CYBER FORENSICS AND SECURITY

REQUIREMENTS

CORE CURRICULUM The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at marshall.edu/gened.

CORE 1: CRITICAL THINKING

CODE	COURSE NAME		HRS	GRADE
FYS 100	First Year Seminar	●	3	_____
_____	Critical Thinking Course	●	3	_____
_____	Critical Thinking Course	●	3	_____

Additional University Requirements

CODE	COURSE NAME	HRS	GRADE
CFS 440	Writing Intensive	3	_____
CFS 460	Writing Intensive	3	_____
_____	Multicultural or International	3	_____
CFS 490	Capstone	3	_____

CORE 2:

CODE	COURSE NAME		HRS	GRADE
ENG 101	Beginning Composition	●	3	_____
ENG 201	Advanced Composition	●	3	_____
CMM 103	Fund Speech-Communication	●	3	_____
MTH 140	Core II Mathematics	●♦	3	_____
IST 224	Core II Physl/Natural Science	●♦	4	_____
_____	Core II Humanities	●	3	_____
CJ 200	Core II Social Science	●♦	3	_____
_____	Core II Fine Arts	●	3	_____

MAJOR-SPECIFIC

All Cyber Forensics and Security majors are required to take the following courses:

CODE	COURSE NAME		HRS	GRADE
NRRM 200	Analytical Methods: Statistics	♦	4	_____
MTH 140	Applied Calculus	●♦	3	_____
IST 224	Intro to Forensic Science	●♦	4	_____
_____	Phys/Nat Science Elec Sequence 1	♦	4	_____
_____	Phys/Nat Science Elec Sequence 2	♦	3	_____
CIT 163	Intro to Programming C++	♦	3	_____
CIT 263	Web Programming I	♦	3	_____
CIT 352	Network Protocols and Admin	♦	3	_____
CIT 365	Database Management	♦	3	_____
CJ 200	Intro to Criminal Justice	●♦	3	_____
CJ 314	Crime Scene Investigation	♦	3	_____
CJ 424	Computer Crime	♦	3	_____
CFS 200	Introduction to CFS	♦	3	_____
CFS 261	Intro to Linux	♦	3	_____
CFS 305	Open Source Intelligence	♦	3	_____

CODE	COURSE NAME		HRS	GRADE
CFS 357	Network Penetration and Attack	♦	4	_____
CFS 400	Intro to Cyber Forensics	♦	3	_____
CFS 440	Digital Forensics (WI)	♦	4	_____
CFS 448	Multimedia Forensics	♦	3	_____
CFS 454	Network Defense	♦	4	_____
CFS 460	Applied Cyber Forensics (WI)	♦	4	_____
CFS 462	Network Forensics	♦	4	_____
CFS 467	Mobile Device Forensics	♦	4	_____
CFS ___	CFS Technical Elective	♦	3	_____
CFS ___	CFS Technical Elective	♦	3	_____
CFS 490	Senior Project	●♦	3	_____
_____	Free Elective		3	_____
_____	Free Elective		3	_____
_____	Free Elective		3	_____
_____	Free Elective		2	_____

MAJOR INFORMATION

- Students are required to know and track their degree requirements for graduation or for entrance to a professional school.
- Coursework listed as "free elective" may vary for each student. Students are encouraged to use elective hours toward a minor or toward prerequisites.
- Students are strongly encouraged to select courses that meet two or more Core or College requirements.
- Course offerings and course attributes are subject to change semesters. Please consult each semesters schedule of courses for availability and attributes.
- Math is based on an ACT Mathematics score of 24 or higher. Students with an ACT Mathematics score less than 24 will be placed in the appropriate mathematics and science courses.

- Prior to entering their junior year, students are required to pass a background check (no arrests or convictions) and supply two letters of reference that attest to the student's character. Under certain very limited circumstances, this requirement may be waived. That decision will be made by a review committee comprised of the university digital forensic and information assurance faculty along with the department chair. The background check is done at the student's expense.
- For the CFS technical elective students may choose between the following classes: CFS 420: Incident Response (3 cr.), CFS 430: Exploit Development (3 cr.), DFIA 445: Mobile and Web Pen Testing (3 cr.), CFS 461: Cyber Warfare (3 cr.), or CFS 464: Network Security and Cyber Crime (3 cr.) or CFS 480: Special Topics (3 cr.).

