Computer Information Systems A.A.S.

Computer Game Programming Emphasis

Program Description

Computer game programming combines the degree programs in programming and multimedia to allow students to develop computer games. This degree provides students with a familiarity in programming game development and multimedia.

Employment Information

It has been estimated that the $20 billion computer game industry will grow to a $100 billion-a-year business within a decade, so the need for students that are equipped with the game developers skill will be more in demand.

Degree Awarded

Associate in Applied Science

For More Information Contact:

Division Advisor

Business Technologies Division

Business Technology Building

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Department Head

Computer Information Systems/

Technical Communications

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	Technical Occupational Specialty			36 Credit Hours	Date	Institution
	CIS	1123	Programming Fundamentals	3		
	CIS	1433	Game Development	3		
	CIS	1453	Character Development	3		
	CIS	2103	Level Design Concepts	3		
	CIS	2363	Database Design	3		
	CIS	2513	Principles of Information Systems Security	3		
	CIS	2703	Systems Analysis and Design	3		
	CIS	2803	Computer Science Project Capstone	3		
	ITD	2523	LAN Fundamentals	3		
	Select 6 credit hours from the following:					
	CIS	1533	Visual Basic Programming	3		
	CIS	2013	C+ +Language Programming	3		
	CIS	2023	C#(Sharp) Language Programming	3		
	CIS	2323	JAVA	3		
	Select 3 credit hours from the following:					
	CIS	2053	Advanced Visual Basic	3		
	CIS	2343	Advanced C+ +Programming	3		
	CIS	2433	Advanced C#(Sharp) Language Programming	3		
	CIS	2543	Advanced JAVA Programming	3		
	Support and Related Courses			**7 Credit Hours**		
	BUS	1011	Business Ethics	1		
	ITD	1323	Internet Fundamentals	3		
	TCOM	1523	Electric Commerce	3		
	General Education Requirements			**18 Credit Hours**		
	ENGL	1113	English Composition I	3		
	HIST	1493	U.S. History Since 1865	3		
	MATH	1513	College Algebra	3		
	POLS	1113	American Government	3		
	SPCH	1113	Introduction to Speech Communications	3		
	General Education Elective *(must be approved by division advisor)*			3		
	Total to Graduate			**61 Credit Hours**		

Student Name: _____

CWID: _____

Counselor: _____

BUS 1011 BUSINESS ETHICS
A study of contemporary and classical views relating to moral judgments and conduct within the business environments.

CIS 1123 PROGRAMMING FUNDAMENTALS
Designed for both computer science majors and non-majors to give fundamental knowledge of computer programming concepts. Students will learn accepted programming concepts and style. This course involves logic, pseudo-code, flow charts, statement sequencing, conditional statements, loop structures and input/output. Prerequisite: Basic computer knowledge.

CIS 1433 GAME DEVELOPMENT
This course is an overview of game development from the creative and theoretical standpoint. Students will learn to analyze games and game play elements, examine games and trends in gaming, and formulate their own outline for an ideal game.

CIS 1453 CHARACTER DEVELOPMENT
This course will introduce students to the tools and concepts used to create storylines and develop characters. It will allow students to create games that inform the audience about the character's personality, history, thought processes, etc. Prerequisite: CIS 1433. Spring only.

***CIS 1533 VISUAL BASIC PROGRAMMING**
A first course in Visual Basic Programming. This course includes graphical user interface design, event driven programming, toolbox controls and properties, basic control structures and dynamic arrays. Programs developed using structured design techniques. Prerequisites: completion of any programming language course with a "C" or better. CIS 1123.

***CIS 2013 C++ LANGUAGE PROGRAMMING**
Introductory course in C++ using object oriented programming. This includes basic control structure, files, input/output, single and multi-dimensional arrays, searching and sorting. Programs developed using structured design techniques. Prerequisite: CIS 1123.

***CIS 2023 C# (SHARP) PROGRAMMING**
Introductory course in C# using object-oriented programming. This includes basic control structures. Programs developed using structured design techniques. Prerequisite: CIS 1123.

