MGNT 6685: Advanced Business Analytics
Spring semester 2020

Instructor
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Please email me at jpridmor@westga.edu and use the subject line “CISM 3350” so that I will know which class your question is referring to.

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Online Support Links

CouresDen Home Page
CourseDen Help
Distance Learning Library Services
Ingram Library Services
UWG Bookstore
Disability Services

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

Course Description
Overview of the process of data analysis. Data analytics have moved out of the academic world of statisticians to the practical world of technology. A variety of user friendly technologies bring powerful analytical capabilities to end users. Three major areas that comprise analytics are reporting, visualization and prediction. This course uses the latest in technology to show the practice of data analytics in the real world. You will experience practical applications of analytics through guided exercises and case studies.
Learning Objectives
Data analytics has become a highly sought after skill in business, engineering, economics, government, services, science, health care and other domains. This course will explore the technology and practice of data analytics.

After completing the course, students will be able to
• Analyze data to generate information and knowledge that lead to informed decisions for businesses
• Author enterprise dashboards that are used to summarize and visualize data in a way that supports insight into trends and “what-if” analysis in real time.
• Show how business intelligence can be derived from data warehouses
• Create standard reports for business users
• Derive insightful trends using data mining techniques
• Apply the latest in analytics technology in real world case studies in the areas of business, entertainment, climate change etc.

Prerequisites
• Basic computer literacy
• An introductory course in information technology covering information systems, internet, technology-enabled business, spreadsheets, databases, digital representation of data, basics of hardware and software, and business processes.
• Basic skills in Microsoft Excel – working with tables, formulae, sorting, filtering and charting
• Introductory course on statistics

Course Notes
All course materials will be made available through Blackboard. Blackboard discussion forums will be used for out-of-class discussions. Lectures are delivered face to face in classroom.

Technology Proficiency and Hardware/Software Required
Students can use their own computers or use lab computers. Most of the SAP software required for the class is Windows based. Specifically, you will be using
• SAP GUI 7.40 for Windows
• SAP BW
• SAP Business Explorer Query Designer
• SAP BusinessObjects Analysis for Microsoft Office
• SAP BusinessObjects Design Studio
• SAP Predictive Analytics
• SAP Crystal Reports
• SAP Explorer
• SAP Lumira
• Microsoft Excel and Access
• Teradata
Required Reading
URL: Epistemy Press Book
ebook download & reading tutorials: Epistemy Press ebook-reading

Description and Assessment of Assignments
Assignments – Most homework is computer based. Homework should be submitted on CourseDen on
time. Grading will be based on completeness, accuracy, and timeliness. Feedback will be provided
through CourseDen.
Final Project – require students to read, assess, compare, and evaluate a real business case. Then they
have to use the tools they have learned in the class to argue their findings and recommendations in
the form of a quantitative report.
Reflection Paper – are based on concepts and tools used in the semester. The goal is for you to
synthesize what was completed in the semester in a logical manner to help with your resume
development and to prepare for interviews.

Grading Breakdown
The weight of graded material during the semester is listed below.
No extra credit assignments will be offered.

Assignments - 40%
Final Projects - 40%
Reflection Paper - 20%
Total - 100%

Assignment Submission Policies
It is the responsibility of the student to make sure case studies and assignment are turned in on time.
Make sure you follow the procedures outlined in each assignment or case study (Blackboard
submissions).

Late assignment submissions will be subject to a late penalty of 25% per day. No assignments will be
accepted later than four days from the due date.

Additional Policies
No make-up or late work (except for documented medical or family emergencies) will be offered nor will
there be any changes made to the Final Exam schedule, except as permitted by university rules.
COMMON LANGUAGE FOR COURSE SYLLABI
Updated July, 2017

Students should review the following information each semester.

