

DEGREE

## **Associate of Science in Computer Science**

**Total Credit Hours:** 60-64

**About** Associate of Science in Computer Science

The Associate of Science in Computer Science program will provide opportunities for students to work as programmers who write instructions and translate them into a machine-readable language, as system analysts who design computer systems for processing information, computer operators who monitor and control computer systems and retrieve results, data entry personnel who enter information and instructions into the computers, etc.

The Associate of Science in Computer Science UOG Track will provide the foundational knowledge and hands-on skills to prepare students to further their education at the University of Guam with a goal of earning a Bachelor of Science in Computer Science. Students will learn to design computer systems for processing information; work as programmers who write instructions and translate them into a machine readable language, computer operators who monitor and control computer systems and retrieve results, and data entry personnel who enter information and instructions into the computer.

### [REQUIREMENTS FOR DEGREE](#)

General Education Requirements		
Course	Course Name	Credits
English (Choose 1)		
EN110	Freshman Composition	3

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EN110A	Freshman Composition with Instructional Lab	4
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
MA____	Mathematics Requirement	3-4
CS151	Windows Applications	3
	Social & Behavioral Sciences Requirement	3
	Humanities & Fine Arts Requirement	3-4
SI____	Natural & Physical Sciences Requirement	4
<b>Major Requirements</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
CS101	Introduction to Computer Systems & Information Technology	3
CS104	Visual Basic Programming	3
CS112	Introduction to Linux	3
CS203	Systems Analysis & Design	3
CS204	C ++ Programming	3
CS205	Network Communications	4
CS206	Java I	3
CS211	JavaScript Programming	3
CS212	Python Programming	3
CS213	PHP Programming with MySQL	3
CS299	Computer Science Capstone	4
OA211	Business Communication	3
<b>Computer Science Elective (Choose 1)</b>		
OA210	Database Management Systems	3-4
IT211	IT Essentials	
OA101	Keyboarding and Document Processing	
<b>Program Total</b>		<b>60-64</b>

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### [GENERAL REQUIREMENTS FOR ASSOCIATE DEGREE](#)

Recognizing the necessity for students to succeed in the complex and rapidly changing workplace, Guam Community College offers a general education curriculum that introduces students to major areas of knowledge and methods of inquiry. All degree programs require an interdisciplinary general education component that promotes the development of intellectual skills that enable students to become effective learners and informed citizens. Critical thinking, the use of language and computation, appropriate social skills, global awareness and respect for diverse opinions are among the learning outcomes provided in the general education requirements of each program.

Guam Community College believes that general education provides the academic foundation necessary for students to achieve their life goals. General education is intended to offer students a breadth of quality student learning experiences, encourage their respect for cultural heritage, promote their ethical and responsible social behavior and facilitate their life-long learning.

The General Education program strives to foster student learning and skill development in civic engagement, critical thinking, understanding of the relationship between the individual and society, information literacy, oral communication, quantitative reasoning, and written communication.

Guam Community College believes that high quality general education opportunities for all citizens are necessary for democratic principles and practices to exist and for a sound economy to flourish. The College continually scrutinizes the general education curriculum in order to assure that all degrees and certificates granted by the College support this vision of general education and that it serves as a means to inspire hope, opportunity and

responsibility in all its constituencies.

Requirements for General Education follow the options described below. Students declared prior to fall 2010 will follow the requirements indicated in the applicable catalog in which they first declared their major program at the College.

### Notes on General Education requirements

Students are advised to check the requirements for their specific programs before taking General Education courses.

Courses chosen to meet the general education requirements may not be used to meet the Major Requirements of a student's specific degree program.

The list contains courses with pre-requisites, so students should make their choices carefully and thoughtfully. Students may consult a counselor or an academic advisor for guidance in choosing any of the course options listed.

**IMPORTANT NOTE:** Some programs require different levels of coursework to meet General Education requirements, please review the individual programs for more information.

#### GENERAL EDUCATION

##### *Scope 1: Skills for and Application of Lifelong Learning*

##### **Freshman Composition (Choose one course from the following to meet the required 3-4 credits)**

Course #	Course Name	Credits
EN 110	Freshman Composition	3
EN110A	Freshman Composition with Instructional Lab	4
EN 111	Writing for Research	3

##### **Mathematics (Choose one course from the following to meet the required 3-4 credits)\***

Course #	Course Name	Credits
MA 110A	Finite Mathematics	3
MA 115	Fundamentals of College Algebra	3
MA 161A	College Algebra & Trigonometry I	4

\*Any college level math will be considered for the completion of this category

##### **Literacy for Life Skills (Choose one course from the following to meet the required 3 credits)**

Course #	Course Name	Credits
CO 110	Critical Thinking for Civic Engagement	3
CS 151	Windows Applications	
CS 152	Macintosh Applications	

