000
Game Designer	\$35,000 - \$75,000
Database Administrator	\$42,930 - \$77,080
Information Technology Manager	\$45,000 - \$100,000

Sources of Information: United States Department of Labor: Bureau of Labor Statistics (2011)

### Fast Facts

**When are classes offered?** To meet the demands of working students, classes are scheduled during late afternoon and evening, one or two days per week. Some courses are available online and/or in a hybrid format with both online and face-to-face meetings.

**How many UA South students stay in their local community?** 90 %

**Where is this program offered?** The Computer Science program is offered in Sierra Vista and Yuma.

### Academic Advisors

Sierra Vista – (520) 458-8278	Online – (520) 626-1702
Santa Cruz County – (520) 287-8632	Pinal County – (520) 840-4878
Douglas – (520) 439-6882	Pima County – (520) 626-1702

### Questions?

For more information, reach out to a UAS representative.

You can find one in your area by visiting our website at:

<http://www.uas.arizona.edu>