**Cosumnes River College**

Phone: (916) 691 - 7344

Catalog: http://www.crc.losrios.edu/Documents/catalog/CRCCollegeCatalog2011-12\_JuneRevision.pdf

Website: http://www.crc.losrios.edu/

**Computer Science – Associates (Transfer)**

**Program Information**

This program provides a foundation in algorithm development, programming techniques, data structures, and structured problem solving. This A.S. Degree would be appropriate for a student planning to transfer to the California State University (CSU) or the University of California (UC) to major in either Computer Science or Computer Engineering. It is critical that transfer students regularly meet with a CRC counselor and the CRC programming faculty to select specific CRC courses that match university degree requirements.

**Career Opportunities**

Public Information, Human Resources, Development, Corporate Training, Motivational Speaking, Political Speech Writing

Radio & Television, Advertising, Public Relation , College & University Instruction, Organizational Administration, Negotiation & Mediation Services, Writing for Publication, Personnel Management, Customer Service, Social Science Research, Corporate Imaging, Campaign Management, Marketing, Community Relations, Grant Writing

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

• Evaluate various programming language solutions to a pro-posed problem.

• Recommend tools and techniques for each step in the development of a computer program.

• Integrate the basic mathematical knowledge that is fundamental to Computer Science into the solutions of proposed problems.

• Evaluate the theories and core techniques of computer science using scientific methods.

**Information System Security – Associates, Certificate**

**Program Information**

This degree is designed to give students currently employed as an Information Technology (IT) Professional the additional skill sets necessary to work in this rapidly growing field. This degree covers some of the critical skill sets for the International Information Systems Security Certification Consortium (ISC)2 Certified Information Systems Security Professional (CISSP) exam, which is recognized as an international standard for an Information Systems Security (ISS) Professional.

This certificate is designed to give students currently employed as an Information Technology (IT) professional or those currently working on their Networking degree the additional skill sets necessary to work in this rapidly growing field. This certificate covers some of the critical skill sets for the International Information Systems Security Certification Consortium (ISC)2’s Certified Information Systems Security Professional (CISSP) certification, which is recognized as an international standard for the Information Systems Security (ISS) professional.

**Career Opportunities**

Public Information, Human Resources, Development, Corporate Training, Motivational Speaking, Political Speech Writing

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

• define best practices for configuring network operating system services to provide optimum security.

• compare and contrast the benefits of firewalls vs. intrusion detection devices and software.

• explain and configure a network firewall to provide optimum security from external threats and exploits.

• analyze organizational needs and implement internal security policies for the enterprise.

• evaluate and implement the required security programs and policies to protect the enterprise against viruses, Trojans, worms, rootkits, and spyware.

• assess and configure secure data transfer protocols for internal and external needs, including Windows IP Security (IPSec) and the Virtual Private Network (VPN) tunneling protocols.

• apply Windows group policy to secure the internal network and shared resources.

• construct NTFS file system permissions and shares to allow only the minimum levels of access needed by users to use network resources.

• prioritize and establish a disaster recovery plan for the enterprise.

• construct and apply group policies and NTFS file system permissions to secure files and network resources.

**Relational Database administration – Associates, Certificate**

**Program Information**

The Relational Database Administration Certificate is designed for a person who is responsible for interacting with SQL Programmers, Database Designers, Systems Administrators, and Network Engineers as well as the day-to-day operation of a Relational Database Management System. This course of study is appropriate for an entry level Database Administration position. Courses used towards the completion of the Computer Programmer - SQL certificate may also be used to satisfy the requirements of this certificate.

