

# A CLOSER LOOK

## BAS Cyber Operations



THE UNIVERSITY OF ARIZONA  
UA South

### Cyber Operations

The Cyber Operations program is designed specifically to prepare graduates for entry into a number of cyber-related occupations in defense, law enforcement, and private industry. The curriculum, which includes content in both offensive and defensive elements of cyber operations, will provide students with a critical baseline of technology skills, as well as critical thinking skills and detective-like thought processes that enable students to analyze problems and render solutions. Students will apply knowledge of human and organizational behavior to predict vulnerabilities created by human error; understand and know how to apply legal and ethical standards to the world of cyber, and be able to communicate effectively. Cyber Operations is offered in the following locations: Sierra Vista, Pima County, Mesa, Yuma County, Online



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

The Cyber Operations program requires a supplemental program application in addition to admission to The University of Arizona. The entrance requirements include:

- Minimum 2.5 GPA in your college coursework
- Resume
- Goal Statement
- AAS in Cyber Security or related field (recommended)

Please contact us if you have any questions about the transferability of your credits, your admissibility to the program, or the application process. For full application instructions, visit

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

### About Faculty:



#### Linda Denno, Ph.D

Assistant Professor |  
Program Director, Cyber Operations  
[ldenno@email.arizona.edu](mailto:ldenno@email.arizona.edu)

Dr. Linda Denno has taught for four years in Government and Public Service at the University of Arizona South before becoming a full time faculty member and Program Director of the Administration of Justice and Cyber Operations Bachelor of Applied Sciences programs. She received her PhD in Political Science from the University of California, Davis and her MA in Government from the Claremont Graduate School. Her university teaching career includes courses in Cyber Ethics, American Politics and Institutions, Political Philosophy, and Constitutional Law.

### Sample Courses in the Program

Courses combine hands-on cyber activities in a controlled environment with a strong academic educational experience that improves communication and critical thinking skills. Required courses include:

- Cyber Ethics
- Active Cyber Defense
- Wireless Networking & Security
- Malware Threats & Analysis
- Cyber Warfare
- Computational Thinking & Doing

### Academic Advisors

Sierra Vista – (520) 458-8278

Online – (218) 536-9265

Santa Cruz County – (520) 287- 8632

Pinal/Mesa – (520) 840-4878

Douglas – (520) 439-6882

Pima County – (520) 206-7445

### Questions?

For more information, reach out to a UA South representative.

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

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

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### Career Outlook

This degree prepares graduates for career opportunities with potential employers in:

- US Military
- Defense Contractors
- Department of Homeland Security
- National Security Administration
- Department of Justice
- Other US and State Government Agencies
- Financial Institutions
- Health and Insurance Corporations
- Retail and Industry

### Average Job Salary Range

According to the Department of Labor's Bureau of Labor Statistics, the cyber security/cyber operations occupation is predicted to grow by at least 18% over the next two decades. The chart below shows the 2014 national wage averages for Cyber/Information Security professions:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wages	\$24.18	\$32.23	\$42.74	\$54.80	\$67.53
Annual Wages	\$50,300	\$67,030	\$88,890	\$113,990	\$140,460



**1.5 Million**

**MORE** cybersecurity professionals will be needed to accommodate the predicted global shortfall by 2020

Source: (ISC)<sup>2</sup> 2015 Global Information Security Workforce Study

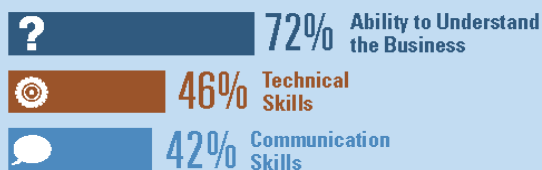


On average, **52%**

of IT professionals surveyed stated fewer than **25%** of all applicants were qualified

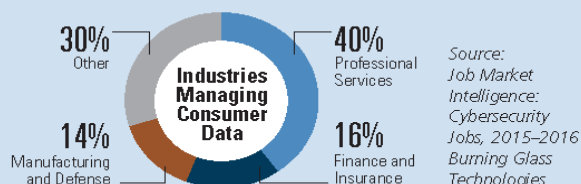
Source: State of Cybersecurity: Implications for 2015: An ISACA and RSA Conference Survey

The biggest skill gaps of today's cybersecurity professionals



Source: State of Cybersecurity: Implications for 2015 An ISACA and RSA Conference Survey

Fastest cybersecurity demand sectors are in industries managing consumer data



Source: Job Market Intelligence: Cybersecurity Jobs, 2015-2016 Burning Glass Technologies

**Cybersecurity**

job postings took **8% longer** to fill than IT job postings overall

Source: (ISC)<sup>2</sup> 2015 Global Information Security Workforce Study

Expertise required for various cybersecurity roles in demand

- Information Security
- Network Setup
- Auditing
- Network Protocols
- Core Database, Coding and Scripting
- Systems Administration



Source: Job Market Intelligence: Cybersecurity Jobs, 2015

Approximately **10%**

of the current cybersecurity workforce are comprised of women



Source: (ISC)<sup>2</sup> 2015 Women in Security: Wisely Positioned for the Future of InfoSec

**18% Growth**

Computer and mathematical occupations will grow much faster than the average job during 2012-2024

Source: Bureau of Labor Statistics, U.S. Department of Labor

Fastest growing skills in cybersecurity job postings

- Python
- HIPAA
- Risk Management
- Internal Auditing
- Audit Planning

Source: Partnership for Public Service

Hardest to fill skills in cybersecurity job postings

Source: Job Market Intelligence: Cybersecurity Jobs, 2015-2016 Burning Glass Technologies



- Software Architecture
- Network Attached Storage (NAS)
- Software Issue Resolution
- Internet Security
- Legal Compliance
- Data Communications
- Platform as a Service (PaaS)
- Computer Forensics
- Internal Auditing
- Apache Hadoop