ACADEMIC SUPPORT

Accessibility Services: Students with a documented disability may work with UWG Accessibility Services to receive essential services specific to their disability. All entitlements to accommodations are based on documentation and USG Board of Regents standards. If a student needs course adaptations or accommodations because of a disability or chronic illness, or if he/she needs to make special arrangements in case the building must be evacuated, the student should notify his/her instructor in writing and provide a copy of his/her Student Accommodations Report (SAR), which is available only from Accessibility Services. Faculty cannot offer accommodations without timely receipt of the SAR; further, no retroactive accommodations will be given. For more information, please contact Accessibility Services.

Center for Academic Success: The Center for Academic Success provides services, programs, and opportunities to help all undergraduate students succeed academically. For more information, contact them: 678-839-6280 or cas@westga.edu

University Writing Center: The University Writing Center assists students with all areas of the writing process. For more information, contact them: 678-839-6513 or writing@westga.edu

ONLINE COURSES

UWG takes students’ privacy concerns seriously: technology-enhanced and partially and fully online courses use sites and entities beyond UWG and students have the right to know the privacy policies of these entities. For more information on privacy and accessibility for the most commonly used sites, as well as technology requirements visit the UWG Online site.

Students enrolled in online courses can find answers to many of their questions in the Online/Off-Campus Student Guide.

If a student is experiencing distress and needs help, please see the resources available at the UWG Cares site. Online counseling is also available for online students.
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.

The University of West Georgia maintains and monitors a confidential Academic Dishonesty Tracking System. This database collects and reports patterns of repeated student violations across all the Colleges, the Ingram Library, and the School of Nursing. Each incidence of academic dishonesty is subject to review and consideration by the instructor, and is subject to a range of academic penalties including, but not limited to, failing the assignment and/or failing the course. Student conduct sanctions range from verbal warning to suspension or expulsion depending on the magnitude of the offense and/or number of offenses. The incident becomes part of the student’s conduct record at UWG.

Additionally, the student is responsible for safeguarding his/her computer account. The student’s account and network connection are for his/her individual use. A computer account is to be used only by the person to whom it has been issued. The student is responsible for all actions originating through his/her account or network connection. Students must not impersonate others or misrepresent or conceal their identities in electronic messages and actions. For more information on the University of West Georgia Honor Code, please see the Student Handbook.

UWG EMAIL POLICY
University of West Georgia students are provided a MyUWG e-mail account. The University considers this account to be an official means of communication between the University and the student. The purpose of the official use of the student e-mail account is to provide an effective means of communicating important university related information to UWG students in a timely manner. It is the student’s responsibility to check his or her email.

CREDIT HOUR POLICY
The University of West Georgia grants one semester hour of credit for work equivalent to a minimum of one hour (50 minutes) of in-class or other direct faculty instruction AND two hours of student work outside of class per week for approximately fifteen weeks. For each course, the course syllabus will document the amount of in-class (or other direct faculty instruction) and out-of-class work required to earn the credit hour(s) assigned to the course. Out-of-class work will include all forms of credit-bearing activity, including but not limited to assignments, readings, observations, and musical practice. Where available, the
university grants academic credit for students who verify via competency-based testing, that they have accomplished the learning outcomes associated with a course that would normally meet the requirements outlined above (e.g. AP credit, CLEP, and departmental exams).

HB 280 (Campus Carry)
UWG follows University System of Georgia (USG) guidance:

Additional Information
You may also visit our website for help with USG Guidance:
Campus Carry Information

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.
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Course Outline

Week 1: Jan 6 – Course Introduction
- Course objectives and outcomes
- Making the case for analytics
- Data driven decision making
- Introduction to data analytics
- Data Provisioning
- Source systems
- Data collection and staging
- Data representation for structured and unstructured data

Reading: Chapter 1 & 2
Assignment: None

Week 2: Jan 13 – Data modeling for data staging
- Transactional systems vs. informational systems
- Data warehouses
- Multidimensional modeling
- Star schema and snowflake schema
- Fact and dimension tables

