

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 & 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 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
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	3	
Major: ENGR 107	2	EGR 121		Major: ECE 460	3	
General Elective: CS ---	3	CSC 221	Prerequisite for CSC 222 See note for 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		Major: Technical Electives	9	See catalog for course options. Some courses may complete optional concentration requirements.
Major: ECE 286	4	EGR 272		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. As needed to meet AS degree requirements. See note for 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 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 1 for Fall admission and October 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 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

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.