Students who successfully complete the AA-T in Communication Studies earn specific guarantees for transfer to the CSU system: admission to a CSU with junior status and priority admission a local CSU campus and to a program or major in communication studies or a similar major. Students transferring to a CSU campus will be required to complete no more than 60 units after transfer to earn a bachelor's degree.

Students are required to complete 60 semester units that are eligible for transfer to a California State University, including both of the following: (1) The Inter-segmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements and (2) 18–19 semester units with a grade of C or P or better in the major and an overall minimum grade point average (GPA) of at least 2.0 in all CSU transferable coursework. For a more detailed description of Associate Degrees for Transfer, see "Associate Degrees for Transfer (ADT) to a California State University" on page 31.

Students are advised to consult with a Berkeley City College Counselor for additional information and to verify transfer requirements.

Complete the following core requirement courses:

Courses		*Units*
COMM 5	Persuasion and Critical Thinking	3
COMM 20	Interpersonal Communication Skills	3
COMM 45	Public Speaking	3

List A—Select two of the following courses:

COMM 6	Intercultural Communication	3
COMM 19	Survey of Mass Media	3
COMM 4	The Dynamics of Group Discussion	3

List B—Select one of the following courses:

ANTHR 3	Introduction to Social and Cultural Anthropology	3
ENGL 1B	Composition and Reading	4
ENGL 5	Critical Thinking in Reading and Writing	3
PSYCH 1A	Introduction to General Psychology	3
SOC 1	Introduction to Sociology	3
COMM 3	Introduction to Human Communication	3
COMM 10	Gender and Communication	3
Total Units Required for the Major		18–19
General Education (IGETC or CSU GE) and Electives		41–42
	Total Units	60

Recommended Course Sequence

You can use the following pattern to complete the Associate in Arts in Communication for Transfer Degree (AA-T). This is only one possible pattern. If you wish to earn an associate degree, you must participate in the Student Success Program Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map your sequence of courses to help you complete your degree regardless of the semester you begin classes.

TWO-YEAR COURSE SEQUENCE BEGINNING IN THE FALL SEMESTER

1st Semester/Fall

COMM 20	Interpersonal Communication Skills	3
	General Education and Electives	12
	Total	15

2nd Semester/Spring

COMM 6	Inter-cultural Communication	3
COMM 45	Public Speaking	3
	General Education and Electives	9
	Total	15

3rd Semester/Fall

COMM 4	The Dynamics of Group Discussion	3
PSYCH 1A	Introduction to General Psychology	3
	General Education and Electives	9
	Total	15

4th Semester/Spring

COMM 5	Persuasion and Critical Thinking	3
	General Education and Electives	12
	Total	15

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Use speaking and listening skills to resolve conflict and get their messages across as intended in interpersonal, small group, and organizational dynamics.
- Deliver presentations that are clear in content, structure, and delivery.
- Research and analyze the influence and impact of mass media and culture on society.

COMM 3, Introduction to Human Communication

3 Units

3 hrs lecture, (GR).

Acceptable for credit: UC/CSU

AA/AS area 4d; CSU area A1; IGETC area 1c

Study of human communication: Focus on verbal and nonverbal participation and effective listening in interpersonal contexts, group dynamics, and public speaking.1506.00

COMM 4, The Dynamics of Group Discussion

3 Units

3 hrs lecture (GR).

Acceptable for credit: UC/CSU

AA/AS area 4d; CSU area A1; IGETC area 1c; (C-ID COMM 140)

Study of communication in a group setting: Emphasis on listening, leadership, and teamwork; theoretical and experiential learning to build on individual communication skills with the goal of understanding and practicing successful group relations. 1506.00

COMM 5, Persuasion and Critical Thinking

3 Units

3 hrs lecture (GR).

Prerequisite: ENGL 1A.

