TRANSFER GUIDE

Catalog Years: 2025-2026

# George Mason University BS in Electrical Engineering

## Associate Transfer Degree Plan in Engineering

## COURSE REQUIREMENTS

| Complete at Virginia Community College | | | | Complete at George Mason University | | |
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| **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 & Gen Ed: Oral Communication | 0-3 | Not needed if completed at the community college. |
| Gen Ed: Written Comm ENGH 101 | 3 | ENG 112 | Admission Requirement | Major: ECE 101 | 3 | Students transferring with EGR 271 and CSC 221 complete may be able to waive this course. See George Mason advisor. |
| 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: ECE 201 | 3 | |
| 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: ECE 231 & ECE 232 | 0-4 | Needed if EGR 270 is not completed at the community college. |
| Gen Ed: Global History | 3 | HIS 101, HIS 102, HIS 111, HIS 112 | Course options listed are Passport and/or UCGS courses. Additional options may be available. Can be waived with degree completion. | Major: ECE 240 | 3 | |
| Major & Gen Ed: Social and Behavioral Science: ECON 103 | 3 | ECO 202 | | Major: ECE 305 | 3 | |
| Major and Gen Ed: Quant MATH 113 | 4 | MTH 263 | Students must earn an A or B in MTH 263 to be admitted to Electrical Engineering | Major: ECE 321 | 3 | |
| Major: MATH 114 | 4 | MTH 264 | Students must earn an A or B in MTH 264 to be admitted to Electrical Engineering | Major: ECE 333 & ECE 334 | 4 | ECE 333 fulfills Writing Intensive |

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|---|---|---|---|---|---|---|
| Major: MATH 213 | 4 | MTH 265 | | Major: ECE 350 | 3 | |
| Major: MATH 214 | 3 | MTH 267 | | Major ECE 421 | 3 | |
| Major & Gen Ed: Natural Science: PHYS 160/161 | 4 | PHY 241 | | Major: ECE 433 | 3 | |
| Major & Gen Ed: Natural Science: PHYS 260/261 | 4 | PHY 242 | | Major: ECE 445 or ECE 415 | 3 | |
| Major: ENGR 107 | 2 | EGR 121 | | Major: ECE 460 | 3 | |
| Gen Ed: Info Tech: CS 108 | 3 | CSC 221 | Prerequisite for CSC 222<br>See note for George Mason ECE 101. | Major: ECE 391 | 1 | |
| Major: CS 112 | 4 | CSC 222 | | Major: ECE 492 | 1 | |
| Major: MATH 203 | 3 | MTH 266 | | Major: ECE 493 | 2 | Apex |
| Major: ECE 285 | 4 | EGR 271 | Labs must be taken in-person | Major: Technical Electives | 9 | See catalog for course options. Some courses may complete optional concentration requirements. |
| Major: ECE 286 | 4 | EGR 272 | Labs must be taken in-person | Major: Advanced Engineering Labs | 2 | See catalog for course options. Some courses may complete optional concentration requirements. |
| Major: ECE 231/232 | 0-4 | EGR 270 | Labs should be taught in VHDL to earn credit for ECE 232.<br>As needed to meet AS degree requirements. See note for George Mason ECE 231 and ECE 232. | Major: STAT 346 | 3 | |
| Major & Gen Ed: Oral Comm: COMM 100 or COMM 101 | 0-3 | CST 100 or CST 110 | As needed to meet AS degree requirements. | Major: PHYS 262 & PHYS 263 | 4 | |
| **CREDITS PRE-TRANSFER: 65-69** | | | | **CREDITS POST-TRANSFER: 62-69** | | |

# TRANSFER GUIDANCE

**Transfer Admission Requirements: Electrical Engineering**

- 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 George 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 application, 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 15 for Fall admission and November 1 for Spring admission at 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
- Connect with an advisor at your community college within your first year. College connect available in your account of www.TransferVirginia.org

## IS THIS DEGREE RIGHT FOR ME?

- Electrical engineering is a great fit for those who are hands-on and like to innovate, design and build novel electrical components ranging from tiny devices such as electronic sensors and chips to systems spanning the globe such as satellite networks. This program provides a comprehensive education for aspiring engineers who can design and build a broad range of electrical devices, components, and systems.

