

COURSE REQUIREMENTS

Complete at Virginia Community College				Complete at George Mason University		
BACHELOR'S DEGREE REQUIREMENT		SATISFIED BY		BACHELOR'S DEGREE REQUIREMENT		
Course	Credits	CC Course	Notes	Course	Credits	Notes
General Elective: UNIV 100	1	SDV 100		Gen Ed: Upper Level Written Comm ENGH 302	3	
General Elective: ENGH ---	3	ENG 111		Major: BIOL 213	4	
Gen Ed: Written Comm ENGH 101	3	ENG 112	Admission Requirement	Major: CHEM 310	3	Students pursuing the Bioengineering Pre-health concentration should take CHEM 313/315 and see their BENG advisor to develop a plan of study.
Gen Ed: Arts	3	ART 100, ART 101, ART 102, CST 130, CST 151, MUS 101	Course options listed are Passport and/or UCGS courses. Additional options may be available. Can be waived with degree completion.	Major: BENG 101	3	Fall course in person, spring course is online for non-BIOE majors
Gen Ed: Literature	3	ENG 225, ENG 245, ENG 246, ENG 250, ENG 255, ENG 258, ENG 275	Course options listed are Passport and/or UCGS courses. Additional options may be available. Can be waived with degree completion.	Major: BENG 214	3	Fall course
Gen Ed: Global History	3	HIS 101, HIS 102, HIS 111, HIS 112	HIS 112 is recommended Course options listed are Passport and/or UCGS courses. Additional options may be available. Can be waived with degree completion.	Major: BENG 230	3	
Major & Gen Ed: Social and Behavioral Science: ECON 103	3	ECO 202	Students pursuing the Bioengineering Pre-health concentration should take PSY 200 or SOC 200	Major: BENG 240 & BENG 241	4	Spring courses

Major & Gen Ed: Quant: MATH 113	4	MTH 263	Students must earn an A or B in MTH 263 to be admitted to BENG	Major: BENG 320	3	
Major: MATH 114	4	MTH 264	Students must earn an A or B in MTH 264 to be admitted to BENG	Major: BENG 330 & BENG 331	4	Fall course
Major: MATH 213	4	MTH 265		Major: BENG 350	3	Spring course
Major: MATH 214	3	MTH 267	Students must earn a B or better in MTH 267 to progress in BENG major coursework	Major: BENG 360	3	Writing Intensive
Major: MATH 203	3	MTH 266	Students should complete Matlab applications concurrently with MTH 266. Please email bioeng@gmu.edu for registration information.	Major: BENG 370 & BENG 371	4	
Major & Gen Ed: Natural Science: PHYS 160/161	4	PHY 241		Major: BENG 375	3	Spring course only
Major & Gen Ed: Natural Science: PHYS 260/261	4	PHY 242		Major: BENG 391	1	Fall course only
Major: CHEM 211/213	4	CHM 111		Major: BENG 492	3	Gen Ed: Apex, Fall course
Major: CHEM 212/214	4	CHM 112	Substitute for CHEM 271/272 at Mason	Major: BENG 493	3	Spring course
General Elective: ENGR 107	2	EGR 121		Major: STAT 360	3	
Major & Gen Ed: Info Tech: ENGR 125T	4	EGR 125		Major: Remaining concentration coursework and technical electives	18-29	Most concentrations need 18 credits in addition to those listed above. Pre-health requires 29 credits.
Major & Gen Ed: Oral Comm: COMM 100 or COMM 101	3	CST 100 or CST 110				
General Elective: BIOL 103 + BIOL 105	4	BIO 101	This course helps prepare students for Cell Biology			
CREDITS PRE-TRANSFER: 66				CREDITS POST-TRANSFER: 71 - 82		

## TRANSFER GUIDANCE

### Transfer Admission Requirements: Bioengineering

- Transfer applicants must have completed the equivalent of MATH 113 Calculus I (4 credits) and Math 114 Calculus II (4 credits) with grades of A or B in each MATH course before applying to Mason. MTH 263 and MTH 264 are the VCCS equivalents of MATH 113 and MATH 114, respectively.
- Transfer applicants must present a 2.5 or higher cumulative GPA for regular admission. GAA applicants must present a minimum 2.85 GPA.
- Prior to applying, VCCS applicants should complete ENG 111 and ENG 112.
- For more information about Guaranteed Admission Agreement Requirements, visit: <https://www.vccs.edu/transfer-programs/>

