



College Document # _____

UCC Document # 166

Review Type: Edit Exp XX Full

CATALOG YEAR 15-16

COLLEGE/SCHOOL/SECTION: ARSSB/DIBTS

Course: Add: Delete: Delivery: MIS3360
(check all that apply) Change: Number Title SCH Description Prerequisite

Response Required: New course will be part of major minor as a required
or elective course

Response Required: New course will introduce , reinforce , or apply concepts

Response Required: Grade Type Normal (A-F) CR/NC P/F

Shortened Course Format: Equivalent Student Learning Outcomes verified:

If new, provide Course Prefix, Number, Title, **Measurable** Student Learning Outcomes, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current online catalog, provide change and attach text with changes in red and provide a brief justification.

Program: Delete: Add: Change: Attach new/changed Program of Study description and 4-year plan. If in current online catalog, provide change and attach text with changes in red.

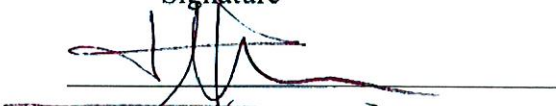
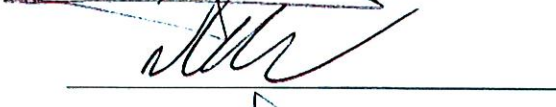

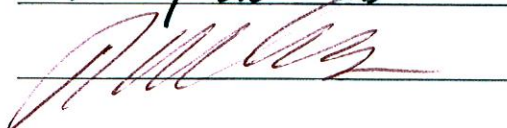
Program Learning Outcomes: Add: Change: Attach listing of program learning outcomes.

Minor: Add: Delete: Change: Attach new/changed minor. If in current online catalog, provide change and attach text with changes in red.

College Introductory Pages: Add information: Change information:
Attach new/changed information. If in current online catalog, provide change and attach text with changes in red.

Other: Add information: Change information: Attach new/changed information. If in current online catalog, provide change and attach text with changes in red.

Approvals:

	Signature	Date
Chair Department Curriculum Committee		<u>2/11/2015</u>
Chair Department		<u>2/12/15</u>
Chair College Curriculum Committee		<u>2/11/2015</u>
Dean	<u>R. Stephen Seaw</u>	<u>2/23/2015</u>
Provost		<u> </u>

**TEXAS A&M INTERNATIONAL UNIVERSITY
A.R. SANCHEZ, Jr., SCHOOL OF BUSINESS
DIVISION OF INTERNATIONAL BUSINESS AND TECHNOLOGY STUDIES**

**COURSE SYLLABUS
FALL 2014**

Course: MIS 3360-161, *Business Data Visualization*
Instructor: Milton Mayfield, Professor of Management
Office Hours: PH 313 D
956-326-2534
Monday: 3:00-6:00 pm
Wednesday: 3:00-6:00 pm
Friday: 3:00-6:00 pm
and by appointment
E-mail: mmayfield@tamiu.edu
Required Text: *Thinking with Data: How to Turn Information into Insights, 2014*
Max Shron
O'Reilly Media
ISBN-13: 978-1449362935

R Graphics Cookbook, 2013
Winston Chang
O'Reilly Media
ISBN-13: 978-1449316952
Recommended: *The Visual Display of Quantitative Information, 2nd edition, 2001*
Edward R. Tufte
Graphics Press
ISBN-13: 978-0961392147

Envisioning Information, 1990
Edward R. Tufte
Graphics Press
ISBN-13: 978-0961392116

Visual Explanations: Images and Quantities, Evidence and Narrative, 1997
Edward R. Tufte
Graphics Press
ISBN-13: 978-0961392123

Prerequisite: DS 2310 or permission of the instructor

Course Description: *Three semester hours*
This course provides an overview of data visualization and analysis methods relevant to current business decision making. The class will help students to develop skills through all phases of the analysis and visualization process: determining analysis purpose; retrieving relevant data; analyzing the data; presenting the data in a method that enhances understanding. Use of modern visualization and analysis programs will be emphasized throughout the course.

Course Goals: *By the end of the semester, successful participants will be able to:*

1. Competently **evaluate** data analysis goals for making organizational improvement.
2. Implement an **analysis** of relevant data sources for their use in answering organizational improvement questions.
3. Create a **data synthesis** using quantitative and qualitative methods.
4. Complete an **application** of analysis results using visual presentation methods.

Learning Objectives:

Goal	Objective
1. Evaluate analysis goals	Students will be able to <i>recommend</i> data analysis goals that are appropriate for improving

- | | |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Analyze data sources | organizational outcomes.
Students will be able to <i>compare</i> and <i>select</i> different data sources for implementing a data analysis and visualization project. |
| 3. Synthesis of data using analytic methods | Students will be able to <i>design</i> and <i>produce</i> a data analysis to answer relevant organizational questions. |
| 4. Application of data summary results using visual presentation methods | Students will be able to <i>prepare</i> a visual presentation of data analysis results that is appropriate for analytical and persuasive purposes. |

Grading Policy

Grades will be determined with the following weights:

Course Tests	50%
In-class Assignments	10%
Data Understanding Assignments	20%
Final Project	20%

	100%

90- 100%	A
80- 90%	B
70- 80%	C
60- 70%	D
below 60	not passing

Attendance Policy: *Students are expected to attend and be prepared for all classes.*

Other course policies:
Students are expected to:

1. Obtain the assigned course texts by the end of the semester's first week.
2. Complete all assigned readings by the posted date.
3. Bring the course text and all other necessary materials to class.
4. Use the Angel system for e-mail correspondences.
5. Ask questions.
6. Help your classmates when asked.
7. Ask for help when you want to know more.
8. Find one thing that interests you each class.

