Computer Studies & Information Technology

The Computer Studies & Information Technology (CSIT) Department prepares students to succeed in a rapidly evolving digital economy by developing the technical knowledge, critical thinking, and ethical awareness required to use computing technologies effectively and responsibly. Students learn how technology systems function and how they can be applied to solve real-world organizational and societal problems.

The curriculum includes computing fundamentals, business productivity applications, information technology, networking, cybersecurity, and artificial intelligence. Courses combine conceptual understanding with hands-on practice, allowing students to design, manage, analyze, and support technology systems used in modern workplaces.

CSIT programs support transfer preparation, career education, and foundational digital literacy. Stackable certificates and associate degrees provide multiple entry and exit points, enabling students to build practical skills while preparing for transfer to four-year programs in fields such as information systems, computer science, and business technology.

Many courses align with competencies measured by industry-recognized certifications, such as Business Information Worker (BIW) Pathway I, II, and Specialist levels; Microsoft Office Specialist (Expert levels in Word, Excel, Access, and PowerPoint); IC3 Digital Literacy; Microsoft Desktop Support Technician; Windows administration credentials; CompTIA A+, Network+, Security+, Cybersecurity Analyst+ (CySA+), and PenTest+; EC-Council Certified Ethical Hacker (CEH); and Linux Professional Institute / Red Hat Certified System Administrator (RHCSA).

CSIT programs prepare students for technology-enabled roles across business, government, and nonprofit organizations, including IT support specialist, systems or network administrator, cybersecurity analyst, management information systems analyst, business applications specialist, artificial intelligence and emerging technology technician, and related technology support professions.

Guided by a commitment to human-centered technology, ethical responsibility, and lifelong learning, the department equips students to evaluate emerging technologies, collaborate effectively in professional environments, and adapt to the continually evolving digital workplace.

Academic and Career Pathway

Business and Technology (https://www.miracosta.edu/academics/degree-and-certificate-programs/business-and-technology/)

Contact Information

Chair: Steve Isachsen
Dean: Annie Ngo
https://www.miracosta.edu/academics/degree-and-certificate-programs/business-and-technology/computer-studies-and-information-technology/index.html (https://www.miracosta.edu/academics/degree-and-certificate-programs/business-and-technology/computer-studies-and-information-technology/)

Department: Computer Studies and Information Technology
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Full-Time Faculty

Steve Isachsen
Rick White

Associate Degrees

Associate in Science Degrees
Artificial Intelligence
Computer Applications
Cybersecurity
Executive Administrative Professional
Information Technology
Internet and E-Commerce
Management Information Systems (MIS)
Systems Administration
Tech Support

Students may earn one of the above-named associate degrees by completing its respective certificate of achievement requirements and the general education courses required for MiraCosta College's Associate in Science degree (see Associate Degrees (https://catalog.miracosta.edu/degreecertificatetransferinfo/requirements/)). Students should meet with a MiraCosta counselor to identify required courses and to develop a written educational plan for the specific degree or certificate they wish to earn.

Certificates

Certificate of Achievement

Artificial Intelligence

This program prepares students to pursue a variety of AI-related occupations, such as field support and prompt engineers, AI-enabled operators, expert liaison consultants, customer technical support representatives, and technical support specialists. The acquired skills enable graduates to collaborate with knowledge systems, providing individuals and organizations with valuable insights into operations and strategic opportunities.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate AI Knowledge Management skills and techniques required of an advanced AI Technologist.

Course Requirements

Required courses:		
CSIT 110	Computer Applications	3
CSIT 120	Fundamentals of Computer Information Systems	3
CSIT 123	Introduction to Data Analytics	3
CSIT 150	Artificial Intelligence: Concepts	3
CSIT 151	Artificial Intelligence: Applications	3
CSIT 152	Artificial Intelligence: Strategies and Solutions	3
CSIT 155	Social Media for Business	3
CSIT 160	Technology, the Individual, and Society	3
or CSIT 165	Living in an Online World	
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Total Units		**25**

Certificate of Achievement

Executive Administrative Professional

This program prepares students with the modern-day skills needed to thrive in fast-paced executive environments. The courses focus on advanced administrative techniques, including digital office management, data-driven decision-making, and proficiency in the latest software applications. Students gain expertise in communication, project coordination, and problem-solving, preparing students to support executives and teams in diverse industries. With a strong emphasis on technology, leadership, and adaptability, graduates will be ready to meet the demands of today's dynamic, tech-integrated workplace. Depending on which electives are chosen, program completion may help individuals prepare for the Microsoft Office Specialist (MOS) Word, Excel, Access, PowerPoint, Certified Associate in Project Management (CAPM), and Adobe Certified Associate (ACA) Photoshop, Illustrator, and InDesign professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate computer and administrative related skills and techniques required of a Executive Administrative Professional.

