CSE 2133 (Approved): Business Programming with File Processing

Course Description

Business data processing principles and programming: sequential file processing algorithms, sorting, data validation; COBOL is taught.

Prior Course Number: CSE 314
Transcript Abbreviation: File Prcsng COBOL
Grading Plan: Letter Grade
Course Deliveries: Classroom
Course Levels: Undergrad
Student Ranks: Sophomore, Junior
Course Offerings: Spring
Flex Scheduled Course: Never
Course Frequency: Every Year
Course Length: 14 Week
Credits: 3.0
Repeatable: No
Time Distribution: 3.0 hr Lec
Expected out-of-class hours per week: 6.0
Graded Component: Lecture
Credit by Examination: No
Admission Condition: No
Off Campus: Never
Campus Locations: Columbus
Prerequisites and Co-requisites: Prereq: 2123 (214).
Exclusions: Not open to students with credit for 314.
Cross-Listings:

Course Rationale: Existing course.

The course is required for this unit's degrees, majors, and/or minors: No
The course is a GEC: No
The course is an elective (for this or other units) or is a service course for other units: Yes

Subject/CIP Code: 14.0901
Subsidy Level: Baccalaureate Course

Course Goals

Be competent with the following algorithms: single and multiple control breaks; matching, verification, and merge/purge; 1- and 2-dimensional tables
Be competent with designing and coding of well-structured COBOL programs and subprograms to process sequential files using system flowcharts, hierarchy (structure) charts, flowcharts, pseudocode, print or screen charts
Be familiar with the COBOL reference card
Be familiar with debugging techniques including using the COBOL debugger
Be exposed to testing and data validation techniques
Be exposed to the definition, use and creation of makefiles

Course Topics

Topic	Lec	Rec	Lab	Cli	IS	Sem	FE	Wor
Vocabulary; columns; margins; basic coding rules; typing in, compiling and running a COBOL program	3.0							
Identification and environment division; data names; symbols; data division - file section; working storage	3.0							
Picture clauses; value clauses; group items; literals; constants; figurative constants; non-numeric literals	3.0							
Procedure division statements w/ file I/O (open, close, read, write); move statement (simple)	3.0							
Perform statement (simple); putting it together; display; accept omitted; stop run; move statement rules; edited I/O	3.0							
Compute and other arithmetic statements; accept time and date; scope terminators	3.0							
Control structures; relational operators and relational expressions, sign and class tests; logical operators (AND,OR, NOT); implied conditions; condition names; evaluate statement	4.0							
Single control break algorithm; string, unstring; double control break algorithm; debugging techniques; perform statement variations	6.0							
Redefines; initialize; 2-dimensional tables; sort logic	3.0							
Subprograms; sort/merge files	4.0							
Makefiles; testing and data validation techniques; additional sequential processing issues	4.0							

Representative Assignments

Type in, compile and run a given COBOL program
Simple report style COBOL program
Arithmetic statements and Edited I/O
Single Control Break
Double Control Break
Table (i.e., Array) processing
Sort, Search, Merge and Makefiles

Grades

Aspect	Percent
Participation	5%
Projects	30%
Quizzes	10%
Midterm	25%
Final	30%

Representative Textbooks and Other Course Materials

Title	Author
COBOL for the 21st Century	Stern, Stern & Ley

ABET-EAC Criterion 3 Outcomes

Course Contribution		College Outcome
*	a	An ability to apply knowledge of mathematics, science, and engineering.
	b	An ability to design and conduct experiments, as well as to analyze and interpret data.
**	c	An ability to design a system, component, or process to meet desired needs.
	d	An ability to function on multi-disciplinary teams.
	e	An ability to identify, formulate, and solve engineering problems.
*	f	An understanding of professional and ethical responsibility.
	g	An ability to communicate effectively.
	h	The broad education necessary to understand the impact of engineering solutions in a global and societal context.
*	i	A recognition of the need for, and an ability to engage in life-long learning.
	j	A knowledge of contemporary issues.
**	k	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

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