RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

CISY 285 – Database Development & Design

I. Basic Course Information

A. Course Number and Title:	CISY 285 – Database Development & Design
B. New or Modified Course:	Modified
C. Date of Proposal:	Semester: Fall Year: 2017
D. Effective Term:	**Fall 2018**
E. Sponsoring Department:	Computer Science (CS) Department
F. Semester Credit Hours:	3
G. Weekly Contact Hours:	Lecture: 2 Laboratory: 2 Out of class student work per week: 5
H. Prerequisites:	CISY 132 Systems Analysis & Design
I. Laboratory Fees:	Yes

J. Name and Telephone Number or E-Mail Address of Department Chair and Divisional Dean at time of approval: Steven Schwarz, Chair <steven.schwarz@raritanval.edu>, Sarah Imbriglio <sarah.imbriglio@raritanval.edu> STEM Dean

II. Catalog Description

(Prerequisite: CISY 132 Systems Analysis & Design) This course will provide the student an overview of basic types of commercially offered database systems with a focus on relational databases. Over the span of the course, the student will implement a functioning database and will learn the practical aspects of design, implementation, and maintenance.

III. Statement of Course Need

A. Database systems are used extensively by businesses, non-profit organizations and government entities to store and manage important information. The design of these databases affects the organization's ability to effectively and accurately retrieve the information needed.

B. Database design and deployment requires direct hands-on experience with the appropriate software and hardware that an average student would not have access to on a personal system.

C. Where not intended for transfer, it generally can transfer as a database management course at varying levels depending upon the institution. See NJTransfer.org for details.

IV. Place of Course in College Curriculum

A. Free Elective
B. This course meets a program requirement for:
    a. Accounting Information Systems (A.A.S.)
    b. Computer Networking (A.A.S.)
    c. Computer Programming (A.A.S.)
    d. Computer Programming Certificate
    e. Information Systems & Technology (A.S.)
    f. Information Systems & Technology (A.A.S.)
C. CIS Elective on the Computer Science CISY Electives List
D. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

A. Define a database and its relation to prior file access techniques
B. Study of the basic database design implementations including network, hierarchical, inverted index, and relational
C. Introduction to database design objectives including data redundancy, flexibility, key identification, table structures, and application dependent variables
D. Development of database conceptual models based on application design
E. The "physical" design of a database based on a conceptual data model
F. Implementation of a database
G. Introduction to the role and responsibilities pf the DBA and DA in the commercial business enterprise

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

At the completion of the course, students will be able to:

1. Produce databases based on critical thought of database design principles (GE-NJ 4)
2. ~~Apply knowledge of other disciplines to develop database solutions, make decisions and analyze data quantitatively)~~

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Describe the major categories of database implementation including network, hierarchical, inverted index and relational.
2. Describe the main factors contributing to good database design including data redundancy, flexibility, key identification, table structures, and application dependent variables.
3. Develop a conceptual data model for relational databases.
4. Design and implement a "physical" model of a database based on conceptual design.
5. Describe the conventional roles and responsibilities of different database professionals.

C. Assessment Instruments

1. laboratory products
2. demonstrations
3. computer programs

VII. Grade Determinants

A. projects
B. tests
C. homework

The primary formats, modes, and methods for teaching and learning that may be used in the course:

A. lecture/discussion
B. laboratory

VIII. Texts and Materials

A. *Beginning Database Design: From Novice to Professional Second Edition*, Churcher, Clare. © 2012 ISBN-13: 978-1-4302-4209-3

B. *Skills For Success With MS Access 2016*
Hawkins, Lisa. ISBN-13: 978-0-13-4479514

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

A. Computer Lab with Internet access for classroom instruction and lab exercises
B. Microsoft Access.
C. Access to the RVCC Servers with MySQL, Microsoft SQL Server, and Oracle.
D. Other appropriate database-related software.

X. Honors Option

N/A