

Information Assurance & Cyber Defense

A career in cyber security puts you at the forefront of protecting people and organizations from people who seek to do them harm. A career in cyber security does not require that you know everything about computers on day one. Successful cyber security professionals are curious, enjoy using computers, like working with people, and keep up to date with current trends. Careers in cyber security are rewarding and challenging, but never boring.

Job opportunities in cyber security are growing fast with no sign of slowing down. Personal and business use of information systems continues to increase. These systems will need to be protected by competent professionals. Graduates of NMU's cyber defense program have found work as network administrators, internal auditors, security consultants, and more. A degree in cyber defense from NMU prepares students for many different types of careers including project managers, programmers, ethical hackers, systems analysts, and software programmers.

NMU's cyber defense major is offered through the College of Business. In addition to technical skills, students learn business and communication skills that provide a solid foundation for success in a business environment. NMU's program does not focus on one specific technology or skill set, but instead introduces students to many different aspects of cyber security so that students are adaptable to the needs in all organizations.

Course Work

This degree includes the following courses as part of the program requirements, and specific major requirements along with general education courses and graduation requirements.

Business Core

- ACT230 Principles of Accounting I (4 cr.)
- ACT240 Principles of Accounting II (4 cr.)
- FIN 351 Financial Management I (4 cr.)
- MGT221 Business Law I (4 cr.)
- MGT240 Organizational Behavior Mgt. (4 cr.)
- MGT325 Operations Management (4 cr.)
- MGT344 Managerial Communications (4 cr.)
- MKT230 Introduction to Marketing (4 cr.)

Information Systems Core

- CIS155 Software Development (4 cr.) or CIS120 Computer Science (4 cr.)
- CIS226 Introduction to Networks and Security (4 cr.)
- CIS250 Systems Analysis and Design (4 cr.)
- CIS415 Systems Development Project (2 cr.) or CIS491 Internship in CIS (1-8 cr.)
- CIS464 Database Management Systems (4 cr.)

Cyber Security Core

- CIS336 Network Operating Systems (4 cr.)
- IS436 Network Security Tools and Techniques (4 cr.)
- MGT335 Cyber Law (4 cr.)
- CS302 Unix System Administration (4 cr.)

Electives (4 cr.)

- MKT470 E-Commerce and Marketing (4 cr.)
- CIS495 Special Topics in Computer Science (4 cr.) or Special Topics in Computer Information Systems (4 cr.)
- CJ480 Cybercrime (4 cr.)

Other Required Courses

- EC 201, EC 202, MA 113/115/161, MA 109, PSY 100

Detailed course descriptions can be found at www.nmu.edu/bulletin.

Skills and Competencies

Employers look for strong technical and communications skills when selecting cyber security professionals. Professionals must be able to work independently and with teams. A broad understanding of information systems is expected, though expertise in a given topic area is often desirable.

Career Development

You should begin the resume-building process as soon as you can by security relevant work experience during your studies. The Academic and Career Advisement Center can assist you with career planning, while Career Services will help you fine tune your resume and look for jobs related to your field. In the meantime, the more hands-on experience you have, the better the chances are that you will find a job. You should expect to complete at least one professionally related internship prior to graduation. Your academic course work is important as well, so be sure to maintain a high grade point average.

Additional Considerations

Potential occupations listed are only a sample of the careers available to those holding degrees in Information Systems. Some career options (especially those in education) will require schooling beyond the baccalaureate level. Internships and organizational affiliations may prove beneficial as well. In many cases, an advanced degree is required for managerial and administrative positions.

Job Outlook

According to the Bureau of Labor Statistics, graduates from the Information Assurance & Cyber Defense major should have many job opportunities. The field is expected to grow 28% in the coming decade. Median pay is approximately \$95,000 per year.

Potential Careers

NMU's Business Information Assurance and Cyber Defense Program prepares students for employment in the following careers:

Information Security Analyst
Information Systems Analyst
Information Systems Auditor
Network Administrator
Project Manager
Ethical Hacker
Technology Consultant
Database Administrator
Software Support Technician
Training and Development
Consultant

Additional Resources and Information

For Career Planning and Opportunities:
Academic & Career Advisement Center
3302.1 C.B. Hedgcock
906-227-2971
www.nmu.edu/acac

College of Business
301 Cohodas
906-227-2960
www.nmu.edu/business

For Job Search, Resume and Career Information:
Career Services
3302.3 C.B. Hedgcock
906-227-2800
www.nmu.edu/careers

For Information about NMU Student Cybersecurity Association, contact:
Center for Student Enrichment
1206 University Center
906-227-2439
www.nmu.edu/cse

Association for Information Technology Professionals (AITP):
Information about free student membership in the AITP trade association can be found at <https://www.aitp.org/>

Internet Resource Links:
www.careers.org
www.bls.gov



**NORTHERN MICHIGAN
UNIVERSITY**

The Academic & Career Advisement Center
2019



What to do with
a major in...

Information Assurance
and Cyber Defense

