**San Joaquin Delta College**

**Phone: (209) 954-5151**

**Catalog:** **http://www.deltacollege.edu/dept/ar/catalog/cat1011/index.htm**

**Website:** [**http://www.deltacollege.edu/index.html**](http://www.deltacollege.edu/index.html)

**Computer Information Systems, Associates, Certificate**

**Program Information**

The Computer Information Systems program provides students with the knowledge, skills, and hands-on experience in computer hardware, operating systems, applications, security, networking, and entry-level computer programming.

Students will learn the basics of development for the World Wide Web and will gain experience in a variety of computer programming languages. Instruction is available to prepare students to take professional certification exams in the areas of computer hardware, operating systems, applications, security, and networking. The professional certifications include offerings from CompTIA, Cisco, and Microsoft.

**Career Opportunities**

Computer Information Systems graduates are prepared to enter the workforce in computer and information technology professions. Individuals possessing professional certifications of their skills will have advantages over other job applicants.

Professional certificates for the certificate emphases listed below may be obtained from authorized testing centers. Please contact the Computer Science Department for details.

**Upon completion of this program, the student will be able to:**

• analyze development projects and divide them into smaller production tasks.

• build a project while utilizing the project development model.

• manage a programming project, both individually and as a member of a team, from initial concept through design, programming, debugging, testing, and deployment.

• evaluate a program to determine how it will meet the needs of its intended audience.

• design, write, test, debug, and implement computer programs in a structured language, a low-level language, and an object-oriented language.

• create programs utilizing both Windows and Linux operating systems.

**Computer Science – Associates (Transfer), Certificate**

**Program Information**

The Computer Information Science program is designed for stu­dents preparing for careers in computer programming and systems analysis. It provides a foundation in currently used and advanced programming languages. It will enhance students’ skills so that they can transfer to four-year universities or qualify as entry-level programmers who pursue careers in the computer industry.

**Career Opportunities**

Technical positions include computer operator, computer program­mer, system analysts, database administrators, computer support, or help desk specialists, Web developers, and application develop­ers. Opportunities in networking include network support specialists, network administrators and technicians, network security special­ist, computer forensics specialist, Webmasters, Web developers, and Web site designers.

**Upon completion of this program, the student will be able to:**

• analyze development projects and divide them into smaller production tasks.

• build a project while utilizing the project development model.

• manage a programming project, both individually and as a member of a team, from initial concept through design, programming, debugging, testing, and deployment.

• evaluate a program to determine how it will meet the needs of its intended audience.

• design, write, test, debug, and implement computer programs in a structured language, a low-level language, and an object-oriented language.

• create programs utilizing both Windows and Linux operating systems.

**Engineering/Electro-Mechanical Specialization – Associates (Transfer), Certificate**

**Program Information**

This degree or certificate provides training in a multi-disciplinary field of which the primary focus is industrial automation. Topics such as electricity, electronics, industrial motor controls, programmable logic controllers, robotics, AC/DC drives, mechanical design, and manufacturing technologies are covered.

**Career Information**

This degree or certificate prepares the student for the following career opportunities: Industrial mechanical/electrical systems technician, food processing machine service technician, facilities systems technician, waste water systems technician, manufacturing coordinator, field service technician, and mechanical electrical machine systems installer. Obtaining the degree or the certificate improves the opportunities for quality employment and career advancement.

**Upon completion of this program, the student will be able to:**

• integrate the principles of mechtronics to the design of mechtronic systems.

• evaluate mechanical and electrical solutions to solve technological problems.

• analyze data to create trouble shooting processes.

• apply mechtronic principles to the field of robotics and machine automation.

**Engineering/Mechanical Specialization – Associates (Transfer), Certificate**

**Program Information**

SJD’s program provides the foundation in mathematics, physics, and engineering necessary to transfer to a four-year institution and complete a bachelor’s degree in engineering. Students should consult the institution to which they wish to transfer for the specific lower division requirements. This degree and certificate emphasizes the knowledge and skills required for entry level success in the engineering professions. These include a basic preparation within the scientific fields including physics, mathematics, chemistry, and material sciences. These sciences are applied to technical analysis and graphic communication standards and practices. In addition, projects include environmental and sustainable design issues, product economics, and legal considerations. Current computer technologies and various analytical design and documentation software are emphasized throughout the program.

**Career Opportunities**

The Engineering Associate in Science degree is designed to meet lower division requirements for various majors in engineering. Completion of the Associate in Science degree should qualify the student to transfer at the upper division level to an engineering program at a four-year institution. The degree has a common en­gineering core requirement as well as specific field requirements. The specific field requirements do vary depending on the four-year institution to which the student will transfer. Thus, requirements for specific universities should be checked before selecting specific field courses.

**Upon completion of this program, the student will be able to:**

• Apply the principles of engineering.

• Identify, analyze, and solve technical problems.

• Plan, conduct, analyze, and interpret experiments.

• Communicate about engineering solutions effectively through speaking, writing, and graphics.

**Electrical Technology – Certificate**

**Program Information**

Upon successful completion of the Electrical Technology certificate program, the student demonstrates skills in the electrical industry in the capacity of a beginning electrician, preferably as an indentured electrical apprentice where the students compare, contrast, and apply basic electrical theory and other major portions of the electrical field. Training and skills demonstrated by the student in this program are crucial to the safe entry into electrical apprenticeships in the electrical field for programs like the IBEWs (International Brotherhood of Electrical Workers) Joint Apprenticeship Training Committee, WECA (Western Electrical Contractors Association) electrical apprenticeship, ABC program (another indentured electrical apprenticeship program).

**Career Opportunities**

This degree or certificate provides students with the knowledge to successfully enter a variety of electronics and telecommunication careers.

**Upon completion of this program, the student will be able to:**

• Apply the principles of engineering.

• Identify, analyze, and solve technical problems.

• Plan, conduct, analyze, and interpret experiments.

• Communicate about engineering solutions effectively through speaking, writing, and graphics.

**Heating & Air Conditioning – Associates, Certificate**

**Program Information**

This program is designed for students pursuing employment or up­grade in training in computer applications of heating, ventilation, and air conditioning (HVAC) systems design.

**Career Opportunities**

This program is designed for students pursuing employment or up­grade in training in computer applications of heating, ventilation, and air conditioning (HVAC) systems design.

**Upon completion of this program, the student will be able to:**

• prepare mechanical designs (HVAC) for buildings that conform with current industry standards.

• demonstrate an understanding of the process of mechanical design (HVAC) by applying design principles to building design projects.