FEB – 8 20

LIBERAL STUDIES

University Wide/Graduate Curriculum Committee

I. CONTACT

Phone: 957-7042

II.

PROPOSAL TYPE (Check All Appropriate Lines)

Course Deletion

Course Number

Minor Track

PROGRAM

New Program

Program

Program Name

Old Program

Program Name

New Program

III. Approvals (signatures and date)

Department Curriculum Committee

Department Chair

Director of Liberal Studies (where applicable)

Program Director (where applicable)

Part II—Description of Curriculum Change

1. New Syllabus of Record

See Attachment A the new syllabus of record.

2. Summary of the proposed revision

The principal revision is to include subject matter presented in the COSC 315 course in the COSC 441 course. Adjustments in the description and syllabus are contained in Attachment A, the new syllabus of record.

3. Justification for the revision

This is a component in a series of changes necessitated by the accept of data base technology in our curriculum

NEW COSC441 Syllabus of Record

Attachment A

I. Catalog Description

[redacted]

3 lecture hours
0 lab hours
(3c-0l-3sh)

Prerequisites: COSC 220 (or equivalent) and 310 or permission of instructor

[redacted]

III. Detailed Course Outline

1. Introduction to Database Concepts and Architecture. (3 hrs.)
Characteristics, advantages and implications of the database approach to information systems as contrasted with traditional integrated file systems. DBMS architecture

forms. How to move a data model to a higher normal form and the issues of denormalization as it applies to retrieval performance.

11. SQL Interaction with Third Generation Programming Languages. (4 hrs)
Methods for extending data base functionality to third generation programming languages such as Cobol. Description of [illegible]

[redacted]

language and dynamic SQL. Students will implement a program written in a third generation programming language, which provides insertion, deletion, updating and query capabilities to a database.

12. Desk Top DataBase Packages. (3 hrs)
Presentation of a desktop database package as an implementation of a relational DBMS such as MS Access, Fox Pro or Paradox. Students will construct a data model and database using the package. Students will then implement numerous queries using the

[redacted]

IV. Evaluation Methods

The final analysis determination will be based

[redacted]

Homework2: Given the Cobol Source Code Describing the File Format of [redacted]

[redacted]

V. Required textbooks, supplemental books and readings

1. Codd, E. F., "Relational Database: A Practical Foundation for Productivity", Communications of the ACM, Vol. 25, No. 2, February, 1982, pp. 109- 117.

2. Elmasri, R., Navathe, S., Fundamentals of Database Systems, Third Edition, Addison-Wesley, 2000.

3. Kent, William, "A Simple Guide to Five Normal Forms in Relational Database Theory",

[redacted]

Communications of the ACM, Vol. 26, No. 1, February 1983, pp. 120-124.

VI. Special resource requirements

None.

VII. Bibliography

1. Castano S., Fugini M., Martella G., and Samarati P., *Database Security*, New York, N.Y.: ACM Press/reading, Mass.: Addison-Wesley (1995).
2. Celko, J., *SQL for Smarties: Advanced SQL Programming*, San Francisco, Calif.: Morgan Kaufmann (1995).
3. Codd, E.F., "Domains, Keys, and Referential Integrity in Relational Databases," *InfoDB* 3, No. 1 (Spring 1988).

[redacted]

Indiana University of Pennsylvania
Computer Science Department

Dr. Shubra

COSC 441 - Data Base Management

Introduction

This three credit upper level course is being offered to provide interested motivated students with a fundamental knowledge of, and a practical experience with, the database concept. The course is a logical extension of the concepts taught in COSC 315 Large File Organization and Access, COSC 310 Data Structures and COSC 220 Applied Computer Programming.

The course texts are:

Required:

Elmasri, R., Narathe, S., Fundamentals of Database Systems, Third Edition, Addison-Wesley, 2000.

Codd, E. F., "Relational Database: A Practical Foundation for Productivity", Communications of the ACM, Vol. 25, No. 2, February, 1982, pp. 109- 117.

Kent, William, "A Simple Guide to Five Normal Forms in Relational Database Theory", Communications of the ACM, Vol. 26, No. 1, February, 1983, pp. 120-124.

Objectives:

1 Extend integrated file systems to the data base concept of data storage and retrieval

[redacted]

2 Define the terminology embodied in data base systems and the [redacted]

Tentative Course Schedule where:

E = Elmasri's Text
Codd = E. F. Codd paper
Kent = William Kent paper

Week	Topic	Reading
[redacted]		
	ER Model	
3 - 4	Relational Data Model Relational Algebra	Codd, E7
5 - 6	Exam 1 SQL Standard	E1-3,Codd,E7 E8
7 - 8	VAX/RDB/SQL SQL Project (online)	Handouts
9	Exam 2 Embedded SQL Embedded SQL Project	E8, Vax/Rdb/SQL E10.5
10	Normalization & Data Base Design	E14, E15 Kent
11-12	Microcomputer DBMS Microsoft Access Project	E10.7-E10.9
13	Emerging Trends	E4, E10.1-E10.6, E17, E19, E20

Grading:

Exam 1 and 2	200 points
Final	100 points
Homework	50 points
[redacted]	

At worst, I will draw the line for the course grades as follows:

Total Possible Points

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

Because of the need to demonstrate software packages and to have hands-on exercises, the class will not always be held in the originally scheduled room. Room changes will be announced in class.