TRANSFER GUIDE
Catalog Years: 2023-2025

Bachelor of Science in Statistics
Associate Transfer Degree Plan in Mathematics

COURSE REQUIREMENTS

Complete at VCCS

BACHELOR'S DEGREE REQUIREMENT		SATISFIED BY		
Course	**Credits**	**Gen ED***	**CC Course**	**Notes**
UNST OOO	1-2		SDV 100 or 101	
WRTC OOO	3	PUA	ENG 111	
WRTC 103**	3	UA	ENG 112 or 113	
JMU General Education Requirements**	3	PUA	Any UCGS Art or Humanities	These two courses must come from two different disciplines.
JMU General Education Requirements**	3	UA	Any UCGS Art, Humanities, or Literature	
JMU General Education Requirements**	3	PUA	Any UCGS Social & Behavioral Science	
JMU General Education Requirements**	3	PUA	Any UCGS History	
JMU General Education Requirements**	4	PUA	Any UCGS Natural Sciences	
Math prerequisites if needed	6-8	UA	Any two UCGS courses	Complete math prerequisites if needed (MTH 161-162 or MTH 167). Other options include CST 100 or 110, or your choice of UCGS.
MATH 235	4	PUA	MTH 263 Calc I	AP Score of 4 or higher is required.
MATH 236	4		MTH 264 Calc II	AP Score of 4 or higher is required.
MATH 237	4		MTH 265 Calc III	Depending on the concentration you choose at JMU, this will fulfill a requirement or an elective.

Complete at JMU

BACHELOR'S DEGREE REQUIREMENT		
Course	**Credits**	**Notes**
MATH 322	3	Applied Linear Regression
MATH 327	3	Categorical Data Analysis
MATH 329	3	Intro to Probability & Theoretical Statistics – if student has not taken MTH 283 at VCCS
MATH 421	3	Applied Multivariate Statistical Analysis
MATH 426	3	Probability and Mathematical Statistics I
Concentration-specific requirements and Upper-level Electives	15-21	Statistics majors with no concentration complete MATH 321, 428, 248 or 309, and 6 credits of major electives. (15-16 credits). MATH 237 Calculus III (4 credits) is also required if the student has not taken MTH 265 at VCCS. Statistics majors with a data science concentration complete DATA 200, MATH 250, 251, 268, 358, and 6 credits of major electives. (21 credits)
Electives as needed		Students must earn at least 60 credits from a 4-year college or university and at least 30 credits from JMU to graduate.

MATH 300	3		MTH 266 Linear Algebra				
MATH 318 + MATH OOO (which substitutes for MATH 229 + MATH 329 if student completes an approved module or course using R before or after transfer)	6		MTH 245 Statistics	Completing MTH 245 prior to transfer is crucial, but there is flexibility in whether students complete the second half of this sequence before or after transfer. AP Score of 4 or higher is required for credit in MTH 245.			
			MTH 283 Probability & Statistics	MTH 283 by itself does not satisfy requirements and is not recommended without MTH 245. If possible, students are strongly encouraged to take a module or course in R before starting JMU.***			
	7-11		Math prerequisites (MTH 161 + 162 or MTH 167), further major exploration (MTH 246), or additional electives as needed to meet 60 credits.	If needed, complete math prerequisites. To more deeply explore the statistics major prior to transfer, MTH 246 Statistics II, which transfers as general elective credit, is highly encouraged if offered at your community college and if you have time to take it in addition to completing the other MTH courses listed in this guide.			
CREDITS PRE-TRANSFER: 60-61					**CREDITS POST-TRANSFER: 60**		

* **A** = Completion of the Associate Degree satisfies this General Education Requirement. **U** = This course satisfies a Uniform Certificate of General Studies requirement.
P = This course satisfies a Passport requirement.

** Students who complete an approved transferable associate degree will qualify for a full waiver of general education requirements at JMU no matter which courses they use to satisfy their associate degree requirements. Students who will not be earning an approved transferable associate degree should complete core community college requirements with courses that also satisfy area requirements in JMU's general education program. For example, the WRTC 103 requirement can only be filled with ENG 111-112 at VCCS. Learn more about JMU general education equivalents offered at VCCS at www.jmu.edu/transfer/vccs-transfer/genedequiv.shtml. Email transferadvising@jmu.edu with questions.

