

**Spring 2017 – Business Intelligence and Data Mining  
CISM 4390/5390 Section 1DB**

**Faculty Data:**

Dr. Joan Deng, Professor

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Office Hours: Wednesday 09:00AM – 02:00PM

**Online Support:**

- CourseDen Home page: <https://westga.view.usg.edu>

- CourseDen Help & Troubleshooting: <http://uwgonline.westga.edu>

- Distance Learning Library Services: <http://westga.edu/~library/depts/offcampus/>

- Ingram Library Services: <http://westga.edu/~library/info/library.shtml>

- UWG Bookstore: <http://www.bookstore.westga.edu>

- Disability Services: [http://www.westga.edu/studentDev/index\\_8884.php](http://www.westga.edu/studentDev/index_8884.php)

*Additional resources and links are available in the UWG|Online CourseDen (D2L) Resources widget on your course homepage*

**Course Description:**

This course will teach the fundamental concepts of business intelligence and several data mining software tools (SAS Enterprise Miner and SAS Visual Analytics) that enable organizations to strive for business intelligence. The course will be hands-on and the emphasis will be placed on learning how to derive business value from large amounts of data using data mining tools.

**Learning Objective Relates to Learning Goal(s):**

- Differentiate, design and assess various business intelligence (BI) and data mining models. (MIS 1)
- Identify and translate real-world business problems into BI and data mining problems. (MIS 1)
- Implement efficient data mining strategies to solve business problems. (MIS 1)
- Develop proficiency in data mining software tools (SAS Enterprise Miner and SAS Visual Analytics). (MIS 1)
- Enhance understanding of the current trends in the management and use of BI. (MIS 1)

**Course Materials:**

- There is no required textbook for this course.

- Teradata University Network ([www.TeradataUniversityNetwork.com](http://www.TeradataUniversityNetwork.com)) is a free learning portal designed to help faculty to teach BI and data mining. We will use the SAS Visual Analytics software and related materials from Teradata University Network.

1. Please register for Teradata University Network first (*Student Access Password: **Analytics***). To register, please visit the following site: <http://www.teradatauniversitynetwork.com/Register/?type=student>
2. After you have registered, please login to <http://www.teradatauniversitynetwork.com/> with your username and password.
3. From the pull-down menu under **SOFTWARE**, select **SAS Visual Analytics**.
4. From the SAS Visual Analytics and Visual Statistics page, select **SAS Visual Analytics**.

5. For more information about accessing SAS Visual Analytics, visit the following site: <http://sasweb.teradata.ws/sas9web/docs/How%20to%20Access%20SAS%20VA%20VS.pdf>

- SAS OnDemand for Academics will provide you with immediate online access to SAS Enterprise Miner.

1. Please register for SAS OnDemand for Academics first. To register, visit the following site: <https://odamid.oda.sas.com/SASODARegistration/>
2. After you have registered, please click the following course enrollment link to enroll in the **Business Intelligence** course: <https://odamid.oda.sas.com/SASODAControlCenter/enroll.html?enroll=eda8008b-d178-400a-b75f-8b488088fc13>
3. For more information about SAS OnDemand for Academics, including step-by-step registration instructions, visit the following site: <http://support.sas.com/software/products/ondemand-academics/manuals/EnterpriseMinerStudent.pdf>

- Recommended Textbook: *Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management*, 3<sup>rd</sup> Edition, Gordon Linoff and Michael Berry, ISBN: 978-0-470-65093-6, Publisher: Wiley

#### **UWG CourseDen:**

- The instructor uses UWG CourseDen to post syllabus, video lectures, lecture notes, and assignment and project specifications for you to download.

#### **Course Approach:**

- Course materials will give you multiple ways to learn the material presented in this course. The assigned readings will provide one source of information. Lectures will be based on, and extend, the material in assigned readings. Assignments and final project give you an opportunity to learn BI and data mining using a hands-on approach.

#### **Communications with the Professor:**

- Students **WILL** receive individual e-mails concerning course updates and changes.
- Students should check their **UWG email accounts** on a **daily** basis.
- You are responsible to find out about any changes in due dates and course content.
- As UWG e-mail is the official means of communication, only UWG issued e-mail addresses will be answered by the Professor. **CourseDen email is not utilized by the Professor (neither read nor answered).**
- Please be sure you have adequate space available in your UWG e-mail in box account, as only one attempt will be made to contact a valid UWG email address.
- My preference is to be contacted through the CourseDen discussion board; that should always be your first option. I urge you to post your questions on the discussion board so that everyone can benefit from the responses. I will check discussion board regularly to respond to your questions. This is the BEST method of communicating your questions regarding the course (e.g., assignments, lessons, etc.) with the instructor. Before posting a question, make sure that you read through the questions and answers that have been posted on the discussion board. Often, you will find the answer to your question there. The discussion board is essential to this course. Please be sure to check it every day. Everyone can read the discussion board postings; therefore, do not post private information.

