Fischler Postgraduate Course Catalogs

NSU Course Catalogs and Course Descriptions

2002

Graduate Teacher Education Program Computer Science Education Courses 2002

Nova Southeastern University

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Graduate Teacher Education Pr

Computer Science Education Courses
CSE Pamphlet

CSE 501 Managing Computer Resources for Teachers and Administrators (3 cr)
CSE 505 Computer Applications (3 cr.)
CSE 510 Advanced Applications of Technology (3 cr.)
CSE 670 Methods for teaching Computer Science K-12 (3 cr.)
CSE 680 Teaching BASIC Programming (3 cr.)

CSE 700 Introduction to Structured Programming (3 cr.)
CSE 715 Data Structures (3 cr.)

CSE 740 Introduction to Programming in C++ (3 cr.)

CSE 750 Java and HTML (3 cr.)

CSE 690 (M.S.) Modified Applied Educational Research (3 cr.)

CSE 790 (Ed.S.) Modified Applied Educational Research (3 cr.)

Computer Science Education Course Descriptions

CSE 501 Managing Computer Resources for Teachers and Administrators (3 cr.) This computer literacy course is designed for students majoring in computer science education or persons with prior experience with computing machinery who wish to expand their knowledge. Educational applications of technology are emphasized throughout this course, stressing the integrated use of hardware, software, and peripheral devices for microcomputers, computer workstations, and networked computing information systems. *(No prerequisite)*

CSE 505 Computer Applications (3 cr.) After gaining facility with a computer operating system, students will employ standard or generic computer application programs to produce documents that require the use of a word processor, a spreadsheet, and a database. Students will identify the standard features and common applications of these tools in educational settings and in society in general. An overview will be given of the wide variety of applications of computers that are available to enhance administrative and educational tasks to help produce improved problem solvers. *(Prerequisite: CSE 501 for program majors)*

CSE 510 Advanced Applications of Technology (3 cr.) Extending basic

applications of computers to new frontiers will help students blend critical thinking skills and technology to improve their educational environment. This includes an investigation of artificial intelligence, the use of the computer as a control device, the Logo environment, graphics, and merging graphics with text material. *(Prerequisite: CSE 501 and CSE 505)*

CSE 670 Methods for Teaching Computer Science K-12 (3 cr.) Students will investigate alternative instructional strategies for designing and teaching computer science courses in kindergarten through grade 12. Included in the course will be a review of the major elements of computer and information science. Students will use a systematic curriculum design model to prepare a course curriculum plan. *(Prerequisite: CSE 501, CSE 505, CSE 700 [CSE 700 can be a corequisite.])*

CSE 680 Teaching BASIC Programming (3 cr.) Content, materials, and methods for teaching BASIC programming in the schools, program development, evaluation techniques, resources, and teaching principles will be discussed. *(Prerequisite: CSE 501, CSE 505, CSE 700)*

CSE 700 Introduction to Structured Programming (3 cr.) Using the concepts of problem solving, critical thinking, and pseudocode, students will analyze assigned tasks and develop structured approaches to designing computer programs using the BASIC programming language. Logo will also be referenced for additional examples of programming techniques. *(Prerequisite: CSE 501, CSE 505)*

CSE 715 Data Structures (3 cr.) Participants will develop skills in creating and testing programs written in Pascal to solve complex problems. Data abstraction and modularity are stressed. The following data structures will be used by students in the course: records, arrays, and pointers; singly and doubly linked lists; introduction to recursion, stacks, and queues; tree-structured data; sorting and searching techniques; and graphs. *(Prerequisites: CSE 501, CSE 505, CSE 740)*

CSE 740 Introduction to Programming in C++ (3 cr.) This course involves the study of the C++ programming language and emphasizes structured programming. Students will apply problem solving and critical thinking skills to analyze assigned tasks and develop structured approaches to designing computer programs. AP Computer Science A test topics will be covered. *(Prerequisites: CSE 501, CSE 505)*

CSE 750 Java and HTML (3 cr.) The Java programming language is used to introduce and reinforce problem-solving through modular and object-oriented programming and applications of programs in a Web-based environment. This course introduces graphical user interfaces (GUIs), event-driven programming using abstract window toolkits (AWTs), and the placement of Java code within an HTML-based Web page. *(Prerequisites: CSE 501, CSE 505)*

CSE 690 (M.S.) Modified Applied Educational Research (3 cr.) The Modified Practicum is intended to engage the students in a problem-solving experience designed to improve or enhance and education situation. The practicum process

is systematic and involves the participant in (a) submission of a structured proposal, (b) active intervention, and/or research, (c) evaluation of the implemented activities, and present a final practicum product. *(Prerequisite: Candidacy)*

CSE 790 (Ed.S.) Modified Applied Educational Research (3 cr.) The Modified Practicum is intended to engage the students in a problem-solving experience designed to improve or enhance and education situation. The practicum process is systematic and involves the participant in (a) submission of a structured proposal, (b) active intervention, and/or research, (c) evaluation of the implemented activities, and present a final practicum product. *(Prerequisite: Candidacy)*

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