Course Requirements

Required courses:		
CSIT 110	Computer Applications	3
CSIT 125	Microsoft Word for Business	3
or CSIT 128	Microsoft Excel for Business	
CSIT 137	Google Apps for Business	3
or BUS 133	Project Management	
CSIT 150	Artificial Intelligence: Concepts	3
or CSIT 151	Artificial Intelligence: Applications	
or CSIT 152	Artificial Intelligence: Strategies and Solutions	
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
BUS 136	Human Relations in Business	3
BUS 290	Business Communication	3
Select 6 units from the following list that were not already used to satisfy the above required core.		6
CSIT 101	Introduction to Computers	
CSIT 125	Microsoft Word for Business	
or CSIT 128	Microsoft Excel for Business	
CSIT 131	Microsoft Access for Business	
CSIT 134	Microsoft PowerPoint for Business	
CSIT 137	Google Apps for Business	
or BUS 133	Project Management	
CSIT 149	Microsoft Windows	
Total Units		**25**

Certificate of Achievement

Computer Applications

Individuals completing this program are prepared for the professional-level use of computers and business productivity software applications. Learning to use, integrate, and collaborate effectively with these powerful tools is essential for job preparation or advancing in current jobs in today's technology-rich workplaces. Specific areas of emphasis include word processing, spreadsheets, database management, electronic presentations, digital imaging, Microsoft Windows, and Internet cloud-based applications. Depending on which electives are chosen, certificate completion may help individuals prepare for the Microsoft Office Specialist (MOS) Word, Excel, Access, PowerPoint, and Adobe Certified Associate (ACA) Photoshop, Illustrator, and InDesign professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully use, integrate, and collaborate with a range of business productivity software applications to solve business problems.

Course Requirements

Required courses:		
CSIT 125	Microsoft Word for Business	3
CSIT 128	Microsoft Excel for Business	3
CSIT 131	Microsoft Access for Business	3
CSIT 134	Microsoft PowerPoint for Business	3
CSIT 137	Google Apps for Business	3
CSIT 149	Microsoft Windows	3
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Select at least 6 elective units from the following courses:		6
CSIT 101	Introduction to Computers	
CSIT 110	Computer Applications	
CSIT 150	Artificial Intelligence: Concepts	
or CSIT 151	Artificial Intelligence: Applications	
or CSIT 152	Artificial Intelligence: Strategies and Solutions	
CSIT 155	Social Media for Business	
MAT 110	Digital Imaging 1: Adobe Photoshop	
MAT 170	Digital Illustration 1: Adobe Illustrator	
MAT 180	Digital Publishing: Adobe InDesign	
Total Units		**25**

Certificate of Achievement

Cybersecurity

This certificate is designed to meet the demand for cybersecurity professionals. Certificate completion results in mastery of fundamentals of computer hardware and software, networks, and security, ethical hacking, cyber analytics, and legal issues surrounding cybersecurity. Career and employment opportunities in cybersecurity include cybersecurity analyst, ethical hacker, forensics, cyber related law enforcement, and cyber technical support specialist roles. Certificate completion may help prepare individuals for Windows, CompTIA A+, Network+, Security+, Cybersecurity Analyst+ (CySA+), PenTest +/EC Council Certified Ethical Hacker (CEH), and Linux Professional/Red Hat Certified System Administrator (RHCSA) professional certification exams, and other cyber-related certifications.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate cybersecurity related skills and techniques required of a cybersecurity worker.

Course Requirements

Required courses:		
ADM 100	Introduction to the Administration of Justice	3
or CSIT 120	Fundamentals of Computer Information Systems	
CSIT 180	Fundamentals of Computer Hardware and Software	4
CSIT 181	Fundamentals of Computer Networking	3
or CSIT 191	Fundamentals of Cisco Networking	
CSIT 182	Fundamentals of Computer Security	3
CSIT 183	Windows Server	3
CSIT 184	Linux Server	3
CSIT 186	Cybersecurity: Analyst	3
CSIT 188	Cybersecurity: Ethical Hacker	3
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Total Units		**26**

Certificate of Achievement

Information Technology

Individuals completing this certificate gain a broad foundation in information technology (IT) theory and skills. Mastery of IT fundamentals across each of the Computer Studies Department's major areas of focus, such as business productivity software applications, data analytics, hardware, and networking, is emphasized. Completing additional coursework (consult a counselor) may result in a transfer pathway to a four-year degree in computer information technology or a variety of related majors. Depending on which courses are chosen, certificate completion may help individuals prepare for the Microsoft Office Specialist (MOS) Word, Excel, Access, PowerPoint, CompTIA A+, and Network+ professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully articulate and demonstrate a wide range of fundamental information technology theory and skills.