- Please contact me directly through my UWG email ([jdeng@westga.edu](mailto:jdeng@westga.edu)) for anything that is confidential or private. All e-mails to the Professor are to be sent to [jdeng@westga.edu](mailto:jdeng@westga.edu). If you would like to ask questions via email, please make sure you use CISM 4390 or CISM 5390 as the subject line, so that I recognize that it is from one of you and my spam filter do not accidentally delete your message. Emails will be answered within hours if not immediately. Although attempts will be made to reply as quickly as possible, you should not assume that all the emails sent after 10:00 PM or over the weekend will be replied on the same day. **I REPLY TO ALL EMAILS. IF YOU DO NOT GET A REPLY WITHIN A 24-HOUR PERIOD, ASSUME I DID NOT RECEIVE IT AND PLEASE RESEND.**
- If you would like to meet me in person, please make an appointment with me by sending email to [jdeng@westga.edu](mailto:jdeng@westga.edu).

### Assignments:

- There are **six** assignments. They are due at **03:30PM (est)** on the respective scheduled due dates.
- Late assignments will be accepted up to only **one day** later. There is a **20% penalty** assessed against late assignments that are unexcused. Assignments not turned in by 03:30 PM the day after the due date will be marked **MISSED** and will not receive any credit.
- All assignments are individual, not group, assignments.
- All assignments must be submitted through the **Assignment Submission Folders on CourseDen**. No additions or corrections will be accepted once assignments have been submitted for grading.
- All assignments must be reviewed within one week after grades are posted.

### Final Project:

- The final data mining project requires a preliminary report and a final report. They are due respectively at **03:30PM (est)** on the following dates: **Monday, April 17, 2017** and **Monday, May 1, 2017**.
- The requirement of the project is to conduct data mining analysis using SAS Enterprise Miner. The report of the project should fully describe the work done for the whole data mining analysis, not just the end results. Often, the whole data mining analysis may iterate the data mining processes several times, not just one-shot. The process may include problem analysis, data preparation, data transformation, data mining methodologies, result analysis, lessons learned and so on (graduate students are also required to explore the ethical issues in data mining). Therefore, presenting merely the SAS output report will receive very low scores for the report. Details of the project will be posted on CourseDen.
- The project is a group project. Each group is expected to select one or more project data sets from [UCI Machine Learning Repository](#). Two groups cannot work on the same data set(s), and the data set(s) will be "distributed" on the first-come-first-served basis. If the data set(s) you would like to work on has already been taken, you will have to choose from what is left, so plan early. **Please form your project group (3 undergraduate students or 2 graduate students), and submit the link to your project data sets, each group member's complete name and campus e-mail address to me via email by March 15, 2017.** The group size is set to be **3 undergraduate students or 2 graduate students**, with a goal of conducting a complete data mining analysis by allocating appropriate manpower. Please note the same amount of work is still expected if your group is smaller than 3 undergraduate students or 2 graduate students. If your group is larger than 3 undergraduate students or 2 graduate students, you need to justify why you need a large group -- in terms of manpower requirements to build a larger project, with a proportionally larger amount of work. Please send your request and justification to your instructor via email.

- Each group will give a 15-minute project presentation during **class time (3:30PM – 6:45PM) on Monday, May 1, 2017**. All students **MUST** attend the project presentation.

**Quizzes:**

- The quizzes are open book and open notes.
- You will only have one opportunity to take each quiz, once you start the quiz you are committed to finish.
- All quizzes are due at **03:30PM (est)** on the respective scheduled due dates (see the course calendar below for specific dates).
- **Make up quizzes are not offered.**
- The quizzes are limited to 1 hours, taken on-line, and open book.

**Grading:**

<b>SAS Visual Analytics Assignment (4 Parts)</b>	<b>15</b>
<b>SAS Enterprise Miner Assignment 1</b>	<b>5</b>
<b>SAS Enterprise Miner Assignment 2</b>	<b>10</b>
<b>SAS Enterprise Miner Assignment 3</b>	<b>10</b>
<b>SAS Enterprise Miner Assignment 4</b>	<b>10</b>
<b>SAS Enterprise Miner Assignment 5</b>	<b>10</b>
<b>Final Project Grading (Individual Student Grade)<sup>1</sup></b>	<b>30</b>
<b>Quizzes</b>	<b>10</b>
<b>Total</b>	<b>100</b>

- A: 90 and above**
- B: 80 – 89.999**
- C: 70 – 79.999**
- D: 60 – 69.999**
- F: 59.999 and below**

**<sup>1</sup> Final Project Grading**

Final Project Group Grade (max of 30 points)

- 5 Data Mining Preliminary Report
- 20 Data Mining Final Report
- 5 Presentation

Final Project Individual Student Grade (max of 30 points)

(Final Project Peer Evaluation Grade /10) \* Final Project Group Grade

**Credit Hour Policy (3 credit hours):**

For approximately fifteen weeks, students in this class will generally spend 150 minutes with direct faculty instruction (either face-to-face or online) and work about 360 minutes outside of the classroom each week. This out-of-class work may include, but is not limited to, readings, assignments, projects, group work, research, and test preparation.

