Cyber Operations

The BAS in Cyber Operations is designed specifically to prepare graduates for entry into a number of cyber-related occupations in defense, law enforcement, and private industry. The curriculum includes content in both offensive and defensive cyber security and will provide students with a critical baseline of technology skills, critical thinking skills and detective-like thought processes that enable students to analyze problems and render solutions. Students can choose between two tracks within the program, a Defense/Forensics track and an Engineering track. The Engineering track requires more advanced skills in mathematics and programming and is designed to meet the requirements established by the National Security Agency Center of Academic Excellence in Cyber Operations.

What are the Requirements to Enter the Program?

The Cyber Operations program has additional requirements for admission to The University of Arizona:

- Minimum 2.5 GPA in your transferrable coursework
- Resume
- Goal Statement
- Defense/Forensics Track: Recommended AAS degree in Cyber Security or related field (employment in the field and/or technical certifications are also acceptable)
- Engineering Track: Associates degree in Programming or Computer Science

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, please visit [http://uas.arizona.edu/admissions](http://uas.arizona.edu/admissions).

About the Program:

The program was developed in consultation with leading Cyber experts in defense, industry, and academia, and is currently working toward designation as a National Security Agency Center for Academic Excellence in Cyber Operations. Most of the courses are delivered through our Cyber Virtual Learning Environment (VLE), which offers interactive, hands-on learning in both face-to-face and fully online formats. The VLE includes a virtual city, CyberApolis, inhabited by 15,000+ highly-detailed virtual personas with extensive supporting infrastructure, specifically designed to support the scenarios necessary for our students to gain the Cyber Security knowledge, skills, and abilities required to be successful. [http://www.cyberapolis.com](http://www.cyberapolis.com)

Sample Courses in the Program

Courses combine hands-on cyber activities in a Virtual Learning Environment with a strong academic educational experience. Required courses include:

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

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](http://www.uas.arizona.edu)
A CLOSER LOOK
BAS Cyber Operations

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:

<table>
<thead>
<tr>
<th>Percentile</th>
<th>10%</th>
<th>25%</th>
<th>50% (Median)</th>
<th>75%</th>
<th>90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly Wages</td>
<td>$24.18</td>
<td>$32.23</td>
<td>$42.74</td>
<td>$54.80</td>
<td>$67.53</td>
</tr>
<tr>
<td>Annual Wages</td>
<td>$50,300</td>
<td>$67,030</td>
<td>$88,890</td>
<td>$113,990</td>
<td>$140,460</td>
</tr>
</tbody>
</table>

On average, 52% of IT professionals surveyed stated fewer than 25% of all applicants were qualified.

The biggest skill gaps of today’s cybersecurity professionals
- 72% Ability to Understand the Business
- 46% Technical Skills
- 42% Communication Skills

Cybersecurity job postings took 8% longer to fill than IT job postings overall.

Expertise required for various cybersecurity roles in demand
- Information Security
- Network Setup
- Auditing
- Network Protocols
- Core Database, Coding and Scripting
- Systems Administration

Fastest growing skills in cybersecurity job postings
- Python
- HIPAA
- Risk Management
- Internal Auditing
- Audit Planning

Approximately 10% of the current cybersecurity workforce are comprised of women.

1.5 Million MORE cybersecurity professionals will be needed to accommodate the predicted global shortfall by 2026.

Source: ISCP 2015 Global Information Security Workforce Study


Source: ISCP 2015 Global Information Security Workforce Study

Source: Job Market Intelligence: Cybersecurity Jobs, 2015

Source: Partnerships for Public Service


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