Course Requirements

Required courses:		
CS 101	Introduction to Computer Science Principles	3
CSIT 101	Introduction to Computers	3
or CSIT 110	Computer Applications	
CSIT 120	Fundamentals of Computer Information Systems	3
CSIT 123	Introduction to Data Analytics	3
or CSIT 150	Artificial Intelligence: Concepts	
or CSIT 151	Artificial Intelligence: Applications	
or CSIT 152	Artificial Intelligence: Strategies and Solutions	
CSIT 125	Microsoft Word for Business	3
or CSIT 128	Microsoft Excel for Business	
or CSIT 131	Microsoft Access for Business	
or CSIT 134	Microsoft PowerPoint for Business	
or CSIT 137	Google Apps for Business	
or CSIT 149	Microsoft Windows	
CSIT 146	E-Commerce and Web Presence	3
or CSIT 155	Social Media for Business	

CSIT 160	Technology, the Individual, and Society	3
or CSIT 165	Living in an Online World	
CSIT 180	Fundamentals of Computer Hardware and Software	3-4
or CSIT 181	Fundamentals of Computer Networking	
or CSIT 191	Fundamentals of Cisco Networking	
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Total Units		**25-26**

Certificate of Achievement

Internet and E-Commerce

Individuals completing this certificate enhance their ability to explore, start, or advance their careers conducting business on the Internet. The certificate emphasizes mastery of the technical aspects of e-commerce as well as setup and design considerations. Individuals are advised to complete CSIT 146 prior to selecting electives. Depending on which electives are chosen, certificate completion may help individuals prepare for the CompTIA A+ and Certified Associate in Project Management (CAPM) professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully perform the tasks associated with analysis, creation, evaluation, and maintenance of conducting business and e-commerce on the Internet.

Course Requirements

Required courses:		
CSIT 120	Fundamentals of Computer Information Systems	3
CSIT 146	E-Commerce and Web Presence	3
CSIT 155	Social Media for Business	3
MAT 125	Web Design 1: Fundamentals	3
MAT 165	Web Design 2: WordPress and Site Production	3
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Select two courses below:		6-7
CS 101	Introduction to Computer Science Principles	
CSIT 123	Introduction to Data Analytics	
CSIT 150	Artificial Intelligence: Concepts	
CSIT 151	Artificial Intelligence: Applications	
CSIT 152	Artificial Intelligence: Strategies and Solutions	
CSIT 180	Fundamentals of Computer Hardware and Software	
BUS 130	Entrepreneurship and Small Business Management	
BUS 132	Marketing	
BUS 133	Project Management	
MAT 145	UI/UX Design	
MAT 225	Web Design 3: Custom Sites and Professional Practices	
Total Units		**22-23**

Certificate of Achievement

Management Information Systems (MIS)

Completion of this certificate prepares individuals for careers in the management of information systems. Individuals master how to plan, coordinate, and direct computer-related activities to determine and implement the information technology goals of an organization. Completing additional coursework (consult a counselor) may result in a transfer pathway to a four-year degree in management information systems or a variety of related majors. Depending on which electives are chosen, certificate completion may help individuals prepare for the CompTIA A+ and Network+ professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate management of information systems related skills and techniques required of a management information systems worker.

Course Requirements

Required courses:		
ACCT 201	Financial Accounting	4
ACCT 202	Managerial Accounting	4
BUS 140	Legal Environment of Business	3
BUS 290	Business Communication	3
CSIT 120	Fundamentals of Computer Information Systems	3
CSIT 123	Introduction to Data Analytics	3
ECON C2001	Principles of Microeconomics	3
ECON C2002	Principles of Macroeconomics	3
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Select courses from below for a minimum of 3 units:		3-4
CS 101	Introduction to Computer Science Principles	
CSIT 150	Artificial Intelligence: Concepts	
CSIT 151	Artificial Intelligence: Applications	
CSIT 152	Artificial Intelligence: Strategies and Solutions	
CSIT 160	Technology, the Individual, and Society	
CSIT 165	Living in an Online World	
CSIT 180	Fundamentals of Computer Hardware and Software	

CSIT 181	Fundamentals of Computer Networking	
CSIT 191	Fundamentals of Cisco Networking	
Total Units		**30-31**

Certificate of Achievement

Systems Administration

This certificate prepares individuals for careers and employment in computer networking, network administration, enterprise networking, and Internet or intranet administration. Individuals will be prepared for successful employment in networking related occupations such as network technician, systems administrator, field support technician, customer technical support representative, and technical support specialist roles. Certificate completion may help prepare individuals for the CompTIA A+, Network+, and Security+, Windows, and Linux professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate systems administration related skills and techniques required of a systems administrator.