*** The JMU course MATH 167 (Topics in Mathematics: Introduction to Modern R) is offered online as a one-credit course at various times throughout the year, including the summer and winter terms. Students who do not have experience using R are strongly encouraged to take this course prior to their first regular (Fall or Spring) semester at JMU. When enrolling, ensure that the listed course topic is Introduction to Modern R as this course number is used for a variety of different topics courses.

TRANSFER GUIDANCE

Admission into the Statistics major at James Madison University:

Students who meet the requirements for guaranteed admission to JMU are guaranteed admission into the statistics major. You do not necessarily need to have taken every course in the transfer guide to be able to complete the major within two years of transferring to JMU with your associate degree. The following guidance may help with your planning:

- Students must complete an approved transferable associate degree from their Virginia community college with a minimum GPA of 3.0 for guaranteed admission to JMU. For additional guaranteed admission requirements, please see the JMU letter of intent: www.jmu.edu/admissions/apply/transfer-gaa.shtml.
- Have you discovered an interest in statistics later in your VCCS studies and don't have time to finish all of the MTH courses listed in the transfer guide? That's ok! Make sure to complete MTH 245 and try to take MTH 263 and 264 prior to transfer. Note that it will likely take you a little longer than 2 years after transfer and/or some summer classes to finish the statistics major with or without the data science concentration.
- Since VCCS statistics courses typically do not use the programming language R, students are strongly encouraged to complete a course or module in R prior to transfer.

IMPORTANT LINKS & DATES:

- **University Transfer Center:** https://www.jmu.edu/transfer/
- **Register Intent to Transfer:** Students can notify JMU of their interest in transferring through College Connect at www.TransferVirginia.org. Transfer applicants from a VCCS institution intending to apply through the Guaranteed Admission Agreement (GAA) must submit a Letter of Intent prior to applying. Requirements and forms are available at: https://www.jmu.edu/admissions/apply/transfer-GAA.shtml.
- **Admission Application:** By March 1 for Fall or October 15 for Spring at https://www.jmu.edu/admissions/apply/apply-online.shtml
- **Financial Aid:** https://www.jmu.edu/financialaid

WHAT SHOULD I CONSIDER WHEN SELECTING COURSES?

- MTH courses typically must be taken in specific orders to satisfy prerequisite requirements. As you plan your MTH courses based on this transfer guide, work backwards from the highest numbered courses to determine a path of courses that will take you from your initial course placement to the higher numbered courses. Be sure to consult an advisor at your community college for information about the semesters in which specific courses are offered.
- It is essential that you complete VCCS MTH 245 prior to transfer. MTH 245 satisfies the prerequisites for many 300-level statistics courses at JMU, so you'll be able to start taking applied statistics courses right away at JMU if you have MTH 245 credit.
- Beginning Fall 2023, the Statistics major includes an optional Concentration in Data Science, which includes more courses based on computing but one less calculus course.
- Students who are interested in double-majoring in statistics and mathematics should also consult the mathematics major transfer guide for guidance when selecting courses.
- Create a schedule for all required courses, pay attention to prerequisites and when courses are offered, complete your first math and English courses in your first year. For help, see Transfer Steps and Resource Center at www.TransferVirginia.org.
- Connect with an advisor at your community college and James Madison University within your first year. College Connect available in your account of www.TransferVirginia.org.

IS THIS DEGREE RIGHT FOR ME?

The statistics major may be right for you if you love doing math, analyzing data, writing computer code, and solving real-world problems to benefit the sciences, health, medicine, economics, environment, national employment, food production, energy conservation and advancement, natural resources, and business.

WHAT IS THE IMPACT ON MY DEGREE OF WORK I HAVE ALREADY COMPLETED?

- **Associate Transfer Degree Completion**: An approved transferable associate degree from a Virginia Community College will waive general education requirements at JMU.
- **Dual Enrollment – Completion of Associate Degree in HS**: The statistics program follows JMU's policies and score requirements regarding Dual Enrollment courses applied to their associate degree.
- **Credit for Prior Learning:** Credit for prior learning may be awarded differently at JMU than at your previous institution. JMU accepts and reviews AP, IB CIE, and CLEP examinations for all students with eligible scores. JMU will complete an independent review of the test score to apply credit to your JMU student record. Other credit for prior learning is awarded on a per case basis for the ADP and RN-BSN programs in consultation with the department of expertise. Credit for learning acquired in military service is awarded by the registrar's office using the ACE guide credit recommendation for study/experience listed on the military transcript and in consultation with the department of expertise.
- **Catalog Year:** Catalog year determined by first semester of attendance at JMU

IS THIS COLLEGE RIGHT FOR ME?

