



THE UNIVERSITY OF ARIZONA
College of
Information Science

CYBER OPERATIONS

Master of Science in Cyber Operations



12

complete your degree
in as few as 12 months

30

academic units required

\$133K

average salary for cybersecurity
master's graduates*

FORGE YOUR PATH IN CYBERSECURITY.

From cyber defense to AI-powered cyber operations, the STEM-designated, fully online Master of Science in Cyber Operations (MSCO) empowers students with the tools to thrive in high-stakes digital environments.

WHAT YOU'LL LEARN

- Automated detection mechanism development
- Real-world cyber issue solution application
- Network, computer infrastructure and applications defense
- Python scripting language and automated solutions design
- Core artificial intelligence/machine learning techniques in cybersecurity
- Cyberattack analysis and defense

CAREER POSSIBILITIES

Armed with cutting-edge skills and strategic insight, MSKO graduates are prepared to lead across sectors in diverse cybersecurity roles such as:

- AI Product Security Engineer
- AI Security Analyst
- AI Security Research
- AI Threat Intelligence Analyst
- Cyber Advisor
- Cyber Analyst
- Cyber Operations Officer
- Cyber Threat Intelligence Analyst
- Cybersecurity Analyst
- Information Security Analyst
- Federal/State Law Enforcement
- Red Team AI Specialist

Ready to forge your path in cybersecurity?

infosci.arizona.edu/msco

infosci-grad@arizona.edu

Revised 7/24/26



* According to ZipRecruiter, June 2025.

MASTER OF SCIENCE IN CYBER OPERATIONS

CURRICULUM

30 units are required for graduation.

CORE COURSES

CYBR 500: Security Programming <i>or</i> INFO 521: Introduction to Machine Learning*	3 units
CYBR 501: Principles of Cybersecurity	3 units
CYBR 505: AI Foundations of Cyber Operations	3 units
CYBR 523: Covert Python	3 units
CYBR 579: Cloud Security	3 units
CYBR 626: Traffic Analysis	3 units
CYBR 660: Zero Trust Defensive Techniques	3 units
TOTAL	21 units

ELECTIVE COURSES

Students who elect the Master's Report will choose 2 courses from CYBR 525, CYBR 605, INFO 536 and INFO 621. Those who elect the Master's Thesis will take one elective from the previous list and CYBR 692: Directed Research.

CYBR 525: Cyber-Physical Systems	3 units
CYBR 605: AI Agents in Cyber Operations	3 units
CYBR 692: Directed Research	3 units
CYBR 696: Special Topics	3 units
INFO 536: Data Science and Public Interests	3 units
INFO 621: Advanced Machine Learning Applications	3 units
TOTAL	6 units

CULMINATION COURSE

Complete a total of 3 units:

CYBR 908: Case Study in Cyber Operations	3 units
CYBR 909: Master's Report in Cyber Operations	3 units
CYBR 910: Master's Thesis in Cyber Operations	3 units
TOTAL	3 units
DEGREE TOTAL	30 units

The MSCO curriculum is subject to change based on catalog year, transfer work, etc. The official degree requirements may be found in the University General Catalog and all University of Arizona students should refer to the Academic Advising Report for specific graduation requirements.

* If students do not have recent programming experience (within 3 years), they will take CYBR 500: Security Programming as a core course. If they do have recent programming experience, they may take INFO 521: Introduction to Machine Learning instead.