##### *Scope 2: Broad Comprehension of the Development of Knowledge, Practice and Interpretation*

##### **Humanities & Fine Arts (Choose one course from the following to meet the required 3-4 credits)\***

Course #	Course Name	Credits
ASL 100	American Sign Language I	4
CH 110	Chamorro I	4
ED 265	Culture & Education in Guam	3
CO 125	Introduction to Human Communication and Speech	3
EN 210	Introduction to Literature	3
HI 121	World Civilization (Pre-historic Time to 1500)	3
HI 122	World Civilization (1500 to Present Time)	3
HI 176	Guam History	3
HM 110	Introduction to Community Services	3
HM 201	Social Welfare & Development	3
HU 120	Pacific Cultures	3
HU 220	Guam Cultures & Legends	3

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JA 110	Japanese I	4
KE 110	Korean I	4
PI 101	Introduction to Philosophy	3
TH 101	Introduction to the Theater	3
VC 101	Introduction to Visual Communications	3

\*Any foreign language, humanities, or fine arts course will be considered for the completion of this category

### **Natural & Physical Sciences (Choose one course and the corresponding lab from the following to meet the required 4 credits)\*\***

Course #	Course Name	Credits
SI 101/101L	Introduction to Chemistry (3) & Introduction to Chemistry Laboratory (1)	4
SI 103/103L	Introduction to Marine Biology (3) & Introduction to Marine Biology Laboratory (1)	
SI 105/105L	Introduction to Physical Geology (3) & Introduction to Physical Geology Laboratory (1)	
SI 110/110L	Environmental Biology (3) & Environmental Biology Laboratory (1)	
SI 141	Applied Physics I	
SI 150/150L	Introduction to Microbiology (3) & Introduction to Microbiology Laboratory (1)	
SI131/131L	Human Anatomy & Physiology I (3) & Human Anatomy & Physiology I Laboratory (1)	
SI132/132L	Human Anatomy & Physiology II (3) & Human Anatomy & Physiology II Laboratory (1)	

\*\*The exception to this would be SI141 which does not include a laboratory requirement

### **Scope 3: Preparation for and Acceptance of Responsible Participation in Civil Society**

#### **Social & Behavioral Sciences (Choose one course from the following to meet the required 3 credits)**

Course #	Course Name	Credits
EC 110	Principles of Economics	3
PS140	American Government	3
PY 100	Personal Adjustment	3
PY 120	General Psychology	3
PY 125	Interpersonal Relations	3
SO 130	Introduction to Sociology	3
CJ 100	Introduction to Criminal Justice	3
WG 101	Introduction to Women and Gender Studies	3

\*Any social and behavioral science course will be considered for the completion of this category

**Minimum General Education Requirements 19**

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### [SUGGESTED SEQUENCE OF COURSES](#)

This suggested sequence of courses is based on the 2024-2025 College Catalog.

<b>COMPUTER SCIENCE</b>					
<b>Year 1</b>					
<b>Semester 1</b>			<b>Semester 2</b>		
Course	Course Name	Credits	Course	Course Name	Credits

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CS101	Introduction to Comp Systems & Info Tech	3	CO110	Critical Thinking for Civic Engagement	3
CS211	JavaScript Programming	3	CS212	Python Programming	3
EN____	English Requirement	3	CS213	PHP Programming with MySQL	3
MA____	Mathematics Requirement	3	CS205	Network Communications Social & Behavioral Science requirement	4 3
<b>Total</b>		<b>12</b>	<b>Total</b>		<b>16</b>
<b>Year 2</b>			<b>Semester 3</b>		
<b>Course</b>	<b>Course Name</b>	<b>Credits</b>	<b>Course</b>	<b>Course Name</b>	<b>Credits</b>
CS206	Java I	3	CS266	Java Programming II	4
CS112	Introduction to Linux	3	OA211	Business Communications Electives	3 3-4
CS104	Visual Basic Programming	3		Natural and Physical Sciences	4
CS204	C ++ Programming	3	CO125	Introduction to Human Communication & Speech	3
CS203	System Analysis and Design	3			
	<b>Total</b>	<b>15</b>	<b>Total</b>		<b>17-18</b>
<b>Program Total</b>			<b>60-62</b>		

## COMPUTER SCIENCE UOG TRACK

### Year 1

#### Semester 1

Course	Course Name	Credits
CS101	Introduction to Comp Systems & Info Tech	3
CS211	JavaScript Programming	3
MA165 OR MA203	Pre-Calculus <b>OR</b> Calculus	5
EN110 <b>OR</b> EN110A	Freshman Composition	3-4

**Total** 14-15

### Year 2

#### Semester 3

Course	Course Name	Credits
CS112	Introduction to Linux	3
CS204	C ++ Programming	3

#### Semester 2

Course	Course Name	Credits
CS104	Visual Basic Programming	3
CS212	Python Programming	3
CS203	System Analysis and Design	3
CO110	Critical Thinking for Civic Engagement	3
SI____	Natural & Physical Science	4

**Total** 16

#### Semester 4

Course	Course Name	Credits
CO125	Introduction to Human Communication & Speech	3
OA210	Database Management	3

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CS205	Network Communications	4	EN111	Systems Writing for Research	3
CS206	Java I	3		Social & Behavioral Sciences	3
CS213	PHP Programming with MySQL	3	CS266	Java Programming II	4
	<b>Total</b>	<b>16</b>		<b>Total</b>	<b>16</b>
<b>Program Total</b>					<b>62-63</b>

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### [Student Learning Outcomes](#)

Upon successful completion of the AS in Computer Science program, students will be able to:

1. Apply concepts and knowledge in the core areas of computer science.
2. Distinguish among basic networking systems, operating systems, and database structures.
3. Write code using programming languages, to include Java, Python, C++, PHP with MySQL and JavaScript.

