Course: CIS 358 Database Management III: Data Mining

Credit: 4 Quarter Hours   **Method of Delivery:** eLearning/Arranged

Course Description: This course presents key data mining theories through the study of predictive analytics, statistical analysis, and business intelligence. The student will learn about current tools, and data science methods and techniques used to discover knowledge in data.

Prerequisite: CIS 328

Text(s) & Manual(s): Real-World Data Mining; ISBN: 9780133551075
Author(s): Delen, Dursun
Publisher: Pearson Education Inc.

Materials needed for this course:
    Additional Supplies: None
    Hardware/Software and Equipment: Internet Connection

Topics: Data Modeling, data variables, univariate and multivariate statistics, decision trees, algorithms and neural networks.

Learning Objectives: Upon completion of this course, the student will be able to:
1. Understand the data mining process
2. Transform data into useful information
3. Analyze data variables and derive new variables
4. Analyze univariate and multivariate statistics
5. Apply different methods for data modeling
6. Utilize current data science methods and techniques such as decision trees, algorithms and neural networks.

Midstate Grading scale:
 90 - 100   A
 80 - 89   B
 70 - 79   C
 60 - 69   D
  0 - 59   F

Midstate Plagiarism Policy:
Plagiarism is using another person's words, either by paraphrase or direct quotation, without giving credit to the author(s). Plagiarism can also consist of cutting and pasting material from electronic sources by submitting all or a portion of work for assignment credit. This includes papers, computer programs, music, sculptures, paintings, photographs, etc. authored by another person without explicitly citing the original source(s). These actions violate the trust

and honesty expected in academic work. Plagiarism is strictly against the academic policy of Midstate College. Its seriousness requires a measured, forceful response which includes consequences for inappropriate and/or no citation.

In courses containing writing assignments, the College promotes the use of an electronic resource which compares the student's writing against previously submitted papers, journals, periodicals, books, and web pages. Students and instructors can use this service to reduce the incidence of plagiarism. This electronic resource has been found to conform to legal requirements for fair use and student confidentiality. It is able to provide a report to the student indicating the parts of the assignment that match.

Student Success:
The Office of Student Success is available to students seeking tutoring for individual classes or who need assistance with writing assignments. Information is also available on test taking techniques, how to take notes, developing good study skills, etc. Contact Student Success in Room 218 (in person); (309) 692-4092, extension 2180 (phone); studentsuccess@midstate.edu (email).

Instructor: Greg Ballard   **Room:** 122
Midstate email: gaballard@midstate.edu   **Phone:** (800) 251-4299 x1220
Office Hours: By Appointment (student arranges)

Policies and Procedures: This is an eLearning (online) course. An eLearning week starts on Monday at 12 noon and ends the next Monday at 8 AM. All weekly assignments are due by 8 AM on Mondays unless otherwise assigned, and will be considered late if submitted after the date it is due. There will be a 10% deduction in grade for each week the assignment is submitted late.

Participation Requirements: There will be a weekly discussion forum requirement where the student must submit an original response *and* respond to another student's post to receive an optimal grade. Student must also follow the requirements stated in the forum.

Examination Information: There will be weekly quizzes and a final project.

Methods of evaluating student performance: Assignments, quizzes, summary forums, project

Instructor's Grading Scale:
These percentages are all approximate values:

Project	25%
Quizzes	25%
Assignments	40%
Participation	10%

Wk	Topic	L Obj	Assignments
1	CH 1: Introduction to Analytics	1	Discussion Forum Chapter Assignment Chapter Quiz Summary Forum
2	CH 2: Introduction to Data Mining	1	Discussion Forum Chapter Assignment Chapter Quiz Summary Forum
3	CH 3: The Data Mining Process	1	Discussion Forum Chapter Assignment Chapter Quiz Summary Forum
4	CH 4: Data and Methods in Data Mining	2	Discussion Forum Course Project Assignment
5	CH 4: Data and Methods in Data Mining	2	Chapter Assignment Chapter Quiz Summary Forum
6	CH 5: Data Mining Algorithms	3	Discussion Forum Course Project Assignment
7	CH 5: Data Mining Algorithms	3	Chapter Assignment Chapter Quiz Summary Forum
8	CH 6: Text Analytics and Sentiment Analysis	4	Discussion Forum Course Project Assignment
9	CH 6: Text Analytics and Sentiment Analysis	4	Chapter Assignment Chapter Quiz Summary Forum
10	CH 7: Big Data Analytics	5,6,7	Discussion Forum Course Project Assignment
11	CH 7: Big Data Analytics	5,6,7	Chapter Assignment Chapter Quiz Summary Forum
12	Project Due		Course Project Due Summary Forum