Associate in Applied Science in Programming and System Analysis – Bachelor of Science in Computer Programming

General Education requirements, excluding University Foundations and Christian Worldview, will be considered fulfilled in the event a student has completed one of the following Associate degrees:

- *Associate of Arts (AA)*
- *Associate of Science (AS)*

In the event a student has not earned one of the aforementioned Associate level degrees, all general education coursework will be required to complete GCU's Baccalaureate degree.

The following table outlines the requirements needed to receive an Associate in Applied Science in Programming and System Analysis from Maricopa Community College. Within the tables below are preferred courses from Maricopa Community College that are applicable towards Grand Canyon University's transfer-oriented Bachelor of Science degree programs. The General Education courses outlined below are not course to course equivalencies, however they will fulfill the requirements for each competency. If the General Education GCU course has a (+) symbol, it indicates that the transferring course must be a direct course equivalency. All Program Major Transferrable Courses must be a direct course equivalency.

Maricopa Community Colleges – Associate in Applied Science in Programming and System Analysis	Credits	Grand Canyon University – Bachelor of Science in Computer Programming	GCU Applied Semester Credits
General Education Requirements			
Effective Communication (9 - 12 Credits)			
ENG-101: First-Year Composition **OR** ENG-107: First-Year Composition for ESL	3	**+** ENG-105: English Composition	3
		# CST-326: Written and Verbal Communication for Software Development	
		# STG-390: Professionalism in Science & Technology: Communications, Conduct, and Ethics	
Critical Thinking (11 – 12 Credits)			
MAT-150/151/152: College Algebra **OR** higher [MA] approved course	3 - 5	**+** MAT-154: Applications of College Algebra	3 - 5
		# CST-361: Design Patterns in Java	
		# CST-424: Research Methods	
Global Awareness (6 - 8 Credits)			
Social and Behavioral Sciences [SB]	3	Global Awareness	3
		# ITT-415: IT Business Case Planning for Global Enterprise	
Additional Maricopa Community Colleges Requirements			
ENG1-02: First Year Composition **OR** ENG-108: First-Year Composition for ESL	3	Elective Credit	3
Oral Communication	3	Elective Credit	3
CRE-101 or Equivalent as indicated by assessment	3	Elective Credit	3
Humanities and Fine Arts [HU]	3	Elective Credit	3

Maricopa Community Colleges – Associate in Applied Science in Programming and System Analysis	Credits	Grand Canyon University – Bachelor of Science in Computer Programming	GCU Applied Semester Credits
Natural Sciences – Select one [SQ] course or one [SG] course with lab	4	Elective Credit	4
CIS-105: Survey of Computer Information Systems	3	Elective Credit	3
CIS-126DL: Linux Operating Systems **OR** CIS-126RH: Red Hat Systems Administration **OR** Any MST-150++ Course	3	Elective Credit	1
CIS-133DA: Internet / Web Development Level I	3	Does Not Apply to Program	
CIS-150: Programming Fundamentals **OR** CIS-150AB: Objected-Oriented Programming Fundamentals	3	Does Not Apply to Program	
CIS-190: Introduction to Networking **OR** CNT-140AA: Introduction to Networks **OR** MST-140: Microsoft Networking Essentials	3-4	Does Not Apply to Program	
CIS-225: Business Systems Analysis and Design **OR** CIS-225AB: Object-Oriented Analysis and Design **OR** CIS-250: Management of Information Systems	3	Does Not Apply to Program	
GBS-151: Introduction to Business	3	Does Not Apply to Program	
ANY CIS-166 Web Scripting Course	3	Does Not Apply to Program	
Programming Language – See MCCCD advisor	6	Does Not Apply to Program	
Restricted Electives	6	Does Not Apply to Program	
Bachelor of Science in Computer Programming: Program Major Transferrable Courses			
CIS-276DA: MYSQL Database	3	CST-126: Database Application Programming	3

Total Credit Hours Needed to Complete Associate in Applied Science in Programming and Computer Analysis at MCCCD	**61-67 Credits**
Total Semester Credit Hours applied to Bachelor of Science in Computer Programming at Grand Canyon University	**32 Credits**

All students must meet 36 Upper Division credit requirement, as well as 30 GCU credits to meet residency requirement. Students must meet Upper Division credit requirement even if content of an Upper Division course requirement is met with a Lower Division course.