### IMPORTANT LINKS & DATES:

- **Office of Transfer Services:** <https://www.gmu.edu/admissions-aid/apply-now/how-apply/transfer/office-transfer-services>
- **Admission Application:** By Oct 1 or March 1 at <https://www.gmu.edu/admissions-aid/apply-now>
- **Financial Aid:** <https://www.gmu.edu/financial-aid>
- **FAFSA - Free Application for Federal Student Aid:** March 1 for Fall admission and October 1 for Spring admission at [studentaid.gov](https://studentaid.gov)

### WHAT SHOULD I CONSIDER 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](http://www.TransferVirginia.org)
- Connect with an advisor at your community college within your first year. College connect available in your account of [www.TransferVirginia.org](http://www.TransferVirginia.org)

### IS THIS DEGREE RIGHT FOR ME?

- Bioengineering combines the sciences with engineering principles and applies them to the human body. An excellent grasp of math, biology, physics, chemistry, and logic is required for this degree as it builds the foundation of all ensuing coursework.
- Check out our program summary here: <https://bioengineering.gmu.edu/academics/bachelor-science-bioengineering>

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

- **Associate Transfer Degree Completion:** Students who complete a VCCS transfer associate degree (AS, AA, AA&S, & AFA) will receive a waiver of the Foundation and Exploration (lower division) Mason Core general education categories. To be eligible for the waiver, the students must provide the Mason Office of Admissions with a final, official transcript reflecting the degree conferral date. As a prerequisite for ENGH 302, ENGH 101 is not waived. Students must complete ENGH 100 or ENGH 101, or an equivalent, with a C or higher.
- **Dual Enrollment – Completion of Associate Degree in HS:** Applicants are required to apply as freshman
- **Credit for Prior Learning:** Credit by exam may be used to fulfill General Education and/or major requirements. See: <https://www.gmu.edu/admissions-aid/apply-now/how-apply/transfer/transfer-credit-policy>
- **Catalog Year:** Catalog year determined by first term of attendance at Mason.

### IS THIS COLLEGE RIGHT FOR ME?

- Located in Fairfax within the National Capital Region. Mason enrolls 26,000 undergraduate students, in 80 in-demand majors, from 50 states and 130 countries.
- 4,000 new transfer students choose Mason each year. Mason is consistently ranked as one of the most diverse universities in the U.S.
- Transfer students are welcome to live among our 7700-student residential community or off-campus. The Office of Contemporary Student Services is dedicated to the support of off-campus transfers.
- 66% of Mason students receive financial aid
- 22 Division I men's and women's teams and 475+ student organizations
- Learn more about our college at [www.TransferVirginia.org](http://www.TransferVirginia.org)

### DID YOU KNOW THAT...

- The bioengineering program has over 50 % female students and is the engineering program with the highest percentage of female students.
- Bioengineers have created the first bionic arm and artificial organs are the result of biomedical engineering.
- Bioengineering research ranges from nanoscale technologies to big machines like MRIs.
- U.S. News & World Report listed the Biomedical Engineer as #3 in Best Engineering Jobs in 2023 with a median salary in 2023 of \$100,730. <https://money.usnews.com/careers/best-jobs/rankings/best-engineering-jobs>
- Bioengineers also worked on developing and improving vaccines including those for COVID-19.

### WHAT CAN I DO WITH THIS DEGREE?

- Explore possible careers, salaries, and job outlook at: [TransferVirginia.org](http://TransferVirginia.org)
- As a bioengineer, you will be able to work industries including biopharmaceuticals, biomedical device engineering, or government agencies like the, i.e. US patent office, and in bioconsulting for healthcare, including clinical settings, instrumentation engineering

### PROGRAM SUCCESSES & HIGHLIGHTS

- Mason Bioengineering secured over \$15.9 million in funding in 2021. There are lots of opportunities for undergraduate students to get involved in our research programs.
- Our bioengineering researchers are nationally recognized experts whose work is having an impact on the health and well-being of people everywhere.
- Our department offers courses taught by industry and clinical experts providing practical, real-world examples.
- Students have the opportunity to engage in a summer clinical immersion experience identifying clinical needs for capstone projects.
- Please read about our accomplishments in our Annual Report: <https://bioengineering.gmu.edu/about/annual-report>

### DO MORE WITH YOUR DEGREE!

- Did you ever consider studying abroad? Join Mason Bioengineering and spend a semester in Spain or a summer in Europe. You can also choose to take our BENG 417 class to spend 2 weeks in Ecuador or Guatemala to work with clinicians in a remote hospital.
- Consider our Accelerated BS/MS program, which can be completed in 5 years = 4 yrs (BS) + 1 yr (MS). Typically, an MS program takes 2 years to complete.