JMU is a mid to large size institution that behaves more like a smaller institution. Faculty and staff hold students as the top priority. JMU has a 96% satisfaction rate. 88% of classes have less than 50 students. JMU is the #1 most recommended public University in the US by the Wall Street Journal and Times Higher Education; JMU is the #1 Best College for Employment in Virginia according to U.S. Department of Education statistics compiled by Zippia. JMU has the highest post-graduation job levels of all Virginia colleges. Learn more about our college at www.jmu.edu and www.TransferVirginia.org.

DID YOU KNOW THAT…

- There is no limit to the number of credits you can transfer to JMU, but 50% of the credits required for graduation in your major must be taken at a 4-year college or university, and 25% must be taken at JMU. (Most JMU majors require 120 credits, so 60 must come from a 4-year and 30 must be taken at JMU.)

- Completing your Associate transfer degree post-high school satisfies all lower division general education requirements and increases the chance of completing your bachelor's degree.
- Exceeding 3 years or 90 credits at your community college means you may have exhausted your financial aid at that college and have limited your future financial aid at JMU.
- Students who may be eligible for Virginia's Two-Year College Transfer Grant should transfer in the fall or spring immediately following the completion of their associate degree. Learn more about the state transfer grant here: https://www.schev.edu/financial-aid/financial-aid/federal-state-financial-aid/two-year-college-transfer-grant

WHAT CAN I DO WITH THIS DEGREE?

A bachelor's degree in Statistics with or without the Concentration in Data Science can be used as preparation for a career in a wide variety of areas, including pharmaceutical industries, sample survey analysis, data analytics, actuarial science, environmental issues, health care, marketing, transportation, data engineering, and database administration. Jobs are available in private industry and government. The bachelor's degree also helps prepare students interested in pursuing graduate studies. Explore possible careers, salaries, and job outlook at www.TransferVirginia.org

PROGRAM SUCCESSES & HIGHLIGHTS

JMU Mathematics and Statistics is an undergraduate-oriented department, so our primary focus will be on you, the undergraduate student. Our classes, student research projects, and professional opportunities are all designed to prepare you for your chosen career path. The department offers a close-knit community environment where faculty know students by name and engage with them directly, both inside and outside the classroom. The department offers exciting undergraduate research opportunities during the summer and academic year, and the annual Shenandoah Undergraduate Mathematics and Statistics (SUMS) conference brings student researchers from around the region to JMU each year to present their work. Many statistics majors are actively involved in the department's student organizations and community outreach activities.

Statistics is a major area of data science, and many job opportunities are available for those who call themselves statisticians or data scientists. Our graduates tend to be quite successful in finding jobs and being accepted into graduate programs, with up to 94% of students in our College entering the STEM workforce or advanced training after graduation. Student academic success is supported by our relatively small class sizes and by tutoring support from the Science and Mathematics Learning Center and the Mathematics and Statistics Learning Suite.

WHAT ARE MY CHANCES FOR GETTING ACCEPTED?

- Generally, two-thirds of transfer applicants are admitted to JMU. Competitive applicants will have mostly As & Bs and have completed at least one class in each of our four core areas (English, mathematics, lab science, and social science).
- JMU defines a transfer student as a student that has graduated from high school (or holds a GED equivalency) AND has taken courses in college after high school graduation.
- Learn more about applying at https://www.jmu.edu/transfer/ or www.TransferVirginia.org.

DO MORE WITH YOUR DEGREE!

Statistics majors might choose to attend graduate school or work in government, pharmaceutical industries, or other businesses. Due to the overlaps in courses between the Statistics major and the Mathematics major, some students choose to double major in these two fields. Scientific research involves proper data analysis, often performed by statisticians, so knowing other scientific fields is useful when performing statistical consulting. Statistics majors are encouraged to earn either a minor or a second major since statisticians need to communicate with specialists in other fields of study. JMU'S Department of Mathematics and Statistics offers a distinctive National Science Foundation funded Summer Research Experience for Undergraduates program and numerous other opportunities for students to participate in research with award-winning faculty (up to 80% of students in the College participate in research or internships).

OTHER THAN CLASSES, ARE THERE OTHER PROGRAM REQUIREMENTS?

No, but VCCS students are strongly encouraged to learn the statistical software *R* prior to their first regular (Fall or Spring) semester at JMU.