Course Requirements

Required courses:		
CSIT 120	Fundamentals of Computer Information Systems	3
CSIT 180	Fundamentals of Computer Hardware and Software	4
CSIT 181	Fundamentals of Computer Networking	3
or CSIT 191	Fundamentals of Cisco Networking	
CSIT 182	Fundamentals of Computer Security	3
CSIT 183	Windows Server	3
CSIT 184	Linux Server	3
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
Total Units		**20**

Certificate of Achievement

Tech Support

Completing this certificate prepares individuals for employment and careers as computer desktop support specialists in a business environment. Individuals master skills in software and applications support, operating systems, local area networks, desktop support, and customer service while also being able to answer, or escalate, calls and inquiries from end users. Related jobs include help desk technician, customer support representative, computer support specialist, and technical support representative. Certificate completion may help prepare individuals for the Microsoft Certified Desktop Support Technician (MCDST) and CompTIA A+, Network+, and Security+ professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate technical support related skills and techniques required of a tech support worker.

Course Requirements

Required courses:		
CSIT 110	Computer Applications	3
CSIT 149	Microsoft Windows	3
CSIT 180	Fundamentals of Computer Hardware and Software	4
CSIT 181	Fundamentals of Computer Networking	3
or CSIT 191	Fundamentals of Cisco Networking	
CSIT 182	Fundamentals of Computer Security	3
CSIT 195	IT Career Exploration and Portfolio Development	1
or CSIT 286	Professional Certification Preparation	
or CSIT 292	Internship Studies	
or CSIT 299	Occupational Work Experience Education	
BUS 136	Human Relations in Business	3
or BUS 290	Business Communication	
Select at least 3 elective units from the following courses:		3
BUS 290	Business Communication *	
CS 101	Introduction to Computer Science Principles	
CS 111	Introduction to Computer Science I: Java	
CSIT 137	Google Apps for Business	
CSIT 146	E-Commerce and Web Presence	
CSIT 150	Artificial Intelligence: Concepts	
CSIT 151	Artificial Intelligence: Applications	
CSIT 152	Artificial Intelligence: Strategies and Solutions	
CSIT 155	Social Media for Business	
Total Units		**23**

*BUS 290 may be taken as an elective for Tech Support if not taken as part of the requirement.

Certificate of Proficiency

Administrative Assistant

The certificate equips students with the essential administrative assistant skills required to excel in modern office environments. This program focuses on foundational competencies such as digital office management, professional communication, and the effective use of business software applications. Students learn to manage tasks like scheduling, document preparation, and basic project coordination while developing problem-solving and organizational skills. Designed for those looking to enhance their administrative assistant skills and as a ladder toward the more advanced Executive Administrative Professional AS degree or certificate of achievement, this certificate offers students the ability to enhance their administrative abilities and advance their careers. Depending on which electives are chosen, certificate completion may help individuals prepare for the Microsoft Office Specialist (MOS) Word, Excel, Access, and PowerPoint professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully demonstrate basic use of computer applications, AI tools, and best practices in business communication to enhance their administrative assistant skills.

Course Requirements

Required courses:		
BUS 290	Business Communication	3
CSIT 110	Computer Applications	3
CSIT 150	Artificial Intelligence: Concepts	3
or CSIT 151	Artificial Intelligence: Applications	
or CSIT 152	Artificial Intelligence: Strategies and Solutions	
Select at least 6 elective units from the following courses:		6
CSIT 101	Introduction to Computers	
CSIT 125	Microsoft Word for Business	
CSIT 128	Microsoft Excel for Business	
CSIT 131	Microsoft Access for Business	
CSIT 134	Microsoft PowerPoint for Business	
CSIT 137	Google Apps for Business	
CSIT 149	Microsoft Windows	
Total Units		**15**

Certificate of Proficiency

Computer Applications Essentials

The certificate provides students with a solid foundation in essential business productivity software, serving as a ladder toward the more advanced computer applications associate degree or certificate of achievement. This program focuses on developing skills and techniques in key areas such as word processing, spreadsheets, electronic presentations, and cloud-based applications. Designed for those looking to enhance their technology skills or build a pathway to the higher-level associate degree or certificate of achievement, this certificate equips students with the practical tools needed to increase workplace efficiency and productivity in today's digital environments. Depending on which electives are chosen, certificate completion may help individuals prepare for the Microsoft Office Specialist (MOS) Word, Excel, Access, and PowerPoint professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully demonstrate basic business productivity software skills and techniques.

Course Requirements

Required courses:		
CSIT 110	Computer Applications	3
Select at least 6 elective units from the following courses:		6
CSIT 101	Introduction to Computers	
CSIT 125	Microsoft Word for Business	
CSIT 128	Microsoft Excel for Business	
CSIT 131	Microsoft Access for Business	
CSIT 134	Microsoft PowerPoint for Business	
CSIT 137	Google Apps for Business	
CSIT 149	Microsoft Windows	
CSIT 150	Artificial Intelligence: Concepts	
or CSIT 151	Artificial Intelligence: Applications	
or CSIT 152	Artificial Intelligence: Strategies and Solutions	
Total Units		**9**

Certificate of Proficiency

CompTIA IT Core Essentials

This certificate offers individuals the opportunity to master skills and abilities necessary to meet the demand for CompTIA entry level professional certifications. Certificate completers are prepared in fundamentals of computer hardware and software, networks, and security while obtaining foundational skills necessary to be successful in information communications essential to successful careers in retail sales of computers, handheld devices, networking services or cell phones, Help Desk, and User Support. Certificate completion helps prepare individuals for CompTIA A+, Network+, and Security+ certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to demonstrate mastery of skills and abilities necessary for CompTIA entry level professional certifications.