Acceptable for credit: UC/CSU

AA/AS area 3, 4a, 4d; CSU area A3; IGETC area 1b; (C-ID COMM 120)

Critical thinking skills: Principles of reasoning and persuasion, and analysis and evaluation of communication; emphasis on structure of arguments, quality of evidence, formal and informal fallacies, and effect of media on argumentation. 1506.00

COMM 6, Inter-cultural Communication

3 Units

3 hrs lecture (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 2, 4d, 5; CSU area D; IGETC area 4; (C-ID COMM 150)

Dynamics of inter-cultural communication as it applies to the diversity of American cultures: Cultural concepts, language style, content, ethnic perspectives, perceptions and stereotypes, symbols, and roles as they facilitate or hinder effective verbal and nonverbal interaction across cultures; analysis of multiple inter-cultural communication theories. 1506.00

COMM 10, Gender and Communication

3 Units

3 hrs lecture (GR or P/NP). Acceptable for credit: UC/CSU

AA/AS area 2, 4d; CSU area D

IGETC area 4

Exploration of the relationship between gender and communication: Interpersonal, mediated, social, organizational, and cultural contexts; gender in public and private settings, media images, and personal identities. 1506.00

COMM 19, Survey of Mass Media

3 Units

3 hrs lecture, (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 2, 4d; CSU area D; IGETC area 4; (C-ID JOUR 100)

Survey of traditional and non-traditional mass media in America: Impact of mass media trends and technology into the 21st century; critical analysis of media messages and examination of mass media from historical, political, social, and cultural perspectives. 0601.00

COMM 20, Interpersonal Communication Skills

3 Units

3 hrs lecture (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 2, 4d; CSU area D;

IGETC area 1c; (C-ID COMM 130)

Analysis of communication needs and improvement of skills: Listening, perception, nonverbal communication, semantics, and conflict management. 1506.00

COMM 45, Public Speaking

3 Units

3 hrs lecture (GR).

Acceptable for credit: UC/CSU

AA/AS area 4d; CSU area A1; IGETC area 1c; (C-ID COMM 110)

Principles of public speaking: Oral presentations based on political and social issues; critical thinking, organization, and research. 1506.00

COMPUTER INFORMATION SYSTEMS PROGRAMS

The Computer Information Systems programs provide courses to improve students' computer and software knowledge and skills. The CIS Associate in Science degrees enables students to develop and/or upgrade their skills for career advancement. The Certificate of Achievement programs qualify them for entry-level employment in occupational settings that utilize computers and various software applications.

Advanced Computer Programming

Associate in Science Degree and Certificate of Achievement*

This program will prepare students for a career as a computer professional in fields such as programming, programming analysis, systems analysis, or software developing. The program is also recommended for professionals in other areas who want to develop computer programming skills. Students may need further course work at a four-year institution for some career objectives. Before entering the program you should have a solid computer literacy background such as that provided by CIS 1, CIS 5, or both CIS 200 and CIS 42A.

Career Opportunities

The Associates Degree provides the computer skills needed to work as a Computer Programmer, Software Developer, or Web Programmer.

Required Courses		*Units*
BUS 19	Business Communications	3
CIS 6	Introduction to Computer Programming	5
CIS 23	C# Programming	4
CIS 27	**Data Structures and Algorithms**	4
CIS 36A	**Java Programming Language I**	4
CIS 36B	**Java Programming Language II**	4
CIS 81	Systems Analysis with UML	3
CIS 82	Design Patterns	4
CIS 83B	Computer Programming Capstone Project	3
	Major Requirements	34
	General Education and Electives	26
	Total:	60

*For the Certificate of Achievement, students must complete the 34 units of required courses. For the Associate Degree, students must complete the 34 units of required courses plus 26 units of General Education requirements and elective courses.

Recommended Course Sequence

You can use the following pattern to complete the Associate in Science Degree or Certificate of Achievement in Advanced Computer Programming. This is only one possible pattern. If you wish to earn an associate degree or certificate, you must participate in the Student Success Program Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map your sequence of courses to help you complete your degree regardless of the semester you begin classes.

Courses		*Units*
1st Semester/Fall		
BUS 19	Business Communications	3
CIS 6	Introduction to Computer Programming	5
	General Education and Electives	7
	Total Units	15
2nd Semester/Spring		
CIS 23	C# Programming	4
CIS 36A	Java Programming Language I	4
	General Education and Electives	7
	Total Units	15
3rd Semester/Fall		
CIS 27	Data Structures and Algorithms	4
CIS 81	Systems Analysis with UML	3
CIS 82	Design Patterns	4
	General Education and Electives	4
	Total Units	15
4th Semester/Spring		
CIS 36B	Java Programming Language II	4
CIS 83B	Computer Programming Capstone Project	3
	General Education and Electives	8
	Total Units	15

Program Learning Outcomes

Students who complete the program will be able to:

- Solve problems using object-oriented decomposition and write programs using C++, Java, and C# programming languages.
- Apply advanced programming concepts including threads, networking, databases, and graphical user interfaces.
- Use advanced design patterns and algorithms in program design and analyze program complexity.
- Communicate effectively in technical writing.

