COMPUTER SCIENCE

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: CRIT	CORE 1: CRITICAL THINKING					CORE 2:						
CODE	COURSE NAME		HRS	GRADE		CODE CO	OURSE NAME		HRS	GRADE		
FYS 100	First Year Seminar	•	3			ENG 101	Beginning Composition	•	3			
MTH 229	Critical Thinking Course	•	5			ENG 201	Advanced Composition	•	3			
	Critical Thinking Course	•	3		**	CMM 103	Fund Speech-Communication	•	3			
					***	MTH 229	Calculus I (CT)	•	5			
Additiona	al University Requirements						Core II Physical/Natural Science	• •	4			
	Writing Intensive		3				Core II Humanities	•	3			
	Writing Intensive		3				Core II Social Science	•	3			
	Multicultural or International		3				Core II Fine Arts	•	3			
CS 490	Capstone		3									

MAJOR-SPECIFIC

All Computer Science majors are required to take the following courses:

COLIDCE NAME

		CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRADE
	(MTH 220	Discrete Structures	•	3			CS 410	Database Engineering	•	3	
	**	MTH 229	Calculus I	•	5		**	CS 430	Cyber Security	•	3	
		MTH 230	Calculus II	•	4			CS 490	Senior Project (C)	•	3	
2		MTH 329	Elementary Linear Algebra	•	3			ENGR 222	Engineering Cost Analysis	•	3	
5		STA 345	Applied Probability & Stats	•	3			ENG 354	Scientific & Technical Writing	•	3	
	**	CS 110	Computer Science I	•	3			MGT 320	Principles of Management	•	3	
3	(CS 120	Computer Science II	•	3				CS Elective	•	3	
	**	CS 210	Data Structures & Algorithms	•	3				CS Elective	•	3	
		CS 215	Adv Data Structures & Algorithms	•	3				Science w/ Lab	•	4	
_	(CS 300	Programming Languages	•	3				Science w/ Lab	•	4	
5		CS 305	Software Engineering I	•	3				Science w/ Lab	•	4	
2		CS 310	Software Engineering II	•	3				Free Elective		3	
	(CS 320	Internetworking	•	3				Free Elective		3	
		CS 330	Operating Systems	•	3				Free Elective		2	
		CS 360	Automata & Formal Languages	•	3							
-		CS 402	Computer Architecture	•	3							

HDC CDADE

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 prerequisities.
- Science w/ Lab may be met by completeting any three courses with labs from the following science areas: BSC 120 or above, CHM 211 and CHM 217 or above, GLY 200 and GLY 210L or above, PHY 201 or PHY 211 and PHY 202 or above.
- CS elective may be met by completing any two of the following courses: CS 315, 370, 404, 405, 425, 435, 440, 455, or a special topics course CS 480-483.

COLIDSE NAME

HDC CDADE

• Course offerings and course attributes are subject to change each semester. Please consult each semester's schedule of courses for availability and attributes.

FOUR YEAR PLAN COLLEGE OF ENGINEERING AND COMPUTER SCIENCES 2022-2023

COMPUTER SCIENCE

The Bachelor of Science in Computer Science program prepares students for careers in computer science through learning based on practice and grounded in

