

# STATISTICS

## 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](http://marshall.edu/gened).

### CORE 1: CRITICAL THINKING

CODE	COURSE NAME	HRS	GRADE
FYS 100	First Year Sem Crit Thinking	3	
MTH 229	Critical Thinking Course	3	
	Critical Thinking Course	3	
<b>Additional University Requirements</b>			
	Writing Intensive	3	
	Writing Intensive	3	
	Multicultural or International	3	
MTH 490/491	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 229	Calculus/Analytic Geom I (CT)	4	
	Core II Natural/Physical Science	4	
	Core II Humanities	3	
	Core II Social Science	3	
	Core II Fine Arts	3	

## COLLEGE-SPECIFIC

All Mathematics majors are required to take 7 additional hours in Physical or Natural Sciences beyond the Core II requirement. These electives must be from two different areas:

CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
	COS Physical/Natural Science	4			COS Physical/Natural Science	3	

## MAJOR-SPECIFIC

Students who wish to major in Statistics must take the following courses:

CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
MTH 229	Calculus/Analytic Geom I (CT)	5			Statistics Required Elective	3	
MTH 230	Calculus/Analytic Geom II	4			Statistics Required Elective	3	
CS 110	Computer Science I	3			Math/Stat Required Elective	3	
MTH 231	Calculus/Analytic Geom III	4			Math/Stat Elective or Minor or 2nd Major	3	
MTH 300	Intro to Higher Math	4			Math/Stat Elective or Minor or 2nd Major	3	
MTH 331	Linear Algebra	4			300/400 Math/Stat Elective	3	
MTH 490 or 491	Internship or Sr. Seminar (C)	2			300/400 Math/Stat Elective	3	
STA 445	Probability & Statistics I	3			300/400 Math/Stat Elective	3	
STA 446	Probability & Statistics II	3			300/400 Math/Stat Elective	3	
STA 412	Regress Analysis	3			300/400 Math/Stat Elective	3	
STA 413	Experiment Design	3			Math/Stat Elective or 2nd Major	3	
	Statistics Required Elective	3			Math/Stat Elective or 2nd Major	3	

## MAJOR INFORMATION

- Statistics majors are not required to satisfy the College of Science requirement of a minor in another discipline. However, Statistics majors often elect to complete a second (or more) major(s) and/or one (or more) minor(s).
- The statistics and mathematics elective courses may not duplicate those used for the major requirements. The number of elective courses required depends on whether a student is pursuing an outside minor or a 2nd major. The following are the three options:
  - No Outside Major or Minor: A student may graduate with a major in Statistics, without a second major or a minor, by completing an additional 4 elective courses from the list of electives. At least 3 of the 4 electives must be chosen from among the STA-designated courses. The major requires 50 credit hours.
  - Outside Minors: A student graduating with a single major in Statistics, and at least one minor outside the department, must complete at least 2 additional elective mathematics courses from the list below. Effectively, the major requires 44 credit hours.
  - Outside Double Majors: A student graduating with multiple majors, including Statistics, need not take any additional elective math courses. Effectively, the major requires 38 credit hours. A student pursuing multiple majors, including at least two of the majors in the department, should consult with the undergraduate coordinator or chair of the department for details.
- Elective Courses: STA 412, 413, 420, 422, 425, 445, 446, 464, 466, 470; MTH 335, 360, 361, 405, 411, 415, 416, 427, 428, 430, 431, 440, 442, 443, 448, 449, 450, 452, 455.
- Since the major is quite flexible, students are expected to consult with the undergraduate coordinator in the department. Before graduation, the undergraduate coordinator must approve the selection of sequences and electives.
- Please check with advisor about course offerings. Not all classes will be offered every semester.
- Forty (40) hours must be earned in courses numbered 300-499.

# STATISTICS

The Marshall University Department of Mathematics prepare students for careers in the mathematical sciences and related disciplines. Graduates of our mathematics programs have had successful careers in government and industry. Our graduates have also earned advanced degrees in mathematics, statistics, engineering, and economics. Our degree programs may also be used to prepare for secondary mathematics certification and for professions such as law or medicine. The department has a dynamic and engaged faculty who focus both on excellent teaching and on many areas of mathematical research.