● Area of Emphasis   ♦ Major Requirement   ■ College Requirement   ● General Education Requirement

Milestone Course: This is a key success marker for your major. See your advisor to discuss importance of this course in your plan of study.

CYBER FORENSICS AND SECURITY

The Bachelor of Science in Cyber Forensics and Security prepares students to meet the challenges of today's cyber threats. Cyber Forensics and Security skills are in high demand in law enforcement, business, government, defense, intelligence, and the private sector. The program has a solid foundation in science, technology, and communication skills. Students learn to conduct forensic analysis on a variety of devices and systems, defend a network, testify in court, and conduct penetration tests among other skills.

YEAR ONE

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
ENG 101	Beginning Composition	●	3	_____	CIT 163	Intro to Programming C++	♦	3	_____
FYS 100	First Year Seminar	●	3	_____	CJ 200	Intro to Criminal Justice	●♦	3	_____
_____	Multicultural or International	●	3	_____	ENG 201	Advanced Composition	●	3	_____
_____	Core II Fine Arts	●	3	_____	CFS 200	Introduction to CFS	♦	3	_____
_____	Free Elective		3	_____	_____	Free Elective		3	_____
UNI 100	Freshman First Class		1	_____					
TOTAL HOURS			**16**		**TOTAL HOURS**			**15**	

Summer Term (optional):

YEAR TWO

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
CIT 352	Network Protocols and Admin	♦	3	_____	CIT 263	Web Programming I	♦	3	_____
CFS 400	Intro to Cyber Forensics	♦	3	_____	CFS 261	Intro to Linux	♦	3	_____
NRRM 200	Analytical Methods: Statistics	♦	4	_____	CMM 103	Fund Speech Communication	●	3	_____
_____	Physical/Natural Sci Elective - Seq 1	♦	3	_____	MTH 140	Applied Calculus	●♦	3	_____
_____	Core II Humanities (CT)	●	3	_____	_____	Physical/Natural Sci Elective - Seq 2	♦	4	_____
TOTAL HOURS			**16**		**TOTAL HOURS**			**16**	

Summer Term (optional):

YEAR THREE

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
CIT 365	Database Management	♦	3	_____	CJ 424	Computer Crime	♦	3	_____
CFS 305	Open Source Intelligence	♦	3	_____	CFS 454	Network Defense	♦	4	_____
CFS 357	Network Penetration and Attack	♦	4	_____	CFS 462	Network Forensics	♦	4	_____
CFS 460	App Dig Evidence and eDisc (WI)	●♦	4	_____	_____	Free Elective		3	_____
					_____	Free Elective		2	_____
TOTAL HOURS			**14**		**TOTAL HOURS**			**16**	

Summer Term (optional):

YEAR FOUR

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
CJ 314	Crime Scene Investigation	♦	3	_____	CFS 440	Digital Forensics (WI)	♦♦	4	_____
CFS 467	Mobile Device Forensics	♦	4	_____	CFS 490	Capstone	●♦	3	_____
CFS 448	Multimedia Forensics	♦	3	_____	_____	CFS Technical Elective (CFS 420, 430, 461, 464, 480 or DFIA 445)	♦	3	_____
IST 224	Intro to Forensic Science	●♦	4	_____					
_____	CFS Technical Elective (CFS 420, 430, 461, 464, 480 or DFIA 445)	♦	3	_____					
TOTAL HOURS			**17**		**TOTAL HOURS**			**10**	

Summer Term (optional):

● Area of Emphasis   ♦ Major Requirement   ■ College Requirement   ● General Education Requirement

Milestone Course: This is a key success marker for your major. See your advisor to discuss importance of this course in your plan of study.

CYBER FORENSICS AND SECURITY — 2023-2024

INVOLVEMENT OPPORTUNITIES

- Collegiate Cyber Defense Competition Team (CCDC)
- Women in Cyber
- Open Source Intelligence Exchange (OSIX)
- Hackers for Charity
- SGA
- Campus Activity Board
- JMELI
- Commuter Student Advisory Board
- Community Engagement Ambassadors
- Club Sports
- Religious Organizations
- Political Organizations
- Residence Hall Association
- Cultural Organizations
- National Society of Leadership and Success
- Greek Life

RELATED MAJORS

- Computer Science
- Computer and Information Security

GRADUATION REQUIREMENTS

- Have a minimum of 120 credit hours (some colleges or majors require more);
- Have an overall and Marshall Grade Point Average of 2.00 or higher;
- Have an overall Grade Point Average of 2.00 or higher in the major area of study;
- Have earned a grade of C or better in English 201 or 201 H;
- Have met all major(s) and college requirements;
- Have met the requirements of the Core Curriculum;
- Have met the residence requirements of Marshall University, including 12 hours of 300/400 level coursework in the student's college (see section entitled "Residence Requirements" in the undergraduate catalogue);
- Be enrolled at Marshall at least one semester of the senior year;
- Have transferred no more than 72 credit hours from an accredited West Virginia two-year institution of higher education.