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

- **Associate Transfer Degree Completion:** Students who complete a transfer associate degree (AS, AA, AA&S, or AFA) from a Virginia Community College will receive a waiver of the Foundation and Exploration (lower division) Mason Core general education categories. To be eligible for the waiver, students must provide the George 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 transfer in or complete ENGH 100 or ENGH 101 at George Mason 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 George Mason.

## IS THIS COLLEGE RIGHT FOR ME?

- Located in Fairfax, Virginia, within the Washington metropolitan area, George Mason enrolls more than 28,000 undergraduate students from all 50 states and more than 130 countries in 78 in-demand majors.
- More than 4,500 new transfer students choose George Mason each year, and the university has been recognized as the most diverse in Virginia by U.S. News & World Report.
- 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.
- 65% of George Mason students receive financial aid.
- 22 Division I men's and women's sports teams, plus club and intramural leagues, and more than 400 student organizations.
- For more information, visit: https://www.gmu.edu/transfer
- Learn more about our college at www.TransferVirginia.org

## DID YOU KNOW THAT…

- The Department of Electrical and Computer Engineering's (ECE) BS in electrical engineering (EE) is a comprehensive program that trains engineers who can design and build a broad range of electrical devices, components, and systems.
- The program encourages innovation and equips students with the foundational knowledge necessary to address critical societal and technological challenges. Some of the technologies our students develop include autonomous vehicles, robots, electronic chips, satellites, communication networks, wearable technology, brain-machine interfaces, and the power grid.

## WHAT CAN I DO WITH THIS DEGREE?

- Explore possible careers, salaries, and job outlook at: TransferVirginia.org
- Electrical engineers possess expertise in both electrical components and circuitry as well as the knowledge on the techniques and algorithms to process and manipulate the signals that are used to communicate between electrical systems.
- Graduates of this program have the flexibility to pick or choose jobs that may be more hardware-oriented, software-oriented or a mix. They may develop new sensors for self-driving cars, work with renewable energy and the smart grid, create algorithms for speech and image recognition, develop control systems for autonomous drones, and work with cyber-physical systems.
- Career opportunities exist in the areas of basic research, product design, project engineering, engineering management, engineering consultancy, technical sales, patent law and many others.

## PROGRAM SUCCESSES & HIGHLIGHTS

- Past graduates have jobs at high tech companies and government agencies such as Amazon, Meta, Google, BAE Systems, Boeing, General Electric, General Dynamics, IBM, INTEL, Lockheed-Martin, Micron, MITRE, Dominion Energy, USPTO, NASA, Naval Research Lab, Northrop Grumman, Orbital Sciences, Raytheon, and others.

- The curriculum emphasizes design, optimization, verification, and testing methodology involving modern tools as well as hands-on design experiences and simulation through labs and projects that are integrated into coursework. Examples of programming languages and platforms taught include Matlab, pSpice, Python, and C/C++.
- A culminating year-long senior design project provides each student a chance to apply concepts to designing, innovating and building a functional hardware/software system in a team environment.
- The department has close partnerships with industry to ensure that industry-level standards are met and to facilitate the placement of our students in jobs and internships. A rich variety of courses offer relevant engineering experiences and wide exposure to industry leaders.

## DO MORE WITH YOUR DEGREE!

- **Concentrations:** Students can choose a concentration by completing 12 credits of specified courses in place of the technical electives. Concentrations are available in the important areas of Communications and Signal Processing, Embedded Systems, Internet of Things, Controls and Robotics, Power and Energy Systems, Space-based Systems, Sustainable Data Center Engineering, and Semiconductor Engineering.
- **Bachelors/Accelerated Master's:** Students can use up to 12 graduate credits towards both a bachelor's and master's degree.

## OTHER THAN CLASSES, ARE THERE OTHER PROGRAM REQUIREMENTS?

- Students are encouraged to pursue internship and co-op opportunities leading to valuable work experience and facilitating the career transition process.