James Madison University Bachelor of Arts or Bachelor of Science in Mathematics

TRANSFER GUIDE
Catalog Years : 2023-2025

Associate Transfer Degree Plan in Mathematics

COURSE REQUIREMENTS

Complete at VCCS					Complete at JMU		
BACHELOR'S DEGREE REQUIREMENT		**SATISFIED BY**			**BACHELOR'S DEGREE REQUIREMENT**		
Course	**Credits**	**Gen ED***	**CC Course**	**Notes**	**Course**	**Credits**	**Notes**
UNST 000	1-2		SDV 100 or 101		MATH 245	3	Discrete Mathematics
WRTC OOO	3	PUA	ENG 111		MATH 248	4	Computers and Numerical Algorithms
WRTC 103**	3	UA	ENG 112 or 113		MATH 300	3	Linear Algebra – if student has not taken MTH 266 at VCCS
JMU General Education Requirements**	3	PUA	Any UCGS Art or Humanities	These two courses must come from two different disciplines. Students who want to pursue a BA degree at JMU rather than a BS degree should take PHI 101.***	MATH 336	3	Differential Equations – if student has not taken MTH 267 at VCCS
JMU General Education Requirements**	3	UA	Any UCGS Art, Humanities, or Literature		MATH 229 and 329 OR MATH 318	4-6	Probability and Statistics – if student has not completed all probability and statistics requirements while at VCCS
JMU General Education Requirements**	3	PUA	Any UCGS Social & Behavioral Science	Students planning to pursue secondary education teaching licensure should take PSY 230.	MATH 410	3	Advanced Calculus I
JMU General Education Requirements**	3	PUA	Any UCGS History		MATH 430	3	Abstract Algebra I
JMU General Education Requirements**	4	PUA	Any UCGS Natural Sciences		Depth Requirement and Upper-level Electives	12	If pursuing teaching licensure, complete 4 additional required 300/400-level MATH courses. All other math majors select one of 7 depth options, each consisting of 1-2 specified 400-level MATH courses and additional upper-level MATH electives.
Math prerequisites or world languages if needed	6-8	UA	Any two UCGS courses	Complete math prerequisites if needed (MTH 161-162 or MTH 167). Students planning to complete JMU's BA degree*** can use these credits for world languages (required through intermediate level / 202). 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.	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 236	4		MTH 264 Calc II	AP Score of 4 or higher is required.			
MATH 237	4		MTH 265 Calc III				
MATH 300 + MATH 336	6		MTH 266 Linear Algebra, MTH 267 Differential Equations, MTH 288 Discrete Math, or CSC 208 Intro Discrete Structures I	Complete two courses from this list. Recommended: MTH 266 (=MATH 300) and MTH 267 (=MATH 336), but there is flexibility in whether these requirements are completed before or after transfer. MTH 288 and CSC 208 do not satisfy JMU math major requirements but can help prepare for future math courses. Students cannot receive transfer credit for both CSC 208 and MTH 288.			
MATH 318 + MATH OOO (Probability and Statistics Requirement)	6		MTH 245 Statistics MATH 283 Probability and Statistics	There is flexibility in whether this requirement is completed before or after transfer. Taking MTH 245 and 283 together satisfy the probability and statistics requirement. Students who are unable to take both MTH 245 and 283 are still encouraged to take MTH 245. MTH 283 by itself does not satisfy requirements and is not recommended. AP Score of 4 or higher required for credit in MTH 245.			
Other Courses	4-8		Math prerequisites (MTH 161+162 or MTH 167), World Languages, education courses, or additional electives as needed to meet 60 credits	If needed, complete math prerequisites. Students planning to complete JMU's BA degree*** can use these credits for world languages (required through the intermediate level / 202) Students planning to pursue secondary education teaching licensure can complete EDU 200, EDU 204, and PSY 230 (if not completed already)			
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. Students who will not be earning an approved transferable associate degree should complete core community college requirements with courses that also satisfy requirements in JMU's general education program. To see JMU general education equivalents offered at VCCS at www.jmu.edu/transfer/vccs-transfer/genedequiv.shtml.

