

CSIT 275: DATA MANAGEMENT ANALYTICS

1. Course Information

Subject

CSIT - Computer Science/ Information Technology

Course Number

275

School

Science, Technology, Engineering, Mathematics

Course Title

Data Management Analytics

2. Hours

Semester Hours

3.00000

Lecture

3

Lab

0

Practicum

0

3. Catalog Description

For display in the online catalog

This course instructs students in reviewing the data challenges businesses confront and how data management and analytics are used to help make sound management decisions and provide informative insights. Two major concepts will be discussed: data integration and data management. Additional concepts such as data modeling, probability, linear regression, and statistical data analysis help students learn how different analytic methods are used to address critical data issues facing an organization and how best to apply those methods. Students learn how to conduct in-depth strategic analytic analysis of business problems and communicate those results to all levels of an organization.

4. Requisites

Prerequisites

CSIT 200

Corequisites

CSIT 213

5. Course Type

Course Type for Perkins Reporting

vocational (approved for Perkins funding)

6. Justification

Describe the need for this course

This is a required course for the Computer Science – Data Management concentration degree program. The course addresses the need of many businesses and industries for individuals knowledgeable in this field.

7. General Education

Will the college submit this course to the statewide General Education Coordinating Committee for approval as a course, which satisfies a general education requirement?

No

If the course does not satisfy a general education requirement, which of the following does it satisfy:

Elective

8. Consistency with the Vision and Mission Statements, the Academic Master Plan, and the strategic initiatives of the College

Please describe how this course is consistent with Ocean County College's current Vision Statement, Mission Statement, Academic Master Plan, and the strategic initiatives of the College:

Add item	
1	Demonstrating the college's commitment to offer comprehensive educational programs that develop intentional learners of all ages. (Mission Statement)
2	Seeking to ensure that students will thrive in an increasingly diverse and complex world. (Vision Statement)
3	Preparing students for successful transfer to other educational institutions and/or for entrance into the workforce. (Academic Master Plan)
4	Seeking to empower students through the mastery of intellectual and Practical Skills. (Academic Master Plan)
5	Challenging students to transfer information into knowledge and knowledge into action. (Academic Master Plan)

9. Related Courses at Other Institutions

Comparable Courses at NJ Community Colleges

Institution

Atlantic Cape CC

Course Title

NONE

Institution

Bergen CC

Course Title

NONE

Institution

Brookdale CC

Course Title

NONE

Institution

Rowan College at Burlington County

Course Title

NONE

Institution

Camden County College

Course Title

NONE

Institution

Rowan College of South Jersey

Course Title

NONE

Institution

Essex County College

Course Title

NONE

Transferability of Course**Georgian Court University**

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Will not transfer

Kean University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Will not transfer

Monmouth University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Will not transfer

Rowan University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Will not transfer

Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Unable to determine status

Stockton University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Will not transfer

If not transferable to any institution, explain:

There is no known course on the Rutgers New Brunswick campus or other colleges to which transfer credit will be given. The Kean University and Monmouth University courses are graduate level.

10. Course Learning Outcomes**Learning Outcomes**

Students who successfully complete this course will be able to:	
CL01	Explain Data Analytics and Visualization
CL02	Demonstrate how managers use analytics to formulate and solve business problems and to support managerial decision making.
CL03	Identify and define data challenges in a variety of industries
CL04	To identify and use the software and tools needed to produce, process and analyze data
CL05	Collect and organize information from many sources
CL06	Examine data and determine what is relevant and how to analyze it
CL07	Model and access data from various parts of a data warehouse system

CLO8	Apply Data Warehouse core concepts, skills, and techniques
CLO9	Demonstrate how to use statistical analysis, simulation and optimization to analyze data and develop applicable, real-world solutions
CLO10	Communicate findings and recommendations for managers, executives and other stakeholders.

11. Topical Outline

(include as many themes/skills as needed)

	Major Themes/ Skills	Assignments (Recommended but not limited to)	Assessments (Recommended but not limited to)	Course Learning Outcome(s)
T01	Introduction to Analytics a) The difference between analytics and analysis b) The main challenges of analytics	In-class exercises / Homework	Homework / Exam	CLO1,CLO2,CLO3,CLO10
T02	Introduction to data mining a) Data Mining defined b) Common data mining applications c) Data mining tools	In-class exercises / Homework	Homework / Exam	CLO2,CLO4-CLO6
T03	The data mining process a) Storage concepts and processing i) Parallel processing ii) Distributed data processing iii) Hadoop iv) Processing workloads v) Clusters vi) Processing in real time and batch modes b) Knowledge discovery c) Data and methods for data mining i) Classification ii) Decision trees iii) Cluster analysis	In-class exercises / Homework	Homework / Exam	CLO3-CLO8
T04	Data mining algorithms a) Nearest neighbor b) Similarity c) Regression Analysis	In-class exercises / Homework	Homework / Exam	CLO4,CLO8-CLO10
T05	Text analytics a) Natural language processing b) Text mining applications and tools Case Studies	In-class exercises / Homework	Homework / Exam	CLO4-CLO6,CLO8

12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?

Class lecture, discussion, demonstrations, lab assignments, programs and online presentations.

13. General Education Goals Addressed by this Course (this section is to fulfill state requirements)

Information

Technological Competency

Yes

Related Course Learning Outcome

CLO1-CLO10

Related Outline Component

T01-T05

Assessment of General Education Goal (Recommended but not limited to)

Mastering the basic skills necessary to plan, gather and maintain large amounts of data.

Independent/Critical Thinking

Yes

Related Course Learning Outcome

CLO1-CLO10

Related Outline Component

T01-T05

Assessment of General Education Goal (Recommended but not limited to)

Mastering the basic skills necessary to plan, gather and maintain large amounts of data.

14. Needs**Instructional Materials (text etc.):**

Appropriate textbooks will be selected. Contact the department for current adoptions. Class notes, presentations, software and online materials.

Technology Needs:

College Portal and/or College Distance Learning Platform and/or Textbook or Instructor Website.

Human Resource Needs (Presently Employed vs. New Faculty):

Four (4) presently employed full-time faculty plus additional Adjunct Professors as needed.

Facility Needs:

Laboratory classrooms equipped with computer workstations, each configured to support data collection and processing. Podium computer similarly equipped plus the ability to present audio-video presentations to the class.

15. Grade Determinants

The final grade in the course will be the cumulative grade based on the following letter grades or their numerical equivalents for the course assignments and examinations

A: Excellent

B+: Very Good

B: Good

C+: Above Average

C: Average

D: Below Average

F: Failure

I: Incomplete

R: Audit

For more detailed information on the Ocean County College grading system, please see Policy #5154.

16. Board Approval

History of Board approval dates

Board of Trustees Approval Date: July 26, 2018