CYBR - CYBERSECURITY (CYBR)

**CYBR 201/CSCE 201 Fundamentals of Cybersecurity**
*Credits 3. 3 Lecture Hours.*
Basic terminology, concepts, technology, and trends of cybersecurity; foundations of cybersecurity to include cryptography, public key infrastructure, standards and protocols, physical security, network fundamentals; workings of systems, networks, infrastructure; legal and ethical issues in cybersecurity.

**Cross Listing:** CSCE 201/CYBR 201.

**CYBR 285 Directed Studies**
*Credits 0 to 4. 0 to 4 Other Hours.*
Directed individual study in cybersecurity. May be repeated for credit.

**CYBR 289 Special Topics in...**
*Credits 0 to 4. 0 to 4 Other Hours.*
Selected topics in an identified area of cybersecurity. May be repeated for credit.

**CYBR 291 Research**
*Credits 0 to 4. 0 to 4 Other Hours.*
Research conducted under the direction of faculty member in cybersecurity topics. May be repeated for credit.

**CYBR 402 Law and Policy in Cybersecurity**
*Credits 3. 3 Lecture Hours.*
Examination of law and policy issues related to cybersecurity for the spectrum of cybersecurity jobs; includes procurement, operations and maintenance, governance and oversight, protection and defense, analysis, intelligence collection and operation and investigation cybersecurity jobs.

**Prerequisites:** Junior or senior classification; MARA-403 taught at Galveston campus.

**Cross Listing:** CSCE 402 and MARA 403.

**CYBR 403/CSCE 477 Cybersecurity Risk**
*Credits 3. 3 Lecture Hours.*
Risks in cybersecurity; avoidance, acceptance, mitigation, or transference strategies; developing reliable cybersecurity risk assessments to include analysis, categorization, and evaluation; cybersecurity risk audit frameworks.

**Prerequisite:** Grade of C or better in CYBR 201/CSCE 201, CSCE 201/ CYBR 201, or CSCE 221; junior or senior classification.

**Cross Listing:** CSCE 477/CYBR 403.

**CYBR 405 Applied Digital Forensics and Incident Response**
*Credits 3. 3 Lecture Hours.*
Collection of digital evidence; digital evidence analytics; analysis of log data; malware triage; recover damaged digital evidence; write technical reports on malware and incidents; legal and ethical components of digital forensic science.

**Prerequisites:** Junior or senior classification.

**CYBR 466/ECEN 466 Unconditionally Secure Electronics**
*Credits 3. 3 Lecture Hours.*
Data security; cryptography; key exchange; conditional security; unconditional (information-theoretic) security; quantum key distribution; the Kirchhoff-law-Anderson noise-quantum key exchange; electronic noise; advanced issues of KLJN; schemes, protocols, attacks, defense, privacy amplification, credit cards, PUF, autonomous vehicles and smart grids.

**Prerequisites:** Grade of C or better in ECEN 214; grade of C or better in ECEN 303 or STAT 211; junior or senior classification.

**Cross Listing:** ECEN 466/CYBR 466.

**CYBR 484 Professional Internship**
*Credits 0 to 6. 0 to 6 Other Hours.*
Directed internship in an organization to provide students with a learning experience supervised by professionals in organizational settings appropriate to the student's professional objectives.

**CYBR 485 Directed Studies**
*Credits 0 to 4. 0 to 4 Other Hours.*
Directed individual study in cybersecurity. May be repeated for credit.

**CYBR 489 Special Topics in...**
*Credits 0 to 4. 0 to 4 Other Hours.*
Selected topics in an identified area of cybersecurity. May be repeated for credit.

**CYBR 491 Research**
*Credits 0 to 4. 0 to 4 Other Hours.*
Research conducted under the direction of faculty member in cybersecurity topics. May be repeated for credit.