Course Requirements

Required courses:		
CSIT 180	Fundamentals of Computer Hardware and Software	4
CSIT 181	Fundamentals of Computer Networking	3
CSIT 182	Fundamentals of Computer Security	3
Total Units		**10**

Certificate of Proficiency

Emerging Technologies

This certificate offers individuals the opportunity to explore emerging technologies in information technology and is meant to enhance current or future employment and career opportunities. The courses emphasize the rapidly changing

landscape of computers, information, and technology and understanding how trends in these areas may impact current and future society, business, and industry. Depending on which courses are chosen, certificate completion may help individuals prepare for CompTIA A+ professional certification exam.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully demonstrate how emerging technologies in information technology impact current and future business and industry.

Course Requirements

Required courses:		
CSIT 123	Introduction to Data Analytics	3
or CSIT 137	Google Apps for Business	
or CSIT 150	Artificial Intelligence: Concepts	
CSIT 155	Social Media for Business	3-4
or CSIT 180	Fundamentals of Computer Hardware and Software	
CSIT 160	Technology, the Individual, and Society	3
or CSIT 165	Living in an Online World	
Total Units		**9-10**

Certificate of Proficiency

Microsoft Office Expert

Completion of this certificate significantly enhances employability in business environments where mastery of the Microsoft Office productivity software is essential. Each course within the program provides an in-depth, structured progression from foundational concepts to expert-level skills and advanced techniques. Graduates not only gain proficiency in the core functionalities of these applications but also develop expertise in leveraging advanced features to optimize business operations, streamline workflows, and support strategic decision-making in professional settings. Certificate completion may also help prepare individuals for the Microsoft Office Specialist (MOS) Word, Excel, Access, PowerPoint and Microsoft Office Master professional certification exams.

Program Student Learning Outcome

Upon completion of this program, the student will be able to successfully demonstrate Microsoft Office software skills and techniques.

Required courses:		
CSIT 125	Microsoft Word for Business	3
CSIT 128	Microsoft Excel for Business	3
CSIT 131	Microsoft Access for Business	3
CSIT 134	Microsoft PowerPoint for Business	3
Total Units		**12**

Courses

CSIT 101: Introduction to Computers
Units: 3
Prerequisites: None
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course is intended for students wishing to develop or strengthen their basic computer skills. Topics include basic computer techniques and literacy in computer concepts, Windows, working with files and folders, word processing, spreadsheets, browsing and searching the web, safe and ethical computer and Internet practices, email, computer maintenance, security, purchasing a computer, and academic online course management systems, such as Canvas.

CSIT 110: Computer Applications
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU, UC
Lecture 3 hours.
Course Typically Offered: Fall, Spring, and Summer

This course provides an in-depth, hands-on introduction to computer applications and fundamentals. Topics include computer concepts, the operating system, and word processing, spreadsheet, presentation, database, and Web browser applications. The course emphasizes applied computer applications skills and techniques, computer concepts and ethical considerations, and the use of computer applications as integrated tools to perform professional-level analyses. UC CREDIT LIMITATION: Credit for CSIT 110 or CSIT 120.

CSIT 120: Fundamentals of Computer Information Systems
Units: 3
Prerequisites: None
Advisory: CSIT 110.
Acceptable for Credit: CSU, UC
Lecture 3 hours.
Course Typically Offered: Fall, Spring, and Summer

This course covers the concepts of information systems in business, including the integration of information systems, organizational strategy, systems analysis, data storage, data processing, security, cloud computing, and communications. The course applies information system concepts by developing solutions to business problems using financial analysis and database management tools, such as Microsoft Excel and Access. UC CREDIT LIMITATION: Credit for CSIT 110 or CSIT 120. C-ID ITIS-120 and BUS-140.

CSIT 123: Introduction to Data Analytics
Units: 3
Prerequisites: Knowledge, skills, and abilities at the intermediate algebra level as determined by the math placement process.
Advisory: CSIT 110, CSIT 120, or CSIT 128
Acceptable for Credit: CSU, UC
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course introduces students to data science through the operational lens of AI-driven data analytics tools, AI programming languages, and advanced statistical modeling techniques. It focuses on the nexus of the data science field and advanced AI-driven data analysis. The data-first mindset promotes knowledge and understanding through the use of advanced visualization tools, statistical tools, and statistical programming languages to derive actionable information from various data sources to solve complex business, information systems, and analysis challenges. Students access and evaluate complex data sets using data inference techniques formulated through the use of qualitative analysis and statistical applications. The course emphasizes visual analysis tools, such as the use of graphs, charts, and computerized spreadsheets. Students gain an understanding of the widespread use of data analytics and how this sophisticated technique that combines mathematical principles and technology affects their everyday lives.

