Advanced Computer Programming (ITSE 2459)

Credit: 4 semester credit hours (3 hours lecture, 2 hours lab)

Prerequisite/Co-requisite: ITSE 2449 & ITSE 1350

Course Description
Advanced programming techniques including file access methods, data structures, modular programming, program testing and documentation.

Required Textbook and Materials
1. *PHP and MySQL Web Development* by Thomson & Welling, Second Edition

    a. ISBN number is 13: 9780672325250

2. USB Flash Memory drive

Course Objectives
 Upon completion of this course, the student will be able to:

1. Develop well-documented programs containing data structures. (SCANS:C5, C6, C8, C9, C19, F1, F2, F3, F9).

2. Incorporate input/output file handling techniques. (SCANS: C5, C6, C8, C9, F9).

SCANS Skills and Competencies
Beginning in the late 1980's, the U.S. Department of Labor **S**ecretary's **C**ommission on **A**chieving **N**ecessary **S**kills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools.* In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

Course Outline
A. USING PHP
   1. What is PHP
   2. How is it useful

B. Storing and Retrieving Data
   1. Saving Data
   2. Retrieving Data

C. Using Arrays
   1. What Is an Array?
   2. Array Creation

D. String Manipulation and Regular Expressions
   1. Formatting Strings
   2. Joining and Splitting Strings with String Functions

E. Reusing Code and Writing Functions
   1. Using require() for Web Site Templates
   2. Using Functions in PHP

F. Object-Oriented PHP
   1. Object-Oriented Concepts

Approved 11/2010

2. Creating Classes
3. Attributes, Operations in PHP

G. Designing Your Web Database
1. How to Design Your Web Database.
2. Web Database Architecture

H. Creating Your Web Database
1. How to Log in to MySQL.
2. Creating Databases and Users.
3. Users and Privileges

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Evaluation

Final grades will be calculated according to the following criteria:

1. Daily work	60%	
2. Quizzes	5%	
3. Test & Final	15%	
4. Group Project	20%	

A grade of 'C' or better must be earned in this course for credit toward degree requirement.

Course Requirements

1. Students must create a comprehensive portfolio for job searches.

2. Pass a certification exam of their choice pending instructor approval.

3. Create a professional resume.

4. Attend at least two job interviews in their subject field.

Course Policies

1. No food, drinks, or use of tobacco products in class.

2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.

3. Do not bring children to class.

4. No late assignments will be accepted. Any assignment submitted after the Blackboard cut-off time will result in a '0'.

5. **Tests**. Students that miss a test are not allowed to make up the test. Students that miss a test will receive a grade of '0'.

6. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.

7. Test will be closed book/note and will test information in assigned chapters and material discussed in class.

8. All assignments will be completed using either Blackboard. Assignment may NOT be submitted via email

9. The materials for this course are mandatory. A student not acquiring these materials will not be able to PASS this course.

10. Data files can be located on the CD provided with the textbook or on the publisher's resource website or under the download section in Blackboard.

11. **Attendance**: Students should be present and punctual for all classes. Two absences are allowed. The first absence incurred after the initial two absences will result in the loss of one letter grade. Each absence after that will result in deducting half a letter grade from your overall grade.

12. **Tardiness**: If tardy, enter quietly and do not disturb the class. Students that are tardy or miss a class are responsible for all work and/or discussion missed. The student is responsible to obtain missed material from a classmate. **Do not expect your instructor to repeat a lecture & do not interrupt your instructor.**

13. Do not talk, type, or print while the instructor is talking to the class or when a student is asking a question that pertains to the class.

14. Refrain from "surfing" the Web during class, unless directed by your instructor.

Disabilities Statement
The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule
Refer to Blackboard® for actual assignments and due date

Week of	Topic	Reference
Week 1	Course introduction and policies Blackboard Navigation / Software Install	
Week 2	Using PHP	Chapter 1
Week 3	Storing and Retrieving Data Start First Project	Chapter 2

Week 4	Arrays First Test	Chapter 3
Week 5	Strings	Chapter 4
Week 6	Writing Functions First Project Due	Chapter 5
Week 7	Designing A Web Database Start Second Project	Chapter 7
Week 8	Creating A Web Database Second Test	Chapter 8
Week 9	MySQL	Chapter 9
Week 10	Accessing Your Web Database	Chapter 10
Week 11	Advanced MySQL Second Project Due	Chapter 11
Week 12	E-commerce Start Group Project	Chapter 12
Week 13	Security Issues Third Test	Chapter 13
Week 14	Implementing Authentication	Chapter 14
Week 15	Implementing Secure Transactions	Chapter 15
Week 16	Finish Project Final Exam/Certification	