Applied Computer Information Systems

Associate in Science and Certificate of Achievement*

Whether you are a beginning or an advanced computer student, the courses in the Computer Information Systems/Applied Computer Information Systems Program will improve your computer and software knowledge and skills. Understand how computers work and be a proficient user of computers. Learn Microsoft Office applications and integrate the different software to create professional reports and presentations.

Career Opportunities

The Certificate of Achievement qualifies you for entry-level employment in occupational settings that utilize computers and various software applications.

Required Courses		*Units*
CIS 1	Introduction to Computer Information Systems	4
CIS 5	Introduction to Computer Science	5
CIS 6	Introduction to Computer Programming	5
CIS 42A	Spreadsheet Applications I	2
CIS 42B	Spreadsheet Applications II	2
CIS 86	Windows Operating Systems	4
CIS 105	Basic Mechanics of Web Page Design	1
BUS 10	Introduction to Business	3
BUS 19	Business Communications	3
MMART 3	Introduction to Digital Art	3
	Major Requirements	32
	General Education and Electives	28
	Total Units	60

**For the Certificate of Achievement, students must complete the 32 units of required courses. For the Associate Degree, students must complete the 32 units of required courses plus 28 units of General Education requirements and elective courses.*

Recommended Course Sequence

Students can use the following pattern to complete an Associate in Science degree or Certificate of Achievement in Applied Computer Information Systems. This is only one possible pattern. If they wish to earn an associate degree or certificate, they must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map their sequence of courses to help them complete their degree regardless of the semester they begin classes.

Courses		*Units*
1st Semester/Fall		
CIS 1	Introduction to Computer Information Systems	4
BUS 10	Introduction to Business	3
CIS 105	Basic Mechanics of Web Page Design	1
	General Education and Electives	8
	Total	16
2nd Semester/Spring		
CIS 5	Introduction to Computer Science	5
CIS 42A	Spreadsheet Applications I	2
CIS 42B	Spreadsheet Applications II	2
	General Education and Electives	7
	Total	16
3rd Semester/Fall		
CIS 6	Introduction to Computer Programming	5
CIS 86	Windows Operating Systems	4
BUS 19	Business Communications	3
MMART 3	Introduction to Digital Art	3
	Total	15
4th Semester/Spring		
	General Education and Electives	13
	Total	13

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate knowledge of computer hardware and software and use computers effectively at work and home.
- Demonstrate knowledge of computer terminology and trends in Computer Information Systems.
- Demonstrate proficiency in using operating systems and office productivity applications for work in entry-level employment

Web Programming

Associate in Science and Certificate of Achievement*

This program will prepare students for a career in programming for the Internet and the World Wide Web. They will learn client-side and server-side web programming technologies, understand Internet communications and protocols and related technologies, learn the latest versions of HTML, CSS, JavaScript, Java, and Databases in order to integrate them to create dynamic interactive web pages. Before entering the program, students should have a solid computer literacy background, such as that provided by CIS 1, CIS 5, or CIS 42A/B or the equivalents.

Career Opportunities

Web programmer, programmer/analyst, software developer, and information technology professional

Required Courses		*Units*
CIS 6	Introduction to Computer Programming	5
CIS 23	C# Programming	4
CIS 36A	Java Programming Language I	4
CIS 36B	Java Programming Language II	4
CIS 81	Systems Analysis with UML	3
CIS 83A	Web Programming Capstone Project	3
CIS 84	Database Programming for the Web	4
CIS 85	JSP and Servlets	4
CIS 103	Survey of Program/Languages for the Web—Continuation	4
CIS 104	Survey of Programming Languages for the Web	3
BUS 19	Business Communications	3
	Major Requirements	41
	General Education and Electives	19
	Total Units	60

*For the Certificate of Achievement, students must complete the 41 units of required courses. For the Associate Degree, students must complete the 41 units of required courses plus 19 units of General Education requirements and elective courses.

Recommended Course Sequence

Students can use the following pattern to complete an Associate in Science degree or Certificate of Achievement in Web Programming. This is only one possible pattern. If they wish to earn an associate degree or certificate, they must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map their sequence of courses to help them complete their degree regardless of the semester they begin classes.