Reading: Chapter 3 & 4
Assignment: None

Week 3: Jan 20 – Extraction, transformation and loading
- Extraction from source systems
- Data cleansing and transformation
- Loading data and automation
- Basics of slicing and dicing
- Pivot tables
- Working with aggregation functions, hierarchies
- Exceptions and conditions
- Slicing and dicing multidimensional data (from cubes)

Reading: Chapter 4 & 5
Assignment: E5-1, E5-2, E5-3
Answer business questions by slicing and dicing multidimensional data from a data warehouse data source.
Due Date: Week 4


**Week 4: Jan 27 – Reporting**
- What are reports? Where are they used?
- Building reports from one or more data sources
- Formatting reports
- Creating summaries

**Reading:** Chapter 6  
**Assignment:** E6-1  
Create a formatted report based on live financial data (from SAP ERP) using SAP Crystal reports. Use SAP Crystal Reports to connect to a data warehouse, then author a monthly report that show the accounts receivables from customers.  
**Due Date:** Week 5

**Week 5: Feb 3 - Data Visualization: Basic Charts**
- Visualization as a powerful tool for analytics
- Types of charts
- How to choose the right chart for displaying data
- Multi variable data display

**Reading:** Chapter 7  
**Assignment:** E7-1  
Create a formatted report based on live financial data (from SAP ERP) using SAP Crystal reports. Use SAP Crystal Reports to connect to a data warehouse, then author a monthly report that show the accounts receivables from customers.  
**Due Date:** Week 6

**Week 6: Feb 10 – Dashboards:**
- What are dashboards, cockpits, scorecards?
- How to author dashboards?
- Adding interactivity
- Deploying dashboards
- Mobile Apps for Analytics

**Reading:** Chapter 8  
**Assignment:** E8-1, E8-2  
Use data visualizations to gain insights into team performance from the ERP Sim business simulation.  
**Due Date:** Week 7

**Week 8: Feb 17 – Advanced Visualization:**
- Advanced chart types
- Infographics: How to tell a data driven story
- Mashups

**Reading:** Chapter 9  
**Assignment:** E9-1, E9-2  
Build an infographic based on data of your choice. Infographic should communicate findings in a compelling way.  
**Due Date:** Week 8

**Week 9: Feb 24 – Knowledge Discovery:**
- Data mining
- Accuracy in data mining
- Data mining process
- Machine learning
- Descriptive vs. predictive analytics
Reading: Chapter 10
Assignment: None

Week 10: March 2 – Descriptive data mining
- Models for descriptive data mining
- Clustering
- Association analysis

Reading: Chapter 11
Assignment: E11-1, E11-3
Use SAP Predictive Analytics to analyze various real world scenarios.
Due Date: Week 11

Week 11: March 9 – Descriptive data mining & Predictive data mining
- Models for descriptive data mining
- Clustering
- Association analysis
- Models for predictive data mining
- Regression
- Decision trees
- Classification
- Forecasting, time series analysis

Reading: Chapter 13
Assignment: E 12-3
Use SAP Predictive Analytics to analyze various real world scenarios
Due Date: Week 13

Week 12: March 16 – Spring Break

Week 13: March 23 – Big data: Hype or helpful?
- What is big data?
- Challenges and promises of big data
- Limitations and missteps of big data

Reading: Chapter 13
Assignment: Use your Analytic Cloud projects from last semester to research the use of big data use case.
Answer these questions:
1. Describe the dataset for your big data source and use case.
2. Research how these data are used for analytics. What is the use case for the specific big data?
3. Explain the methodology used for analyzing the data.
5. Show the benefit of big data analytics in your use case.
6. Describe how big data could impact your life in the future.

Due Date: Week 14
Week 14: March 30 – Analytics in the Decision Cycle
- How does data analysis support decision making?
- Automating analysis using advanced technologies.
- Business cases using manual and semi-automated analysis

Assignment: Supply.com Data
Due Date: Week 17

Week 17: April 27 – Reflection Paper