


# COMPUTER & INFO SECURITY (CYBR)

 - General Education Course

<b>CYBR 210 Comp and Info Sec Principle</b>	<b>3 Credit hours</b>
Introduction to the various technical and administrative aspects of Computer and Information Security. Understanding key issues associated with protecting information assets, determining the protection needed and response to security incidents.	
<b>Pre-req:</b> CS 105 or CS 110 or CS 110H.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 240 Information Security Policies</b>	<b>3 Credit hours</b>
Introduction to information security policies, sociological and psychological issues in policy implementation in general. Discuss the lifecycle of policy creation, enactment in different domains of security and policy structure.	
<b>Pre-req:</b> CS 105 or CS 110 or CS 110H.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 310 Introduction to Cryptography</b>	<b>3 Credit hours</b>
This course covers the basic aspects of modern cryptography, including block ciphers, pseudorandom functions, symmetric encryption, Hash functions, message authentication, number theoretic primitives, public-key encryption, digital signatures and zero knowledge proofs.	
<b>Pre-req:</b> CS 210 and (STA 225 or STA 345).	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 330 Cyber Security</b>	<b>3 Credit hours</b>
Concepts and issues in physical and cyber security; technical vulnerabilities found in operating systems, database servers, Web servers, Internet, and local area networks; developing defensive and offensive security measures.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 350 Cyber System Administration</b>	<b>3 Credit hours</b>
Introduction of System Administration and related topics, including trouble-shooting system and network problems, hardware and software configuration and installation, basic scripting, and security aspects of Internet hosts.	
<b>Pre-req:</b> CS 320 with a minimum grade of D.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 360 Cyber Infrastructure Security</b>	<b>3 Credit hours</b>
Comprehensive analysis on the utilization and augmentation of cyber security technologies to harden cyber infrastructure and its interconnected cyber-physical systems against various attacks.	
<b>Pre-req:</b> CYBR 320.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 400 Computer Security Design</b>	<b>3 Credit hours</b>
Foundation technical and analytical skills to implement comprehensive computer security that encompass designing secure systems, information security, protecting information assets, managing computer security, risk mitigation strategies, and incident response.	
<b>Pre-req:</b> CYBR 350.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 435 Cyber Risk</b>	<b>3 Credit hours</b>
Advanced course on the functions and purposes of the latest development in cyber security techniques and tools used to create, secure, protect and remediate cyber-infrastructures from various cyber threats.	
<b>Pre-req:</b> CYBR 330 or CS 330.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 442 Cyber Operations</b>	<b>3 Credit hours</b>
Study of various concepts and aspects in choosing, deploying, supporting, troubleshooting and securing various local and distributed components of a cyber operation with consideration of the human factor.	
<b>Pre-req:</b> CYBR 350 and CYBR 360.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 475 Internship</b>	<b>3 Credit hours</b>
An in-depth and hands-on involvement in a real-world project under direct professional supervision. The project may be on-campus or off-campus.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 480 Special Topics</b>	<b>1-4 Credit hours</b>
Study of an advanced topic not normally covered in other courses.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 481 Special Topics</b>	<b>1-4 Credit hours</b>
Study of an advanced topic not normally covered in other courses.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 482 Special Topics</b>	<b>1-4 Credit hours</b>
Study of an advanced topic not normally covered in other courses.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 483 Special Topics</b>	<b>1-4 Credit hours</b>
Study of an advanced topic not normally covered in other courses.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 484 Special Topics</b>	<b>1-4 Credit hours</b>
Study of an advanced topic not normally covered in other courses.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 485 Special Topics</b>	<b>1-4 Credit hours</b>
Study of an advanced topic not normally covered in other courses.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 486 Independent Study</b>	<b>1-4 Credit hours</b>
Independent study for selected juniors and seniors under supervision of faculty; may be repeated only once.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 487 Independent Study</b>	<b>1-4 Credit hours</b>
Independent study for selected juniors and seniors under supervision of faculty; may be repeated only once.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 488 Independent Study</b>	<b>1-4 Credit hours</b>
Independent study for selected juniors and seniors under supervision of faculty; may be repeated only once.	
<b>Grade Mode:</b> Normal Grading Mode	
<b>CYBR 489 Independent Study</b>	<b>1-4 Credit hours</b>
Independent study for selected juniors and seniors under supervision of faculty; may be repeated only once.	
<b>Grade Mode:</b> Normal Grading Mode	

**CYBR 490 🌱 Senior Project**

**3 Credit hours**

Application of technical and professional skills in solving a real-world problem in a team environment. Discuss professional code of conduct, societal issues, and transition from student to industry professional.

**Pre-req:** CYBR 330.

**Attributes:** Capstone Course

**Grade Mode:** Normal Grading Mode