***CIS 2053 ADVANCED VISUAL BASIC**
This course is designed to strengthen the student's knowledge of Visual Basic programming and to introduce advanced programming techniques using the Visual Basic programming language. Prerequisite: CIS 1533. Spring only.

***CIS 2103 LEVEL DESIGN CONCEPTS**
This course will introduce students to the tools and concepts used to create levels for games. It will incorporate level design and architecture theory, concepts of "critical path" and "flow." Students will build and test levels that reflect design concepts. Prerequisites: TCOM 1463 or approval of department head.

***CIS 2323 JAVA**
Introductory course in Java using object-oriented programming. This course includes basic control structures, files, input-output, single arrays, searching, sorting, graphics, event handling, interface components and programming for the Internet. Prerequisites: CIS 1123 and CIS 2013 or CIS 1533.

***CIS 2343 ADVANCED C++ PROGRAMMING**
An advanced course in object oriented programming in the C++ language with a prerequisite of prior programming experience. This course includes dynamic memory allocation, linked list, stacks, queues, binary trees, polymorphism, inheritance and encapsulations. The design process is object oriented. Prerequisite: CIS 2013. Spring only.

***CIS 2363 DATABASE DESIGN**
Provides students with basic knowledge of database planning, design and implementation. Exercises will take the student through database planning, design and construction, implementation and maintenance. Prerequisite: CIS 1113.

***CIS 2433 ADVANCED C# (SHARP) PROGRAMMING**
This course is designed to strengthen the student's knowledge of advanced programming techniques through the study of object-oriented methods in C# (Sharp). The course studies topics such as internet, web, and database applications and applying web-based services with C#(Sharp). Prerequisite: CIS 2023. Spring only

***CIS 2513 PRINCIPLES OF INFORMATION SYSTEMS SECURITY**
This course provides the student with a broad review of the field of information systems security, background on many related elements and enough detail to facilitate an understanding of the field. It covers terminology of information systems security, the history of the field and an overview on how to manage an information systems security program. Prerequisites: CIS 1113 or CIS 1103.

***CIS 2543 ADVANCED JAVA PROGRAMMING**
An advanced course in object-oriented programming in the Java language with a prerequisite of prior programming experience. This course includes dynamic memory allocation, linked list, stack, queues, binary trees, polymorphism, inheritance and encapsulation. The design process is objected oriented. Prerequisite: CIS 2323. Spring only.

***CIS 2703 SYSTEMS ANALYSIS AND DESIGN**
Introduction to a methodology for the analysis, design, documentation, implementation and evaluation of computer systems. Included will be topics in techniques for data gathering, file organization and accessing methods. Prerequisites: CIS 1103 or CIS 1113 and three hours of computer applications or programming.

***CIS 2803 COMPUTER SCIENCE PROJECT CAPSTONE**
As the capstone course of the Computer Science Program, the student will demonstrate the collected knowledge, skills and techniques acquired in the program courses by working through scenarios. Students will demonstrate problem solving, critical thinking, research techniques and technical writing. Computer ethics and group dynamics will be emphasized to help round out the student's education.

***ITD 1323 INTERNET FUNDAMENTALS**
Introduction to the worldwide computer network. Course uses a hands-on approach to teach students the history and capabilities of the Internet. Students learn the resources available via the World Wide Web and searching capabilities. Prerequisites: placement test or CIS 1003.

***ITD 2523 LAN FUNDAMENTALS**
Course is designed to provide the students with basic knowledge of computer networks. Students will learn the types and methodology of networks. Exercises will involve hands-on use of computer networks. Prerequisite: CIS 1003 or CIS 1113 or CIS 1103.

***TCOM 1523 ELECTRONIC COMMERCE**
Understanding e-commerce (electronic commerce) is essential for success in today's economy. This course explores both sides of business on the Internet, from the viewpoint of the consumer and of a business. Prerequisites: CIS 1103 or CIS 1113. (Same as BUS 1543.)

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