*** Students may choose to earn a Bachelor of Arts (BA) or Bachelor of Science (BS) degree in mathematics at JMU. The mathematics major requirements are the same for both. Most mathematics students choose the BS degree, but students considering double-majoring in a discipline that only offers BA degrees should plan to pursue a BA.

TRANSFER GUIDANCE

Admission into the Mathematics major at James Madison University:

Students who meet the requirements for guaranteed admission to JMU are guaranteed admission into the mathematics major. You do not necessarily need to have taken all courses on the transfer guide to be able to complete the major within two years of transferring to JMU with your associate degree. This 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.
- To be able to complete the mathematics major within two years of transfer without taking summer classes, a student must complete MTH 263 and MTH 264 and at least one of MTH 265, MTH 266, MTH 267, and (MTH 245 AND 283) before transfer. Students who can take all of the courses in this list are encouraged to do so. If you can only take one or two classes beyond MTH 263 and 264, be prepared to take three math classes each semester at JMU to finish in two years.
- Have you discovered a love of math later in your VCCS studies and don't have time to finish the MTH course recommendations listed above? That's ok! Try to complete MTH 263 and 264 before transfer, if possible. It will likely take you a little longer than 2 years after transfer and/or some summer classes to finish the mathematics major.

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
- **FAFSA - Free Application for Federal Student Aid:** Deadline is March 1. Learn more at studentaid.gov.

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.
- For students interested in taking applied statistics courses, note that MTH 245 satisfies the prerequisite for many 300-level statistics electives.
- If you are considering double majoring or adding a minor, plan to complete preliminary courses for those programs, if possible, before transfer.
- 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?

As a mathematics major, students will gain an increased understanding and appreciation for math as a universal language. Students can expect to use and build on skills such as thinking critically, formulating and solving problems, and communicating solutions. Students will increase their ability to prove theorems, understand complex structure, and apply mathematics in real-world settings. The program provides opportunities to develop highly marketable skills in data analysis, programming, mathematical modeling, logical reasoning, and technical communication.

As students progress through the major, the content and focus of the courses gradually shift as students' skills grow. Early courses focus on more computational areas of mathematics, such as calculus, and build students' appreciation of definitions and proofs and ability to use mathematical language precisely. Later courses are typically less computational and emphasize understanding mathematical concepts, proving theorems, developing mathematical tools, and applying mathematics in applications. JMU offers upper-level courses in a wide variety of areas of mathematics, including analysis, algebra, mathematical computing, differential equations, geometry, topology, and statistics. Some of these courses are required of all math majors, and others are options students choose as they plan their major program with their advisor. Students who are able to think independently and creatively, who want to know why things work instead of simply memorizing, and who are willing to work hard and persevere when building understanding takes time tend to be most successful in the mathematics major.

While a mathematics major can provide a strong pathway to careers and graduate study in statistics and/or data science, students interested in these areas should also consider JMU's BS in Statistics, which offers the option of selecting a concentration in data science.

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 mathematics 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?

The courses students choose to fulfill math major requirements provide opportunities for them to acquire strong preparation for graduate work or for professional applications in mathematics and statistics, teaching, natural and social sciences, or other technical areas. As examples, recent graduates have used their preparation as mathematics majors along with other skills and experiences developed during their years in college to obtain positions as data analysts, software engineers and developers, pricing specialists, teachers, business development associates, technology analysts, junior systems engineers, consultants, and operations analysts and to pursue graduate study in mathematics, computer science, education, operations research, statistics, and law. 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. Major classes are typically small (around 30 students or less) and are taught by full-time faculty who are known for teaching excellence and innovation. 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 math majors are actively involved in the department's student organizations and community outreach activities.

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!

Many JMU math majors also complete a second major and/or a minor. These second majors and minors reflect a wide variety of interests. Recent choices of double majors include chemistry, computer science, economics, history, intelligence analysis, media arts and design, physics, psychology, quantitative finance, and secondary education. Popular choices of minors include many of these same areas as well as data analytics and logic and reasoning.

Math majors at JMU are encouraged to engage in a wide variety of math-related experiences outside the classroom, including undergraduate research, student organization activities, mathematical competitions, colloquium talks, and community outreach.

OTHER THAN CLASSES, ARE THERE OTHER PROGRAM REQUIREMENTS?

No