**Career Opportunities**

Public Information, Human Resources, Development, Corporate Training, Motivational Speaking, Political Speech Writing

Radio & Television, Advertising, Public Relation , College & University Instruction, Organizational Administration, Negotiation & Mediation Services, Writing for Publication, Personnel Management, Customer Service, Social Science Research, Corporate Imaging, Campaign Management, Marketing, Community Relations, Grant Writing

**Engineering – Associates (Transfer)**

**Program Information**

CRC's program provides the foundation in mathematics, physics, and engineering necessary to transfer to a university and complete a bachelor's degree in engineering. Engineering involves the application of scientific and mathematical principles needed to solve practical technical problems. Although the first two years of engineering courses for all engineering degrees are similar, students should consult the lower division requirements of the institution to which they wish to transfer.

**Career Opportunities**

Aerospace Engineer, Architectural Engineer, Chemical Engineer, Civil Engineer, Computer Engineer, Electrical Engineer, Mechanical Engineer, and other types of engineers

**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.

**GreenForce Initiative: Environmental Studies and Sustainability – Associates**

**Program Information**

The Environmental Studies & Sustainability Program is an interdisciplinary, and multidisciplinary, course of study that presents a broad overview of ecological issues from a variety of perspectives in the natural, physical, and social sciences. The coursework examines the interplay between natural and social systems, and the ideological foundations of humankind's attitudes and behaviors with respect to their ever-changing environment. This program is designed to prepare students to research, analyze, and propose solutions to the myriad environmental challenges facing the world today. The Environmental Studies & Sustainability Associate of Science degree is designed to correlate with the lower division courses required to transfer into an Environmental Studies Program at many four-year institutions as well as a broad education for transfer in related disciplines. The disciplines of Environmental Studies and Geography are complementary fields, both focused on aspects of human-environment interaction. This complementarity is reflected in the many 4-year institutions that house combined Geography and Environmental Study programs. Students interested in double-majoring in these two closely-related disciplines, and/or simultaneously earning a Certificate in Geographic Information Systems, are encouraged to examine the required coursework and plan their program of study accordingly. Students should use PROJECT ASSIST (www.assist.org) to research lower division major requirements at the transfer institution of their choice and should also work with the program adviser and a counselor to determine the appropriate transfer coursework. Students interested in pursuing an Environmental Science major should consult with science faculty and counselors to tailor the specific coursework necessary to transfer to the 4-year institution of their choice.

**Career Opportunities**

Natural Resource Management; Forestry; Range Management; Wildlife Biology; Agriculture; Soil and Water Conservation; Land Use Planning; Waste Management; Environmental Education; Environmental Policy And Planning; Environmental Law; Environmental Consulting; Environmental Lobbying; Environmental Planning; Environmental Protection; Environmental Compliance; Environmental Engineering; Air Quality Control; Landscape Architecture; Urban and Regional Planning; Alternative Energy Development; Risk Analysis; Contaminated Lands Reclamation; Research; Consulting

**GreenForce Initiative: Green Buildings: Environmental Design, Energy Management, and Performance Based Construction – Certificate**

**Program Information**

The purpose of this certificate is to develop job skills and an understanding of green strategies for high performance buildings and livable communities. It is focused at students and professionals in the fields of architecture; construction; building management; construction management; building inspection; design technology; landscape; and planning, who want to acquire a comprehensive knowledge of an integrated, economic life-cycle approach to the design of the built environment. It includes study of green rating systems, material choices and environmental strategies for a livable, sustainable future.

This certificate helps to develop the knowledge base related to sustainable green buildings and environments for the careers of Architecture, Construction, Construction Management, Building Inspection, Horticulture, Landscape Architecture and Architectural Design Technology.

**Career Opportunities**

Natural Resource Management; Forestry; Range Management; Wildlife Biology; Agriculture; Soil and Water Conservation; Land Use Planning; Waste Management; Environmental Education; Environmental Policy And Planning; Environmental Law; Environmental Consulting; Environmental Lobbying; Environmental Planning; Environmental Protection; Environmental Compliance; Environmental Engineering; Air Quality Control; Landscape Architecture; Urban and Regional Planning; Alternative Energy Development; Risk Analysis; Contaminated Lands Reclamation; Research; Consulting