

## **SOLUTION DESIGN MAJOR**

### **SOLUTION DESIGN 1 – CM WEB PROGRAMMING (Course #5344)**

This course introduces students to the basics of computer programming. Topics include definition of computer and programming terms, systems development life cycle, program design, program logic, program flow, designing and creating programs, testing programs, objects, properties, events, data types, and variables. Students will create basic game programs, create interactive programs for the internet, and design and build their own software project.

### **SOLUTION DESIGN 2 – CM ADVANCED PROGRAMMING 1 (Course #5370)**

This course covers intermediate topics of computer programming, with a focus on game design, scripting and game programming. Topics include story models and storytelling for games, project design, asset creation for computer games, and programming control structures. Students will design and build multiple projects, including an educational game. Multiple software development tools will be used in the course.

### **SOLUTION DESIGN 3 – CM ADVANCED PROGRAMMING 2 (Course #5371)**

This course is a continuation of Advanced Programming 1. Advanced Programming 2 is modeled as a college-level introduction to computer science. It focuses on object-oriented programming languages. The course includes more in-depth study of problem definition, program design, object-based development, programming constructs, program analysis, data structures, standard algorithms, and computer ethics.

### **SOLUTION DESIGN 4 – CM DATABASE (Course #5352)**

This course introduces the student to Relational Database Management Systems. Topics include definitions of database terms, the relational model, database objects, data diagrams, and database design. Students will use a PC database to create a database application. Students will also create data-driven websites and dynamic applications for internet use. Examples include e-learning websites.