YEAR ONE	FALL SEMESTER				SPRING SEMESTER			
	CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
	FYS 100	First Year Sem Crit Thinking	3		MTH 230	Calculus/Analytic Geom II	4	
	ENG 101	Beginning Composition	3			Core I Critical Thinking	3	
	MTH 229	Calculus/Analytic Geom I (CT)	5		CMM 103	Fund Speech-Communication	3	
		Core II Fine Arts	3			Multicultural or International Elective	3	
	UNI 100	Freshman First Class	1			Core II Social Science	3	
	<b>TOTAL HOURS</b>				<b>TOTAL HOURS</b>			
	15				16			
	Summer Term (optional):							

YEAR TWO	FALL SEMESTER				SPRING SEMESTER			
	CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
	CS 110	Computer Science I	3		MTH 300	Intro to Higher Math	4	
	MTH 231	Calculus/Analytic Geom III	4			Statistics Required Elective	3	
	ENG 201	Advanced Composition	3			Math/Stat Required Elective or Minor or 2nd Major	3	
		Core II Physical/Natural Science	4			Physical/Natural Science Elective	4	
	<b>TOTAL HOURS</b>				<b>TOTAL HOURS</b>			
	14				14			
	Summer Term (optional):							

YEAR THREE	FALL SEMESTER				SPRING SEMESTER			
	CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
	MTH 331	Linear Algebra	4			Humanities Elective	3	
	STA 445	Probability & Statistics I	3			Writing Intensive Elective	3	
		Math/Stat Elective or Minor or 2nd Major	3		STA 446	Probability & Statistics II	3	
		Math/Stat Elective or 2nd Major	3			Math/Stat Elective or 2nd Major	3	
		Physical/Natural Science Elective	3			Math/Stat Elective	3	
	<b>TOTAL HOURS</b>				<b>TOTAL HOURS</b>			
	16				15			
	Summer Term (optional):							

YEAR FOUR	FALL SEMESTER				SPRING SEMESTER			
	CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
	STA 412	Regress Analysis	3		STA 413	Experiment Design	3	
		300/400 Math/Stat Elective	3		MTH 490	Internship or Sr. Seminar (C) or 491	2	
		300/400 Math/Stat Elective	4			Statistics Required Elective	3	
		Statistics Required Elective	3			300/400 Math/Stat Elective	3	
		Writing Intensive	3			300/400 Math/Stat Elective	3	
	<b>TOTAL HOURS</b>				<b>TOTAL HOURS</b>			
	16				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 importance of this course in your plan of study.

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## INVOLVEMENT OPPORTUNITIES

- 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
- Math Club
- Pi Mu Epsilon Mathematics Association
- Greek Life

## RELATED MAJORS

- Business
- Data Science
- Economics
- Finance
- Accounting
- Entrepreneurship
- Psychology

## 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 201H;
- 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.

# STATISTICS – 2019-2020

## 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](http://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.



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!



Meet with your Advisor to ensure you take the necessary prerequisites that are required for your sequences.



Join or create a club or organization on campus about a particular issue you care about. Marshall has more than 200 student organizations.



Attend an intercultural festival or event on campus or in town.



Declare a major before your 30th hour. Participate in a Career Exploration Experience (job shadow) to help decide on your major and career goals.

## YEAR THREE



Team up with a faculty mentor and participate in the Virginia Tech Regional Mathematics Competition



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



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.



Networking is key! Attend a Career Expo to seek employment opportunities and network with employers in your field.



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



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.

## 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.



Take a Community Based Learning (CBL) class that connects course content to the community. Stay engaged and make a difference.



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



Join the Math Club and/or the Pi Mu Epsilon Mathematics Association



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.



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



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 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 regional MAA Section Meetings or any other conferences. Team up with your faculty research mentor



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



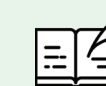
Did you do really well in a hard course? Become a Tutor or a Supplemental Instructor.



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



Prepare to present at the COLA Undergraduate Research and Creativity Conference in April.



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

## TRANSFERABLE SKILLS ASSOCIATED WITH THIS MAJOR

- Mathematical Ability
- Attention to Detail
- Strong Oral and Written Communication Skills
- Organizational Skills

## ASSOCIATED CAREERS

- Government Work, Including Census
- Survey Design
- Operations Research
- Law
- Regulation
- Public Health
- Risk Management
- Health and Medicine
- Data Science/Analytics
- Quality Control
- Banking
- Finance
- Insurance
- Biostatistics
- Education

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.



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