		FALL SEMESTER						SPRING SEMESTER			
	CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRAD
7	CS 110	Computer Science I	•	3		₹	CS 120	Computer Science II	•	3	
T	MTH 229	Calculus I (CT)	• •	5			ENG 201	Advanced Composition	•	3	
	ENG 101	Beginning Composition	•	3			FYS 100	First Year Sem Crit Thinking	•	3	
₹	CMM 103	Fund Speech Communication	•	3		•	MTH 220	Discrete Structures	•	3	
	UNI 100	Freshman First Class		1			MTH 230	Calculus II	•	4	
	TOTAL HO	URS		15			TOTAL HO	DURS		16	
Sumi	mer Term (op	tional):									
		FALL SEMESTER						SPRING SEMESTER			
	CODE	COURSE NAME			GRADE		CODE	COURSE NAME			GRAI
T T	CS 210	Data Structures & Algorithms	•	3			CS 215	Advanced Data Struct & Algorithms	•	3	_
The state of the s	ENG 354	Scientific & Technical Writing	•	3			CS 300	Programming Languages	•	3	
	MTH 329	Elementary Linear Algebra	•	3			STA 345	Applied Probability & Stats	•	3	
		Core II Physical/Natural Science	• •	4				Science w/ Lab	•	4	
		(Science w/ Lab)						Core II Fine Arts	•	3	
		Core II Social Science (CT, M/I)	•	3							
	TOTAL HO	URS		16			TOTAL HO	DURS		16	
Sumi	mer Term (op	tional):									
		FALL SEMESTER						SPRING SEMESTER			
	CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRAI
	CS 305	Software Engineering I	•	3			CS 310	Software Engineering II	•	3	
₹	CS 320	Internetworking	•	3			CS 402	Computer Architecture	•	3	
₹	CS 330	Operating Systems	•	3		₹	CS 430	Cyber Security	•	3	
₹	MGT 320	Principles of Management	•	3			CS 410	Database Engineering	•	3	
		Core II Humanities (WI)	•	3			ENGR 222	Engineering Cost Analysis	•	3	
	TOTAL HOURS			15			TOTAL HO	DURS		15	
Sumi	mer Term (op	tional):									
		FALL SEMESTER						SPRING SEMESTER			
	CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRAI
	CODE	CS Elective					CS 490	Senior Project (C)			0101

Automata & Formal Languages CS 360 **♦** 3 Free Elective Free Elective Writing Intensive Free Elective EAR **TOTAL HOURS TOTAL HOURS** Summer Term (optional):

MY ADVISOR'S NAME IS:

INVOLVEMENT OPPORTUNITIES

- Student Government Association
- Campus Activity Board
- JMELI
- · Commuter Student Advisory Board
- Club Sports
- Religious Organizations
- Political Organizations
- · Residence Hall Association
- Cultural Organizations
- National Society of Leadership and Success

RELATED MAJORS

- · Computer and Information Technology
- · Computer and Information Security
- Business
- Education

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 twoyear 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.

COMPUTER SCIENCE — 2022-2023

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 professional associations in your field like IEEE, ACM, etc.



Join the Computer Club and reach out for community activities.

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.

Join the Marshall Mentor Network

and connect with professionals in

your field to discuss your major,

career path, and more.

Want to continue your education

and increase your opportunities?

Talk to a faculty member about

whether graduate school fits you

career goals.



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.





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.



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.

YEAR TWO

YEAR THREE



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



Run for Student Government and represent your fellow students while making a long-term difference on Marshall's campus.



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



Develop a study strategy for optional certification exams. Discuss with your faculty advisor.





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

Networking is key! Attend a employers in your field.



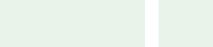
Strengthen your resume and enhance your presentation skills. Present what you've learned at an

Career Expo to seek employment opportunities and network with



academic conference off campus.

YEAR FOUR



Apply to be a New Student Orientation Leader or a Campus Tour Guide.



Did you do really well in a hard course? Become a Tutor or a Supplemental Instructor.



No need to wait until graduate school. Discuss undergraduate research opportunities with faculty in your major right now.

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.



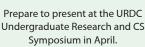
This is it! Are you on track to graduate? Meet with your advisor for your Senior Eval to see what requirements you have left.



Think about who can help you grow as a student and a professional (professors, advisors, alumni, etc) and ask at least one to be your mentor.



Explore peer leadership opportunities through the FAM program, or apply to be a UNI Peer Mentor



Undergraduate Research and CS Symposium in April.



Take a senior project class with Community Based Learning that connects course content to the community. Stay engaged and make a difference.



Talk to faculty about pursuing optional professional certifications.



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



Marshall University College of Engineering and **Computer Sciences** One John Marshall Drive Huntington, WV 25755 1-304-696-5453 cecs@marshall.edu marshall.edu/cecs





• Oral and Written Communication Skills · Critical Thinking Skills Leadership Skills

TRANSFERABLE SKILLS

ASSOCIATED CAREERS

Application Developer

· Database Administrator

· Hardware/Software Developer

Analytical Skills

Design Skills

Programmer

Networking

Tech Support

Web Developer

ASSOCIATED WITH THIS MAJOR

• The Ability to Work as Part of a Team