CSIT 125: Microsoft Word for Business
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

Students learn how to use Microsoft Word, the industry-standard tool for word processing in business environments. This comprehensive course includes fundamentals, such as document design, section breaks, table of contents, graphics, columns, citations, and tables, as well as more advanced features, such as document collaboration, workgroup tools, template customization, mail merge, macros, object linking, forms, security, and Web enabling. This course helps prepare students for the Microsoft Certification Exam.

CSIT 128: Microsoft Excel for Business
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring, and Summer

Students learn how to use Microsoft Excel, the industry standard tool for spreadsheet and chart creation in a business environment. This comprehensive course includes fundamentals, such as workbook and worksheet design, formulas, functions, and charts, as well as more advanced features, such as pivot tables, what-if analysis, three-dimensional worksheets, goal seek, and collaboration tools. This course helps prepare students for the Microsoft Certification Exam.

CSIT 131: Microsoft Access for Business
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Spring

Students learn how to use Microsoft Access, the industry standard tool for database creation in a business environment. This comprehensive course includes fundamentals, such as relational database design theory, tables, queries, reports, and forms, as well as more advanced features, such as complex validation rules, action queries, report controls, form automation, database customization, and data integration tools. This course helps prepare students for the Microsoft Certification Exam.

CSIT 134: Microsoft PowerPoint for Business
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall

Students learn how to use Microsoft PowerPoint, the industry standard tool for creating electronic presentations in business environments. This comprehensive course includes fundamentals, such as electronic presentation design and delivery concepts, slide layout, graphics, diagrams, charts, and sound, as well as more advanced features, such as complex animation, transitions, action buttons, video, custom backgrounds, and collaboration tools. This course helps prepare students for the Microsoft Certification Exam.

CSIT 137: Google Apps for Business
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

In this course, students learn how to use Google Apps, a collection of free Web-based productivity tools, in a business environment. Topics include Google Search, Gmail, Google Calendar, Google Docs, Google Sheets, Google Slides, Google Sites, and emerging trends in Google Apps. Students use the Internet to access their files and tools to manipulate and collaborate with the instructor and classmates.

CSIT 146: E-Commerce and Web Presence
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course teaches the principles and technologies involved in e-commerce and creating a Web presence for a small or medium-sized business (SMB). It addresses the needs of both online and traditional brick and mortar businesses and provides students with a basic working knowledge of how to sell products and services on the Web. It covers aspects of business and marketing planning, a survey of Web technologies, such as HTML, XHTML, HTML5 and CSS, use of digital media, building an online store, e-commerce security, electronic payment systems, international and legal issues, Search Engine Optimization (SEO), and current marketing trends. Students create a starter e-business Web site or improve an existing site that can be used for their business or to help them get a job in the field.

CSIT 149: Microsoft Windows
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Spring

This course introduces students to the current Microsoft Windows operating system. Students learn how to install the operating system, create and manage user accounts, view system components and properties, install applications, switch between different application windows, manage files and folders, and customize the Windows environment. The course also covers networking, file and folder sharing, computer security, malware, and safe Internet use.

CSIT 150: Artificial Intelligence: Concepts
Units: 3
Prerequisites: None
Advisory: CSIT 123
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course provides a comprehensive introduction to the field of artificial intelligence (AI), including its history, techniques, and applications. Students explore the fundamental concepts and methodologies in AI, including problem-solving, knowledge representation, reasoning, ethics, and learning. Students gain an understanding of AI algorithms, techniques, and tools currently being used in this area of study.

CSIT 151: Artificial Intelligence: Applications
Units: 3
Prerequisites: None
Advisory: CSIT 150
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course equips students with the hands-on skills needed to integrate artificial intelligence (AI) tools into real-world work environments. It delves into actionable insights and practical application of a range of AI technologies. The course also fosters an understanding of not just the algorithms that power AI, but also their ethical implications and productivity enhancements.

CSIT 152: Artificial Intelligence: Strategies and Solutions
Units: 3
Prerequisites: None
Advisory: CSIT 151
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course delves into the cutting-edge research and techniques of artificial intelligence through the exploration of state-of-the-art AI models, methodologies, and ethics. Students gain exposure to current research and practical experience in implementing and evaluating advanced AI algorithms and systems for a wide range of complex tasks and real-world applications.

CSIT 155: Social Media for Business
Units: 3
Prerequisites: None
Advisory: CSIT 101
Acceptable for Credit: CSU
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course explores social media use from a business perspective. Students learn how to develop a social media strategy to promote business, build stronger customer relations, target a broad base or niche audience, and develop effective marketing and advertising techniques that enhance Web presence and coordinate a common message across multiple channels. Students explore historical development as well as emerging trends in Web applications and services that facilitate creativity, collaboration, and information sharing among users and business.