**Students Rights and Responsibilities:**

Please carefully review the information at the following link:

[http://www.westga.edu/assetsDept/vpaa/Common\\_Language\\_for\\_Course\\_Syllabi.pdf](http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf)

The document at this link contains important information pertaining to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

**Americans with Disabilities Act:**

If you are a student who is disabled as defined under the Americans with Disabilities Act and require assistance or support services, [The Office of Disability Services](#) will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please notify your instructor using the course email system within five business days after the beginning of the course and attach a PDF copy of your Student Accommodations Report (SAR) which is available only from the Office of Disability Services. Accommodation requests require appropriate notice and paperwork.

**University of West Georgia Honor Code:**

At the University of West Georgia we believe that academic and personal integrity are based upon honesty, trust, fairness, respect and responsibility. Students at West Georgia assume responsibility for upholding the honor code. West Georgia students pledge to refrain from engaging in acts that do not maintain academic and personal integrity. These include, but are not limited to, plagiarism, cheating, fabrication, aid of academic dishonesty, lying, bribery or threats, and stealing.

You are responsible for the safeguarding of your computer account. Your account and network connection are for your individual use. A computer account is to be used only by the person to whom it has been issued. You are responsible for all actions originating through your account or network connection. You must not impersonate others or misrepresent or conceal your identity in electronic messages and actions.

**Proprietary Material Agreement:**

The materials on this course website are only for the use of students enrolled in this course for purposes associated with this course and may not be retained or further disseminated.

**Online Privacy:**

This course may require you to work with other sites and entities beyond UWG and CourseDen (D2L) where some personal information (e.g. your name, affiliation with UWG, or current employment) may be displayed. You have the right to regulate the displaying of information pertaining to yourself on the Internet. If you are uncomfortable displaying information that you deem overly personal, you may take steps to post more anonymous manner (such as posting

online your first name and last initial only or other pseudonym). You also agree to respect other people's wishes to remain anonymous.

### **Links to and From Third-Party Sites:**

There may be links established between this course and other entities and sites on the World Wide Web, Internet or other areas that are not under the control of, nor maintained by your professor or the University of West Georgia (UWG). These links do not necessarily constitute an endorsement by your professor or UWG, and UWG has no obligation to monitor such sites, and the user agrees that neither your professor nor UWG is responsible for the content of such sites or for any technical or other problems associated with any such third-party site, links, or usage.

### **Course Policies:**

- Students with special needs or requirements are expected to contact me privately within five business days after the beginning of the course. Failure to notify the Professor within the required time line may result minimal accommodations.
- This syllabus and the related course content are subject to change by the Professor.
- Notice of syllabus revisions will be posted on CourseDen.
- You are not allowed to turn in work completed for another class for credit in this class. For example, you cannot write one paper and turn it in for credit in two different classes.

### **Course Calendar:**

**ALL ASSIGNMENTS, ALL QUIZZES, AND FINAL PROJECT REPORTS ARE DUE AT 03:30PM (est) on the respective scheduled due dates.**

<b>WEDNESDAY MAR. 15</b>	<b>SAS Visual Analytics Assignment due at 03:30PM.</b>
<b>WEDNESDAY MAR. 29</b>	<b>Quiz 1 due at 03:30PM. SAS Enterprise Miner Assignment 1 due at 03:30PM.</b>
<b>WEDNESDAY APR. 05</b>	<b>Quiz 2 due at 03:30PM. SAS Enterprise Miner Assignment 2 due at 03:30PM.</b>
<b>WEDNESDAY APR. 12</b>	<b>Quiz 3 due at 03:30PM. SAS Enterprise Miner Assignment 3 due at 03:30PM.</b>
<b>MONDAY APR. 17</b>	<b>Final Project Data Mining Preliminary Report due at 03:30PM.</b>
<b>WEDNESDAY APR. 19</b>	<b>Quiz 4 due at 03:30PM. SAS Enterprise Miner Assignment 4 due at 03:30PM.</b>
<b>WEDNESDAY APR. 26</b>	<b>Quiz 5 due at 03:30PM. SAS Enterprise Miner Assignment 5 due at 03:30PM.</b>
<b>MONDAY MAY 1</b>	<b>In-Class Final Project Presentation; Final Project Data Mining Final Report due at 03:30PM; Final Project Peer Evaluation Form due at 03:30PM.</b>