CURRICULUM PLAN COLLEGE OF SCIENCE 2020-2021

MY ADVISOR'S NAME IS: _____

BIOLOGICAL SCIENCE
CELL, MOLECULAR AND MEDICAL

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 Sem Crit Thinking	●	3	
_____	Critical Thinking Course	●	3	
_____	Critical Thinking Course	●	3	

Additional University Requirements

_____	Writing Intensive	3	
_____	Writing Intensive	3	
_____	Multicultural or International	3	
BSC 491	Capstone	2	

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	Applied Calculus	● ♦	3	
BSC 120	Principles of Biology I	● ♦	4	
_____	Core II Humanities	●	3	
_____	Core II Social Science	●	3	
_____	Core II Fine Arts	●	3	

MAJOR-SPECIFIC

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

CODE	COURSE NAME		HRS	GRADE
BSC 121	Principles of Biology II	♦	4	
CHM 211	Principles of Chemistry I	♦	3	
CHM 217	Principles of Chemistry I Lab	♦	2	
CHM 212	Principles of Chemistry II	♦	3	
CHM 218	Principles of Chemistry II Lab	♦	2	
CHM 355	Organic Chemistry I	♦	3	
CHM 356	Organic Chemistry II	♦	3	
CHM 361	Organic Chemistry II Lab	♦	3	
PHY 201	College Physics I	♦	3	
PHY 202	College Physics I Lab	♦	1	
PHY 203	College Physics II	♦	3	
PHY 204	College Physics II Lab	♦	1	
BSC 491	Capstone (C)	● ♦	2	

AREA OF EMPHASIS-SPECIFIC

Students who wish to add an area of emphasis in Cell, Molecular and Medical Biology must take the following courses:

CODE	COURSE NAME		HRS	GRADE
BSC 324	Principles of Genetics	♦	4	
BSC 302	Principles of Microbiology	♦	3	
BSC 322	Principles Cell Biology	♦	4	
CHM 365	Introductory Biochemistry	♦	3	
BSC 310	Comp Vertebrate Anatomy	♦	4	
BSC 450	Molecular Biology	♦	3	
BSC 420 or 422	Plant Physiology or Animal Physiology	♦	4	
_____	AoE Elective	♦	3	
_____	AoE Elective	♦	3	
_____	AoE Elective	♦	3	
_____	Free Elective (MTH 122 recommended for PHY pre-req)		3	
_____	Free Elective		3	
_____	Free Elective		3	
_____	Free Elective		3	

MAJOR INFORMATION

- Students must earn a grade of C or better in BSC 120 and BSC 121 before they can enroll in any upper-level BSC course. BSC 104, 105, 227, 228 and 250 do not count as electives.BSC 104 and 105 will not substitute for BSC 120 and 121 for a major in the Department of Biological Sciences.
- AofE Elective - Pick 3 of the following; BSC 301, 304, 413, 417, 424, 426, 428, 438, 442, 448, 454, 456
- CAPSTONE EXPERIENCE: It is the responsibility of each student to consult his/her advisor regarding details of meeting the capstone requirement. The capstone may be a traditional independent study research project under the supervision of a faculty member selected by the student, participation in a classroom-based capstone course, or the development and implementation of an internship, co-op, or community-based project.
- In addition to the Core General Education requirements, the College of Science requires 3 hours of Calculus, and 40 hours of upper level credit.
- The CHM coursework provides a Chemical Sciences minor.
- Physic prerequisites are MTH 140 and MTH 122 or MTH 127/130 and MTH 122.
- Students are strongly encouraged to select courses that meet two or more Core or College requirements. For example, a writing intensive literature course could satisfy the Core II Humanities requirement as well as the University writing intensive requirement.
- Course offerings and course attributes are subject to change semesters. Please consult each semesters schedule of courses for availability and attributes.
- Applied Caldulus (MTH 140) requires ACT Mathematics score of 24 or higher. Students with an ACT Mathematics score less than 24 will be placed in the appropriate prerequisite mathematics courses.
- All Biological Science majors are required to complete a minimum of 40 hours of credits in the Department of Biological Sciences.
- Electives may count only once toward the required 40-hour BSC credits.

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

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

FOUR YEAR PLAN COLLEGE OF SCIENCE 2020-2021

MY ADVISOR'S NAME IS: _____

BIOLOGICAL SCIENCE
CELL, MOLECULAR AND MEDICAL

The Department of Biological Sciences is committed to teaching students about the science of life from molecular to global scales. A degree in Biological Sciences prepares students for careers and graduate study in diverse fields such as human and veterinary medicine, dentistry, biomedical and pharmaceutical research, environmental consulting, wildlife ecology, and K12 or higher education. Students completing the Area of Emphasis in Cell, Molecular and Medical Biology will be prepared for a wide range of careers in fields including biotechnology, cell biology, medicine and/or medical research.