CSIT 160: Technology, the Individual, and Society
Units: 3
Prerequisites: None
Acceptable for Credit: CSU, UC
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course critically examines the interrelationships among technology, the individual, and society. Students investigate the historical, political, and economic factors that influence the growth and development of technology and assess how individuals and society respond to the challenges and consequences of the technology revolution. Appropriate for both technical and non-technical majors, the course explores principles, methodologies, and value systems from a technology and social science interdisciplinary perspective. UC CREDIT LIMITATION: Credit for CSIT 160 or CSIT 165.

CSIT 165: Living in an Online World
Units: 3
Prerequisites: None
Acceptable for Credit: CSU, UC
Lecture 3 hours.
Course Typically Offered: Fall, Spring

This course considers human behavior in relation to the challenges and opportunities presented by an increasingly online society. It places special emphasis on critically evaluating and managing one's online presence within this environment in a healthy way throughout various life stages. Appropriate for both technical and non-technical majors, this course explores the psychological, sociological, and physiological consequences for individuals and societies that result from the global use of the Internet in everyday life. UC CREDIT LIMITATION: Credit for CSIT 160 or CSIT 165.

CSIT 180: Fundamentals of Computer Hardware and Software
Units: 4
Prerequisites: None
Advisory: CSIT 110.
Acceptable for Credit: CSU
Lecture 3.50 hours, laboratory 1.50 hours.
Course Typically Offered: Fall, Spring, and Summer

This course provides students with fundamental knowledge covering PC hardware and peripherals, mobile device hardware, networking and troubleshooting hardware, network connectivity issues, installing and configuring operating systems, including Windows and Linux, Mac OS X, iOS, and Android operating system configurations, security, fundamentals of cloud computing, and operational procedures. This course helps prepare students for CompTIA A+ certification examinations. C-ID ITIS-110.

CSIT 181: Fundamentals of Computer Networking
Units: 3
Prerequisites: None
Advisory: CSIT 180.
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course presents an overview and introduction to computer networking components, network design, operations, management, protocols, and network operating systems. Students learn the layered functions of the Transmission Control Protocol (TCP)/Internet Protocol (IP) stack and how they relate to Internet architecture. Topics include TCP/IP addressing, subnetting, host and domain name resolution, routing considerations, and practical management of TCP/IP protocols and services. These concepts are applied in hands-on labs leveraging network servers, firewalls, clients, the Internet, virtualization, and networked applications. This course helps prepare students for the CompTIA Network+ certification exam. C-ID ITIS-150.

CSIT 182: Fundamentals of Computer Security
Units: 3
Prerequisites: None
Advisory: CSIT 181
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course presents an overview and introduction to essential principles for network security and risk management. Students learn the core foundations of network security: confidentiality, integrity, and availability. Topics include threats, operating system hardening, security in context of applications, network, network perimeter, and physical spaces, access control methods, encryption, monitoring and auditing, and redundancy/disaster recovery. These concepts are applied in hands-on labs leveraging network servers, firewalls, clients, the Internet, virtualization, and networked applications. This course helps prepare students for the CompTIA Security+ certification exam. C-ID ITIS-160.

CSIT 183: Windows Server
Units: 3
Prerequisites: None
Advisory: CSIT 180
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course provides students with an understanding of Microsoft Windows Server. It focuses on administrative tasks including routine and troubleshooting scenarios, such as data and system recovery, operating-system selection, installation, and configuration, active directory design and implementation, user management, group policy and organizational units, virtualization, remote access, network services, especially domain name system (DNS), and system security, monitoring, and optimization. Students develop skills and apply their knowledge through hands-on projects and case-study assignments. This course helps prepare students for network server certification exams, such as CompTIA Server+ and Microsoft Windows Installing and Configuring Windows Server and Administering Windows Server. C-ID ITIS-155.

CSIT 184: Linux Server
Units: 3
Prerequisites: None
Advisory: CSIT 180
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course provides students with an understanding of Linux operating systems with an emphasis on Linux Server operating systems. It focuses on the installation, configuration, management, and troubleshooting of Linux operating systems. Topics covered include administration of Linux systems, application servers, such as web, mail, ftp, and file/print servers, basic scripting, interworking services, such as TCP/IP and secure shell, as well as file sharing in hybrid environments using SAMBA with Windows, system performance and tuning, system security, package installation and removal, logging, scheduling, and Linux tools. This course helps prepare students for network server administration certification exams, such as CompTIA Server+ and Linux+ and Linux Professional Institute Certification Level 1 (LPIC-1) exams. C-ID ITIS-155.

