George Mason University BS in Computer Engineering
Associate Transfer Degree Plan in Engineering

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 Comm	3	
Gen Ed: Written Comm ENGH 101	3	ENG 112	Admission Requirement	Major: MATH 203	3	
Gen Ed: Arts	3	ART 100, ART 101, ART 102, CST 130, CST 151, MUS 121	Course options listed are Passport and/or UCGS courses. Additional options may be available. Can be waived with degree completion.	Major: ECE 101	3	Students transferring with EGR 271 and CSC 221 complete may be able to waive this course. See advisor
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 201	3	
Gen Ed: Global History	3	HIS 101, HIS 102, HIS 111, HIS 112	HIS 112 recommended. Course options listed are Passport and/or UCGS courses. Can be waived with degree completion.	Major: MATH 125	0-3	Needed if MTH 288 is not completed at the community college
Major & Gen Ed: Soc & Behav Science: ECON 103	3	ECO 202		Major: ECE 240	3	
Major & Gen Ed: Quant MATH 113	4	MTH 263	Students must earn an A or B in MTH 263 to be admitted to Computer 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 Computer Engineering	Major: ECE 333 & ECE 334	4	ECE 333 fulfills Writing Intensive
Major: MATH 213	4	MTH 265		Major: ECE 340	3	

Major: MATH 214	3	MTH 267		Major: ECE 350	3	
Major & Gen Ed: Natural Science: PHYS 160/161	4	PHY 241		Major ECE 445	3	
Major & Gen Ed: Natural Science: PHYS 260/261	4	PHY 242		Major: ECE 447	4	
Major: ENGR 107	2	EGR 121		Major: ECE 448	4	
General Elective: CS ---	3	CSC 221	Prerequisite for CSC 222. See note for Mason ECE 101.	Major: ECE 465	3	
Major: CS 112	4	CSC 222		Major: ECE 391	1	
Major: CS 211	4	CSC 223		Major: ECE 492	1	
Major: ECE 231/232	4	EGR 270	Labs should be taught in VHDL to earn credit for ECE 232	Major: ECE 493	2	Gen Ed: 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: CS 471	3	See catalog for course options. Some courses may complete optional concentration requirements.
Major: MATH 125	0-3	MTH 288	As needed to complete the AS degree. See note on Mason MATH 125.	Major: STAT 346	3	

CREDITS PRE-TRANSFER: 67-70	CREDITS POST-TRANSFER: 64-67

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 must 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?

- Computer engineering is a great fit for those who would like to learn solid programming skills combined with the hands-on ability to design and build hardware systems such as robots, high performance computers, autonomous vehicles, secure computing platforms and computer networks among many others.Computer engineers are experts in both hardware and software.

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 Computer Engineering (CpE) reflects the industry trend of integrating hardware and software, to design and develop the most efficient, secure, and powerful computing systems.The computer engineering program is built around computer-aided design tools that can simulate and assist with the design of new devices and systems, such as high-performance computers, smartphones, tablets, robots, autonomous vehicles, drones, spacecraft, computer networks, smart factories, defense systems, and the internet-of-things.
- This program is one of only three programs selected to be part of Virginia's Tech Talent Investment program to establish a pipeline of tech talent to the technology sector

WHAT CAN I DO WITH THIS DEGREE?

- Explore possible careers, salaries, and job outlook at: TransferVirginia.org
- Computer engineers possess expertise in both hardware and software, and there is a vast array of jobs to choose from. Our programs prepare students to contribute to emerging areas in the industry related to 5G networks, big-data, cloud and edge computing, machine learning, artificial intelligence, robotics, quantum computing, and space exploration. Career opportunities exist in the areas of basic research, product design, software engineering, project engineering, engineering management, engineering consultancy, and many others.

PROGRAM SUCCESSES & HIGHLIGHTS

- Past graduates have found 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, NASA, Naval Research Lab, Northrop Grumman, Orbital Sciences, Raytheon, and others.
- The curriculum incorporates VHDL, one of the two major hardware description languages used throughout the computer engineering industry to model hardware and hardware functionality. Other examples of programming languages and platforms taught include Matlab, Python, C/C++, and Linux.
- The program emphasizes design, optimization, verification, and testing methodology involving these tools as well as hands-on design experiences and simulation through labs and projects that are integrated into coursework.
- 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 Computer Networks, Embedded Systems, Hardware and System Security, Internet of Things, Robotics, Power and Energy Systems, Space-based Systems, and Semiconductor Engineering.
- **Bachelors/Accelerated Master's:** Students can use up to 12 graduate credits towards both a bachelor's and master's degree reducing the time to earn the MS degree by up to a year.

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.