Courses		*Units*
1st Semester/Fall		
CIS 6	Introduction to Computer Programming	5
BUS 19	Business Communication	3
CIS 104	Survey of Programming Languages for the Web	3
	General Education and Electives	4
	Total	15
2nd Semester/Spring		
CIS 36A	Java Programming Language I	4
CIS 84	Database Programming for the Web	4
CIS 103	Survey of Programming Languages for the Web (Continuation)	4
	General Education and Electives	4
	Total	16
3rd Semester/Fall		
CIS 36B	Java Programming language II	4
CIS 85	JSP and Servlets	4
CIS 81	Systems Analysis with UML	3
	General Education and Electives	4
	Total	15
4th Semester/Spring		
CIS 23	C# Programming	4
CIS 83A	Web Programing Capstone Project	3
	General Education and Electives	7
	Total	14

Program Learning Outcomes

Students who complete the program will be able to:

- Apply both client-side and server-side technologies through dynamic webpages that link to back-end server based databases, tracking web sessions using cookies and URL rewriting, and using web security and secure web communications.
- Use good programming practices such as UML and object-oriented programming to write programs.
- Use Java programming language to create new programs.

CIS 1, Introduction to Computer Information Systems

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 4c

General nature of computer hardware, software and systems: Hands-on applications include introduction to word processing, spreadsheet, database management, and presentation software, and a brief introduction to web browsing and e-mail. 0702.00

CIS 5, Introduction to Computer Science

5 Units

4 hrs lecture, 3 hrs lab (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 4c

Introduction to computer science: Architecture of digital computers, design of algorithms for solving various problems, and basic skills in computer programming. 0701.00

CIS 6, Introduction to Computer Programming

5 Units

4 hrs lecture, 3 hrs lab (GR or P/NP).

Recommended preparation: CIS 5.

Acceptable for credit: UC/CSU

AA/AS area 4c; (C-ID COMP 122)

Introduction to computer programming: Algorithm design, flow charting, and debugging; elements of good programming style. Course may be instructed in any programming language. 0707.10

CIS 20, Microcomputer Assembly Language

4 Units

3 hrs lecture, 3 hrs laboratory (GR or P/NP).

Prerequisite: CIS 6, 25, or 36A.

Acceptable for credit: UC/CSU

AA/AS area 4c (C-ID COMP 142)

Introduction to assembly language: Input/output operations, use of files, program flow controls, interaction with OS via interrupts, pointers and arrays, strings and structured programming, and related applications. 0707.10

CIS 23, C# Programming

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP)

Recommended preparation: CIS 6, 10, 25, or 26.

Acceptable for credit: UC/CSU

AA/AS area 4c

Introduction to C# programming: Basic unified modeling language (UML) notation in object-oriented software design and development using the C# programming language in a .Net environment; focus on the program structure, syntax, constructs and keywords of the C# programming language, concepts of intermediate languages (ILs), the common language runtime (CLR), and .Net standard data types. 0707.10

CIS 25, Object-Oriented Programming Using C++

4 Units

3 hrs lecture, 3 hrs lab (GR).

Recommended preparation: CIS 6 or 26.

Acceptable for credit: UC/CSU

AA/AS area 4c

Object-oriented methods of software development using C++: including the design and implementation of objects, class construction and destruction, encapsulation, inheritance, and polymorphism. 0707.10

CIS 27, Data Structures and Algorithms

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP). Prerequisite: CIS 25, 26, 36A.

Acceptable for credit: UC/CSU

AA/AS area 4c

Use of abstract forms of data in programming: Concepts, and implementation and applicability of different forms of data to various programming problems. 0707.10

CIS 36A, Java Programming Language I

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Recommended preparation: CIS 6 or 61.

Acceptable for credit: UC/CSU

AA/AS area 4c

Introduction to object-oriented program design using Java: Developing web pages and stand-alone applications. 0707.10

CIS 36B, Java Programming Language II

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Prerequisite: CIS 25 or 36A.

Acceptable for credit: UC/CSU

AA/AS area 4c

Object-oriented program design using the Java programming language: Designing and programming with exceptions, threads, file input/output (I/O); networking and graphics classes; developing codes using tools such as Java 2D API and SWING; and working with projects in areas such as animation. 0707.10

CIS 42A, Spreadsheet Applications I

2 Units

1.5 hrs lecture, 1.5 hrs lab (GR or P/NP).

Recommended preparation: CIS 1 or 200.