CSIT 186: Cybersecurity: Analyst
Units: 3
Prerequisites: None
Advisory: CSIT 182
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course applies the principles and technologies to prevent, detect, combat, and recover from cybersecurity threats including behavior analytics to improve and harden the overall state and posture of an IT Security environment. Building upon their knowledge of networks and cybersecurity, students are exposed to threat management, vulnerability management, cyber incident response, and security architectures. The tools and techniques used in this course are approached from a vendor-neutral perspective, as these are open source tools commonly found on the Internet used by attackers. This course helps prepare students for the CompTIA Cybersecurity Analyst+ (CySA+) certification exam.

CSIT 188: Cybersecurity: Ethical Hacker
Units: 3
Prerequisites: None
Advisory: CSIT 182
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course teaches the principles and technologies involved with looking for weaknesses and vulnerabilities in target systems from a network security perspective including the five phases of penetration testing. Students are exposed to the same knowledge and tools as a malicious hacker and learn how to assess the security posture of target systems in a lawful and legitimate manner building upon their knowledge of networks and security. The tools and techniques used in this course are approached from a vendor-neutral perspective many times using open source tools commonly found on the Internet. This course helps prepare students for the CompTIA PenTest+ certification exam and other cybersecurity related exams. C-ID ITIS-164.

CSIT 191: Fundamentals of Cisco Networking
Units: 3
Prerequisites: None
Advisory: CSIT 180
Acceptable for Credit: CSU
Lecture 2 hours, laboratory 3 hours.
Course Typically Offered: Fall, Spring

This course provides an overview and introduction to Cisco networking components (routers and switches), network design, operations, management, protocols, and Cisco's Internetwork Operating System (IOS). Students learn how to cable and connect routers and switches and then use IOS to configure and manage the equipment. Topics include TCP/IP addressing, subnetting, packet routing, troubleshooting, and practical management of TCP/IP protocols and services as it pertains to Cisco networking equipment. These concepts are applied in hands on and virtualized labs and Cisco Packet Tracer simulation software. This course helps prepare students for the Cisco Certified Network Associate (CCNA) and CompTIA Network+ certification exams. C-ID ITIS-150.

CSIT 195: IT Career Exploration and Portfolio Development
Units: 1
Prerequisites: None
Acceptable for Credit: CSU
Lecture 1 hour.
Course Typically Offered: Spring

This course teaches students how to create a portfolio to professionally display their best work and to increase job opportunities. Topics include defining an audience, organizing and adapting a body of work, and formatting and creating a finished portfolio designed to reflect the student's vision and highlight the quality of his or her accomplishments. The course also explores effective career studies and services. Note: Students should complete most courses within their chosen Computer Studies certificate program before enrolling in CSIT 195.

CSIT 286: Professional Certification Preparation
Units: 1
Prerequisites: None
Acceptable for Credit: CSU
Lecture 1 hour.
Course Typically Offered: Fall

Attaining a professional certification can help employers further validate a student's MiraCosta degree, certificate, or course work. This course provides an overview of industry-based third-party professional certifications, credentials, and licenses specific to a student's discipline of study. Topics include goal setting, a survey of professional certifications relevant to the discipline, industry trends and certification value assessment, exam preparation and exam strategies, practice exams, resolving any skill deficiencies, and life-long learning. Under the instruction of a faculty-mentor, students reflect on their prior course work and career aspirations to produce and execute a plan that outlines the necessary steps to attain the professional certification of their choice. Although students are encouraged to do so, signing up for and/or passing a certification exam is not required to pass the course.

CSIT 292: Internship Studies
Units: 0.5-14
Prerequisites: None
Corequisite: Complete 54 hours of work per unit, paid or unpaid.
Enrollment Limitation: Instructor, dept chair, and Career Center approval. Fourteen unit maximum in any combination of work experience education and/or internship studies per semester.
Acceptable for Credit: CSU
Course Typically Offered: Fall, Spring, and Summer

This course provides students the opportunity to apply the theories and techniques of their discipline in an internship position in a professional setting under the instruction of a faculty-mentor and site supervisor. It introduces students to aspects of the roles and responsibilities of professionals employed in the field of study. Topics include goal-setting, employability skills development, and examination of the world of work as it relates to the student's career plans. Students must develop new learning objectives and/or work/intern at a new site upon each enrollment.

CSIT 299: Occupational Work Experience Education
Units: 0.5-14
Prerequisites: None
Corequisite: Complete 54 hours of work per unit, paid or unpaid.
Enrollment Limitation: Career Center approval. Fourteen unit maximum in any combination of work experience education and/or internship studies per semester.
Acceptable for Credit: CSU
Course Typically Offered: Fall, Spring, and Summer

This course is intended for students who are employed in a job directly related to their major or career area of interest. It allows such students the opportunity to apply the theories and skills of their discipline to their position and to undertake new responsibilities and learn new skills at work. Topics include goal-setting, employability skills development, and examination of the world of work as it relates to the student's career plans. Students must develop new learning objectives and/or work/intern at a new site upon each enrollment.