YEAR ONE

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
BSC 120	Principles of Biology I	● ♦	4		BSC 121	Principles of Biology II	♦	4	
CHM 211	Principles of Chemistry I	♦	3		CHM 212	Principles of Chemistry II	♦	3	
CHM 217	Principles of Chemistry Lab I	♦	2		CHM 218	Principles of Chemistry Lab II	♦	2	
MTH 140	Applied Calculus	● ♦	3		FYS 100	First Year Sem Crit Thinking	●	3	
ENG 101	Beginning Composition	●	3		_____	Core II Fine Arts	●	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
BSC 324	Principles of Genetics	♦	4		BSC 302	Principles of Microbiology	♦	3	
CHM 355	Organic Chemistry I	♦	3		CHM 356	Organic Chemistry II	♦	3	
ENG 201	Advanced Composition	●	3		CHM 361	Organic Chemistry II Lab	♦	3	
_____	Core II Social Science (PSY 201 or SOC 200)	●	3		_____	Free Elective (MTH 122 recommended for PHY pre-req)		3	
_____	Free Elective		3		_____	Core I Critical Thinking	●	3	
TOTAL HOURS			**16**		**TOTAL HOURS**			**15**	

Summer Term (optional):

YEAR THREE

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
BSC 332	Principles Cell Biology	♦	4		BSC 310	Comp Vertebrate Anatomy	♦	4	
CHM 365	Introductory Biochemistry	♦	3		PHY 203	College Physics II	♦	3	
PHY 201	College Physics I	♦	3		PHY 204	College Physics II Lab	♦	1	
PHY 202	College Physics I Lab	♦	1		_____	Core II Humanities	●	3	
CMM 103	Fund Speech-Communication	●	3		_____	AoE Elective	♦	3	
TOTAL HOURS			**14**		**TOTAL HOURS**			**14**	

Summer Term (optional):

YEAR FOUR

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME		HRS	GRADE	CODE	COURSE NAME		HRS	GRADE
BSC 450	Molecular Biology	♦	3		BSC 491	Capstone (C)	● ♦	2	
BSC 420 or 422	Plant Physiology or Animal Physiology	♦	4		_____	Writing Intensive	●	3	
_____	Multicultural or International (CT)	●	3		_____	AoE Elective	♦	3	
_____	Writing Intensive	●	3		_____	AoE Elective	♦	3	
_____	Free Elective		3		_____	Free Elective		3	
TOTAL HOURS			**16**		**TOTAL HOURS**			**14**	

Summer Term (optional):

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

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

BIOLOGICAL SCIENCE CELL, MOLECULAR, MEDICAL — 2020-2021

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

- Biomechanics
- Athletic Training
- Education
- Geology
- Geography
- Environmental Science

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

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.

Talk with your professors to enhance your study skills and build your critical thinking abilities.

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

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

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 an elective course that links diversity to your field of study.

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.

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

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

Join or create a club or organization related to your interests or career goals. Biology students are members of at least 20 different campus clubs.

Look ahead and be aware of what will be required to apply to graduate or professional schools, and be sure that you are on track.

Have you considered adding a minor? Think about personal areas of interest you'd like to explore or how you might enhance your major with a related skill set.

Start looking for volunteer experiences in fields related to your career choice or interest. Talk to professors about what makes a good opportunity.

YEAR THREE

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.

Complete admissions exams (GRE, MCAT, PCAT, LSAT, etc) the summer before your senior year.

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

College is a great time to experience the world! Consider studying abroad in the summer, during Spring Break, or for an entire semester.

Make sure that you stand out. If you are entering a competitive field, ensure that you can highlight challenging courses and experiences.

Does admission to your chosen graduate or professional school require career shadowing? Start looking for opportunities now.

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

YEAR FOUR

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

Prepare to present at the CoS Research Expo in April.

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

Make sure that you stand out. If you are entering a competitive field, ensure that you can highlight challenging courses and experiences.

Talk to faculty about pursuing optional professional certifications.

Apply for a nationally competitive scholarship like Fulbright, Rhodes, or Gates Cambridge. Contact the Office of National Scholarships at Marshall.

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

- Scientific Knowledge
- Communication Skills
- Ability to Work as Part of a Team
- Technology Literacy
- Adaptability

ASSOCIATED CAREERS

- Research and Development
- Grant Writing
- Quality Control
- Medicine
- Conservation
- Genetics
- Ecology
- Microbiology
- Food Science
- Information Management
- Data Analysis
- Education
- Technical Writing
- Lobbying
- Law
- Advocacy
- Pharmaceutical Sales
- Consulting
- Marketing

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