Acceptable for credit: CSU

AA/AS area 4c

Principles of electronic spreadsheets using features available with currently popular spreadsheet software: Worksheet creation and formatting; entering of data, formulas, and functions; editing and printing; basic charting; basic database functions of sorting and querying. 0702.10

CIS 42B, Spreadsheet Applications II

2 Units

1.5 hrs lecture, 1.5 hrs lab (GR or P/NP).

Prerequisite: CIS 42A (may be taken during same term as CIS 42B during the first 9-week session).

Acceptable for credit: CSU

AA/AS area 4c

Principles of electronic spreadsheets using features available with currently popular spreadsheet software: Financial functions, logical functions, forecasting trends, lookup tables, "pivot tables", graphic design for financial statements, statistical operations (regression analysis), macro programming. 0702.10

CIS 81, Systems Analysis with UML

3 Units

3 hrs lecture (GR or P/NP).

Prerequisite: CIS 36A.

Acceptable for credit: CSU

AA/AS area 4c

Principles of systems analysis: Techniques of analysis and design emphasizing UML in software requirements analysis, and the design and documentation phase of software development; utilizing life cycle of systems design, iterative, and waterfall development processes, object oriented analysis and design. 0707.30

CIS 82, Design Patterns

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Prerequisite: CIS 36A, Recommended Preparation: CIS 81.

Acceptable for credit: CSU

AA/AS area 4c

Principles of designing robust reusable object-oriented software: The most common design-pattern strategies; enterprise program design. 0707.10

CIS 83A, Web Programming Capstone Project

3 Units

1 hour Lecture, 6 hrs Lab (GR or P/NP).

Prerequisite: CIS 36A, 81, 84, 85, and 103.

Acceptable for credit: CSU

AA/AS area 4c

Substantial client-specified work-like project: Team project includes writing, analyzing, designing, implementing, testing, documenting, and presenting to client; use of programming and systems analysis skills developed in previous courses; demonstration of mastery of program competencies. 0707.10

CIS 83B, Computer Programming Capstone Project

3 Units

1 hour Lecture, 6 hrs Lab (GR or P/NP).

Prerequisite: CIS 27, 36A, 81, and 82.

Acceptable for credit: CSU

AA/AS area 4c

Culminating project-based experience that applies computer programming knowledge and skills developed in previous courses towards the design, implementation, testing, documentation, and presentation of a specific idea, task, or product. 0707.10

CIS 84, Database Programming for the Web

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Recommended Preparation: CIS 6, 36A, and 105.

Acceptable for credit: CSU

AA/AS area 4c

Web-enabled database concepts: Relational database principles, Structured Query Language (SQL); use of client-side scripts and server-side scripts. 0707.20

CIS 85, JSP and Servlets

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Prerequisite: CIS 36A.

Acceptable for credit: CSU

AA/AS area 4c

Java servlet and JSP technology and deployment of web applications: Interactive web pages, secure access to the web site, JDBC database connectivity, web security, generation of dynamic web pages, and maintenance of client session data; quick introduction to Java bean components and J2EE. 0707.10

CIS 86, Windows Operating Systems

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Recommended Preparation: CIS 1.

Acceptable for credit: CSU

AA/AS area 4c

Computer operating system environment through a study of the main features and functions of MS Windows: Operating system fundamentals, configurations, installation & upgrading, managing applications, files and directories, managing devices and other resources, system maintenance. 0702.00

CIS 90, Security Fundamentals

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).

Recommended Preparation: CIS 1.

Acceptable for credit: CSU

AA/AS area 4c

Basics of Network and Windows Server system security: Core security principles, understanding security layering concepts, authentication-authorization-accounting, security policies through access and permissions, understanding network security, protecting the client server environment, encryption, PKI and Certificates. 0708.20

CIS 103, Survey of Programming Languages for the Web–Continuation

4 Units

3 hrs lecture, 3 hrs lab (GR or P/NP).
Recommended Preparation: CIS 36A and 104.
Acceptable for credit: CSU

AA/AS area 4c

E-commerce web page design principles: Extend web page "functionality" with interactivity, multimedia, security, and database capability using XML, JavaScript and related technologies. 0707.10

CIS 104, Survey of Programming Languages for the Web

3 Units

2 hrs lecture, 3 hrs lab (GR or P/NP).

Recommended preparation: CIS 1 and 105.

Acceptable for credit: CSU

AA/AS area 4c

Survey of programming languages for the Web for non-programmers: History and motivation for development; review of basic concepts and syntax, such as variables, loops, conditions, arrays, structures; capabilities and limitations; functions of object-oriented and event-driven programming. Taught using HTML5, CSS, Java with jQuery. 0707.10

CIS 105, Mechanics of Web Page Design

1 Unit

1 hour lecture (GR or P/NP).