Symbol Key		
+		Symbol indicates the MCCCD course must meet specific content requirements (or higher) in order to fulfill GCU's course.
^		Symbol indicates the MCCCD course meets the content requirement but does not fulfill GCU's upper division requirements.
#		Symbol indicates this course is a specified General Education course. This means the MCCCD course must meet specific content requirements in order to fulfill GCU's course requirement. Please be advised specified General Education coursework is not treated like other general education coursework and is not automatically waived upon completion of a transfer-oriented Associates degree.

Transfer Guide between
Maricopa Community Colleges and Grand Canyon University

Course #	Bachelor of Science	Semester Credits
Non-transferable GCU General Education: 8 Credits		
UNV-303	University Success	4
CWV-301	Christian Worldview	4
General Education Requirements		
# CST-326	Written and Verbal Communication for Software Development	4
# STG-390	Professionalism in Science & Technology: Communications, Conduct, and Ethics	4
# CST-361	Design Patterns in Java	4
# CST-424	Research Methods	4
# ITT-415	IT Business Case Planning for Global Enterprise	4
Bachelor of Science in Computer Programming: Program Major		
CST-105	Computer Programming I	4
CST-117	Enterprise Applications Programming I	4
CST-135	Computer Programming II	4
CST-227	Enterprise Applications Programming II	4
CST-236	Database Applications Programming II	4
CST-235	Computer Programming III	4
CST-247	Enterprise Applications Programming III	4
CST-201	Algorithms and Data Structures	4
CST-256	Databased Application Programming III	4
CST-341	Open Source Computing	4
CST-221	Operating Systems Concepts	4
CST-323	Cloud Computing	4
ITT-307	Cybersecurity Foundations	4
CST-451	Senior Project I	4
CST-452	Senior Project II	4

MARICOPA COMMUNITY COLLEGES®

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Total Credit Hours Needed to Complete an Associate in Applied Science in Programming and System Analysis at **Maricopa Community Colleges**	61 - 67 Credits
Credits Completed at Grand Canyon University	88 Credits

Credits completed at Grand Canyon University may fluctuate contingent upon coursework successfully completed at the transferring institution. Courses are not listed twice on the transfer guide, so any courses not completed at the transferring institution will still be required as part of the GCU program. Students are required to complete a minimum of 120 credits to earn the Bachelor of Science degree. If the student completes additional courses at the transferring institution, credits may not apply to their GCU program.

Remaining open elective credits needed to earn Bachelor of Science degree at Grand Canyon University varies based on program major requirements.

Total Credit Hours Needed to Complete Bachelor of Computer Programming at Grand Canyon University	**120 Credits**

Symbol Key	
+	Symbol indicates the MCCCD course must meet specific content requirements (or higher) in order to fulfill GCU's course.
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#	Symbol indicates this course is a specified General Education course. This means the MCCCD course must meet specific content requirements in order to fulfill GCU's course requirement. Please be advised specified General Education coursework is not treated like other general education coursework and is not automatically waived upon completion of a transfer-oriented Associates degree.

For additional graduation requirements, please see the https://www.gcu.edu/sites/default/files/media/Documents/Academic-Catalog/University-Policy-Handbook.pdf.
Students with transfer credit that applies to this program will shorten the time to completion from that stated on this transfer guide. Please contact your Counselor for more information.
https://www.gcu.edu/sites/default/files/media/Documents/Academic-Catalog/University-Policy-Handbook.pdf

Effective 2019