Classroom Behavior

The A.R. Sanchez, Jr. School of Business encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. ARSSB will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

Copyright Restrictions

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to \$100,000; criminal penalties include a fine up to \$250,000 and imprisonment.

Copyright laws do not allow students and professors to make photocopies of copyrighted materials, but

you may copy a limited portion of a work, such an article from a journal or a chapter from a book for your own personal academic use or, in the case of a professor, for personal, limited classroom use. In general, the extent of your copying should not suggest that the purpose or the effect of your copying is to avoid paying for the materials. And, of course, you may not sell these copies for a profit. Thus, students who copy textbooks to avoid buying them or professors who provide photocopies of textbooks to enable students to save money are violating the law.

Plagiarism and Cheating

Plagiarism is the presentation of someone else's work as one's own. Recently, the Internet has complicated the picture. Getting something from the Internet and presenting it as one's own is still plagiarism. Copying another student's paper or a portion of the paper - is usually called "copying". Neither plagiarism nor copying will be tolerated. Should a faculty member discover that a student has committed plagiarism, the students will receive a grade of 'F' in that course and the matter may, if necessary, be referred to the TAMU Honor Council for possible disciplinary action.

Students with Disabilities

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Disabilities Services Coordinator located in the Student Counseling Center and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

Safety and Security- You are the Difference

Your safety and security are of prime concern here at Texas A&M International University, and the University police department work hard to ensure the campus is a safe place to live, learn, work and play. TAMU is not, however, exempt from crime. To be safe and secure, you must take common sense precautions. Be alert and aware of those around you; look out for the safety of others. Do not leave valuables unattended; do not attempt to touch or interfere with our wildlife.

Student Responsibility For Dropping a Course

It is the responsibility of the STUDENT to drop the course before the drop date. Faculty are not responsible for dropping students who suspend class attendance.

Final Examination

The University requires that all final examinations be comprehensive and given on the day specified.

THE INSTRUCTOR RESERVES THE RIGHT TO MAKE CHANGES TO THIS SYLLABUS AS NEEDED AND WITH NOTIFICATION TO STUDENTS

Course Calendar:

Date	Day	Class Topic/Reading Assignment ¹	Assignments ²	Learning Objective(s) Addressed
September 1	Monday	Introduction	Understanding data visualization and analysis	1, 2, 3, & 4
September 8	Monday	Analysis of data issues and organizational problems	<i>Thinking</i> ³ : Chapter 1 DAU ⁴	1
September 15	Monday	Selecting goals for organizational improvements	<i>Thinking</i> : Chapter 2 DAU	1
September 22	Monday	Obtaining useful data	<i>Thinking</i> : Chapter 2 <i>R Graphics</i> ⁵ : Chapter 15 DAU	1, & 2
September 29	Monday	Preliminary data analysis for selection (including descriptive statistics methods)	<i>R Graphics</i> : Chapters 1 and 2 DAU	1, & 2
October 6	Monday	Test 1	Test 1	
October 13	Fall Break	No Class, Fall Break		NA
October 20	Monday	Analysis of static data and data classification	<i>R Graphics</i> : Chapters 3, 5, & 6 DAU	1, 2, & 3
October 27	Monday	Analysis of trend data	<i>R Graphics</i> : Chapters 4, & 5 DAU	1, 2, & 3
November 3	Monday	Visual presentation of static data and categorizing data	<i>R Graphics</i> : Chapters 7, 8, 9, & 10 DAU	1, 2, 3, & 4
November 10	Monday	Visual presentation of trend data	<i>R Graphics</i> : Chapters 11, 12, 13, & 14 DAU	1, 2, 3, & 4
November 17	Monday	Elements of persuasive data presentation	<i>Thinking</i> : Chapters 3, 4, 5, & 6 DAU	1, 2, 3, & 4
November 24	Monday	Test 2	Test 2	1, 2, 3, & 4

1 Reading assignment titles taken from Robbins' and Hunsaker's *Training in Interpersonal Skills*.

2 Assignments should be completed before the class meeting on that date. Remember to *always* bring your texts to class for in-class assignments.

3 *Thinking with Data: How to Turn Information into Insights*

4 Data Understanding Assignment

5 *R Graphics Cookbook*

Date	Day	Class Topic/Reading Assignment ¹	Assignments ²	Learning Objective(s) Addressed
December 1	Monday	Final Project Presentations and Paper Due	Paper due Final Project Presentations	1, 2, 3, & 4
December 8	Monday, 8:00 pm	Final Exam	Final Exam	1, 2, 3, & 4

JUSTIFICATION:

Modernization of the existing BBA in MIS Program to include a Data Analytics component, whereby students will learn various state-of-the-art techniques to compile and analyze data from various organizations and from the cloud. The goal of these analyses will be a better understanding of issues that can be used to improve the quality of goods and services in organizations, and the productivity with which those goods and services are generated and delivered to customers.