Recommended preparation: CIS 237.

Acceptable for credit: CSU

AA/AS area 4c

Basic theory and practice of web page construction using HTML: Preparation of images for the web, interface design, and interactivity. 0709.00

CIS 200, Computer Concepts and Applications

1.5 Units

1 hour lecture, 2 hrs lab (GR or P/NP).

AA/AS area 4c

Introduction to computer concepts: Terminology, word processing, spreadsheets, database management, presentation graphics, and the Internet. 0702.10

CIS 230, Laboratory Practice in Microcomputers

0.5 Units

1.5 hrs lab (GR or P/NP).

Recommended preparation: CIS 200.

Designed to provide lab experience not covered under other course offerings: Prescribed lab activities or establishment of a specialized course of study under direction of instructor. 0702.00

CIS 231, Advanced Laboratory Projects in Microcomputers

1 Unit

3 hrs lab (GR or P/NP).

Recommended preparation: CIS 210, 212, 220, or 235.

AA/AS area 4c

Designed to provide advanced lab experience not covered under other course offerings: Specialized projects using advanced applications/programs or multiple application programs under direction of instructor for students with prior user or programming experience. 0702.00

CIS 231A, Advanced Laboratory Projects in Word

1 Unit

3 hrs lab (GR or P/NP).

Recommended Preparation: CIS 1.

AA/AS area 4c

Advanced word skills: Creating templates and themes, adding multimedia to documents, and protecting documents by completing specialized projects. 0702.00

CIS 231B, Advanced Laboratory Projects in Outlook

1 Unit
3 hrs lab (GR or P/NP). Recommended Preparation: CIS 1.
AA/AS area 4c

Outlook: Perform scheduling, manage tasks and meetings, manage contacts and emails, manage communication, and work efficiently by completing specialized projects. 0702.00

CIS 231C, Advanced Laboratory Projects in SharePoint

1 Unit

3 hrs lab (GR or P/NP).

Recommended Preparation: CIS 1.

AA/AS area 4c

SharePoint: Collaborating on activities, sharing data, and presenting business applications and content by completing specialized projects. 0702.00

CIS 231D, Advanced Laboratory Projects in OneNote

1 Unit

3 hrs lab (GR or P/NP).

Recommended Preparation: CIS 1

AA/AS area 4c

OneNote: Creating, collecting, categorizing, organizing, and searching documents and notes by completing specialized projects. 0702.00

CIS 232, Exploring Robotics

2 Units

1 hrs lecture, 3 hrs lab (GR or P/NP).

AA/AS area 4c

Introduction to robotics and computing: Modeling, designing, planning, and programming; hands-on robotic projects using motors and sensors. 0706.00

CIS 237, Introduction to Internet Basics

1 Unit
1 hour lecture (GR or P/NP).

Recommended preparation: CIS 200.

AA/AS area 4c

Introduction to Internet basics: Connecting to the Internet; exploring the World Wide Web; using email, search engines and directories, FTP/Newsgroups/TELNET; creating and publishing HTML pages and ethical issues. 0709.00

CIS 245A, Introduction to Microsoft Access I

2 Units

1.5 hour lecture, 1.5 hrs lab (GR or P/NP). Co-requisite: CIS 1 or 200.

AA/AS area 4c

Introduction to Microsoft Access database management: Designing, creating, and managing a database, developing and building tables, creating queries forms and reports. 0707.20

CIS 245B, Introduction to Microsoft Access II

2 Units

1.5 hrs lecture, 1.5 hrs lab (GR or P/NP).

Prerequisite: CIS 245A.

AA/AS area 4c

Microsoft Access Database design, management and optimization of relational databases: Advanced queries, enhanced table design, tools for custom form and report generation, data sharing and analysis, action queries and advanced table relationships, automating tasks with macros, using and writing Visual Basic application code. 0707.20

CIS 246, Introduction to PowerPoint

1.5 Units

1 hour lecture, 1.5 hrs lab (GR or P/NP).

Recommended Preparation: CIS 1.

AA/AS area 4c

Introduction to Microsoft PowerPoint presentation graphics: Preparation for creating, saving, editing and printing presentation materials; graphic techniques and overhead transparencies, color slides, outline notes, handouts, and on-screen graphics. 0702.10