Colleges and specific programs may have unique requirements that are more stringent than those noted above. Students are responsible for staying informed about and ensuring that they meet the requirements for graduation.

This academic map is to be used as a guide in planning your coursework toward a degree. Due to the complexities of degree programs, it is unfortunate but inevitable that an error may occur in the creation of this document. The official source of degree requirements at Marshall University is DegreeWorks available in your myMU portal. Always consult regularly with your advisor.

YEAR ONE

Have questions? Need to talk? You already have a Friend-At-Marshall ready to help you succeed. Find your FAM Peer Mentor here: www.marshall.edu/fam

Join the DFIA Slack channel to keep up to date on all things happening in the program and to network with your faculty and fellow students.
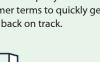
Join or create a club or organization on campus about a particular issue you care about. Marshall has more than 200 student organizations.

Sign up for Handshake! Handshake is the #1 place to launch a career with no connections, experience, or luck required. The platform connects up-and-coming talent with 650,000+ employers.

In order to graduate on time, you need to take an average of 15 credits per semester. Are you on track? Take 15 to Finish!

Take a pulse check. Know what you need to do every year to keep your grants, scholarships, or federal financial aid.

Learn from and network with nationally known speakers at the annual Appalachian Institute of Digital Evidence conference held in April.

YEAR TWO

Are you completing enough credits to graduate on time? Dropping or failing a class can put you behind. Use summer terms to quickly get back on track.

Stay on the Herd Path and come to class! Class attendance is more important to your success than your high school GPA, your class standing, or your ACT/SAT scores.

Learn from and network with nationally known speakers at the annual Appalachian Institute of Digital Evidence conference held in April.

Join the Marshall Mentor Network and connect with professionals in your field to discuss your major, career path, and more.

Talk to faculty about pursuing optional professional certifications.

Join the Collegiate Cyber Defense Competition Team, Open Source Intelligence Exchange, or Hackers for Charity.

Meet with a career education specialist to conduct a "gap analysis." Figure out the skills you'll need for the career you want while you still have time to build them.

YEAR THREE

Develop relationships with professors who can serve as future references by attending their office hours.

Apply for the for the annual Juanita Carpenter Sammons Digital Forensics and Information Assurance Scholarship.

In order to work in your field, you need to take a certification exam. Develop a study strategy now. Check with your advisor.

Don't enter your field with zero experience! Secure an internship related to your field of study.

Are you on track to graduate? Meet with your advisor for your Junior Eval to make sure you know what requirements you have left.

Consider undertaking an applied research project and presenting it at the annual Appalachian Institute of Digital Evidence (AIDE) conference in April.

Learn from and network with nationally known speakers at the annual Appalachian Institute of Digital Evidence conference held in April.

YEAR FOUR

This is it! Are you on track to graduate? Meet with your advisor for your Senior Eval to make sure you know what requirements you have left.

Develop relationships with professors who can serve as future references by attending their office hours.

Want to continue your education and increase your opportunities? Talk to a faculty member about whether graduate school fits your career goals.

Apply for the for the annual Juanita Carpenter Sammons Digital Forensics and Information Assurance Scholarship.

Learn from and network with nationally known speakers at the annual Appalachian Institute of Digital Evidence conference held in April.

In order to work in your field, you need to take a certification exam. Develop a study strategy now. Check with your advisor.

Be at the top of your professional game! Prepare a final resume and practice your interview skills with a career coach in Career Education.

TRANSFERABLE SKILLS ASSOCIATED WITH THIS MAJOR

- Critical Thinking
- Problem Solving
- Communication
- Attention to Detail
- Applied Use of Technology
- Teamwork

ASSOCIATED CAREERS

- Digital Forensics Examiner
- Security Operations Center (SOC) Analyst
- Law Enforcement (Local, State, Federal)
- Intelligence Analyst
- Incident Responder
- Cyber Security
- Information Technology Specialist
- Consulting

MARSHALL

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