## Check out some of these amazing Associate of Science in Computer Science courses...

### CS205 Network Communications

Networking has become the foundation of the modern world. The interconnection of computers, individuals, and society as a whole has become interdependent. The students will obtain the basic knowledge on Local Area Networks (LANs), Wide Area Networks (WANs), the Internet and the Cloud. They will be able to design a simple network such as a local area network. They will also learn how to keep up with the changing hardware and software and how to maintain networks and expand them as needed.

[+ More Info](#) [1]

### CS203 Systems Analysis & Design

This course will emphasize systems analysis and stress information flow as the best approaches to understanding business data processing requirements. Computer hardware/software, systems design, and systems management will be described. Organizational aspects will be explained and examples of various systems will be presented.

[+ More Info](#) [2]

### CS112 Introduction to Linux

Introduction to Linux course presents students with an open source alternative to Windows operating system. This course discusses installation, simple administrations, and usage of Linux systems as both workstation and server. Questions about where to find, how to install and configure, and how to use open source software will be covered.

[+ More Info](#) [3]

You may also be interested in these related Programs...

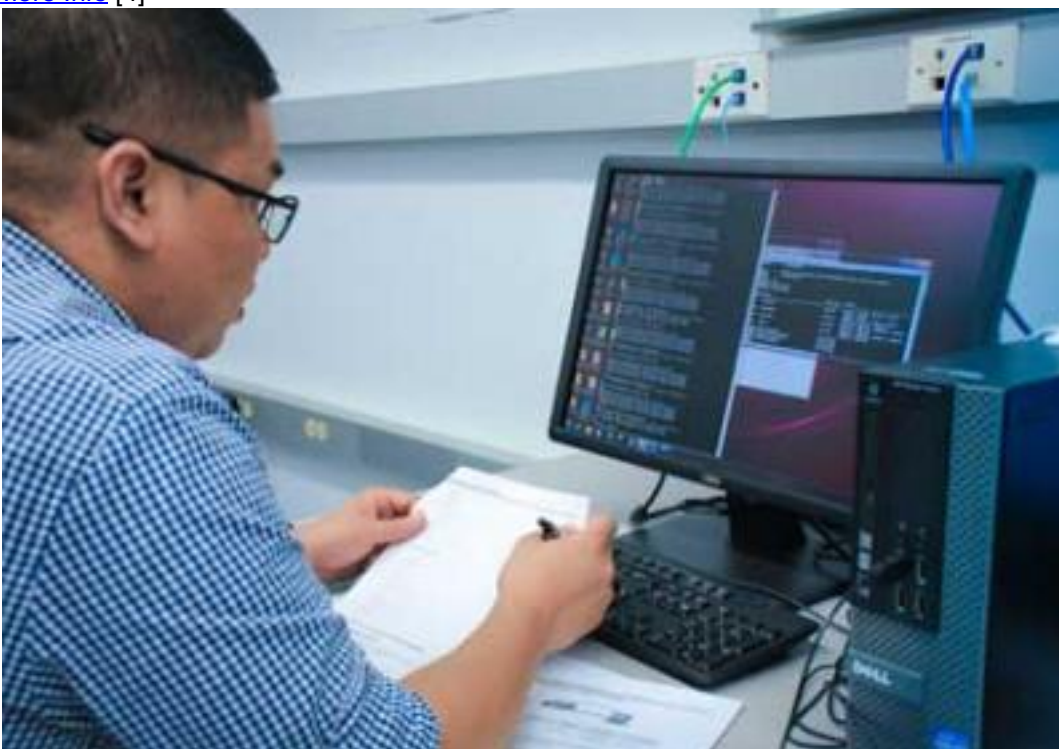


[4]

[Associate of Science in Supervision & Management](#) [4]

The Supervision and Management program prepares students for entry-level positions and employment in the field of supervision and management. The program is designed for students who want to learn, update and augment existing knowledge and skills and/or acquire cutting-edge technical and managerial skills; it is also designed for current and future leaders, supervisors, and managers who desire the latest skills to be effective and productive in their respective fields.

[+ More Info](#) [4]



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### [Associate of Science in Information Technology](#) [5]

The Associate of Science in Information Technology is a program of study that prepares students for entry-level network technicians, computer technicians, and fiber and copper Cable Installers in the field of Information Technology (IT). Technical Requirement classes are designed to give students a firm foundation in the basics of computers, networking, and information systems. Elective courses allow the students to further specialize.

[+ More Info](#) [5]