



**ISM 4403 – 001
16125
Advanced Business Analytics
Fall 2016
Distance Learning
Asynchronous**

Professor Information:

Name: Robert P. Cervený, Ph. D.
Office: FL 213
e-mail: cervený@fau.edu
Phone: (561) 297-4008

Office Hours:

In-office Monday FL 213 1:00 – 2:30 pm, On-line Wednesday 1:00 – 2:30 pm also On-line by request and by appointment (see below for details):

Required Text and Materials:

VBA for Modelers, Developing Decision Support Systems with Microsoft Office Excel Fourth Edition by S. Christian Albright, published by South-Western CENGAGE Learning, Mason, OH 45040, ISBN-13: 9781439019843. We will be using selected chapters from this book which may be purchased from Cengage at the URL below for about \$3 each (Chapters I know we are going to use are 1, 3, 5, 7, 9, 10 and 11). You may purchase the complete book as an on-line or hard cover from local bookstores. (Also available at Cengage at <http://www.cengagebrain.com/shop/isbn/9781285869612>). If you have problems accessing this site, try copying the URL into your web browser)

Microsoft Excel 2013 Data Analysis and Business Modeling, by Wayne L Winston, Microsoft Press, Redmond, WA, 2010 ISBN-13 978-0-7356-6913-0 (paperback) This book may be purchased from on-line book sellers as well as local bookstores and in soft cover.

Blackboard: You must use Blackboard to retrieve class notes, take tests, and to receive class e-mail from me. Go to <http://blackboard.fau.edu> to log in.

E-mail: It is your responsibility to check your e-mail frequently. E-mail from me will be sent to your FAU account. If you forward it to another account, you must make sure that is set up correctly.

Computer: You must have access to a computer running **Microsoft Excel 2016**. Office 2016 it must be Office 2016 Professional Plus or E3 or E4 editions of Office 365. If you do not have current access to the correct product, FAU provides several ways to obtain access to the necessary software. The first is as long as you are an FAU student you are entitled to install Microsoft Office 365 on your personal computer at no charge to you. See www.fau.edu/oit/getoffice365/ for details and downloads.

If you wish to purchase a personal copy of MS Office 2106, FAU has an arrangement with journeyED (either the OIT site, Software/Desktop, Software for Students/Faculty/Staff personal usage: or www.journeyed.com – You will have to create an account) where you can receive a variety of selected software for your use at steeply discounted prices) FAU open computer labs are also available for your use if necessary.

Course Description:

An in-depth examination of business analytics methods of visualization, data mining, text mining and web mining, using various analytical tools. In a laboratory setting, investigates applications for smaller firms.

Course Prerequisites and Credit Hours:

Prerequisites: Graduate Students only

Credit Hours: 3 credit hours

“According to Florida State Statute 6A-10.033, students must spend a minimum 2,250 minutes of in class time during a 3-credit course. Additionally, students enrolled in a 3-credit course are expected to spend a minimum of 4,500 minutes of out-of-class-time specifically working on course-related activities (i.e., reading assigned pieces, completing homework, preparing for exams and other assessments, reviewing class notes, etc.) and fulfilling any other class activities or duties as required.” The course schedule for this course reflects this expectation of students.

Course Learning Objectives:

ISM 4403, Advanced Business Analytics, is a 3 hour projects-based course that provides an in-depth understanding of Business Intelligence (BI) methods of visualization, data mining, text mining, and web mining through the use of specific BI tools. It is further designed to give those with basic Excel knowledge, as well as those with more advanced Excel abilities, more of what organizations need and value for data mining, business analytics and reporting. Additional skills such as when and how to use pivot tables, PowerPivot, macros, how to automate and integrate downloads of data into reports with one click, form creation, graphing, and the creation and use of simulation and decision support modeling are all covered in a hands-on interactive setting using Excel 2016 and VBA. Business analytics as applied to smaller firms is investigated.

Grading Scale:

A = (93-100) %	B- = (80-82.99) %	D+ = (67-69.99) %
A- = (90-92.99) %	C+ = (77-79.99) %	D = (63-66.99) %
B+ = (87-89.99) %	C = (73-76.99) %	D- = (60-62.99) %
B = (83-86.99) %	C- = (70-72.99) %	F = < 60 %

Important Dates:

8/22	Classes Begin
8/26	Last day to drop without consequences
9/5	Labor Day Holiday
10/10 – 10.11	Fall Break Holiday
11/11	Veteran’s Day
11/18	Last day to drop without receiving a “F”
12/8	Final Exam Period Begins

Course Evaluation Method:

Component:	Weight
Homework	40%
Class Participation/Discussion Participation	15%
Discussion Board Lead Discussant	5%
Exams (2 @ 20% Each)	40%

Student mastery of the concepts of the course will be demonstrated through the use of homework problems solved by the student, discussion board discussions of business intelligence research developed by each student and the exams.

Additional Course Policies

Missing Exams:

There will be two on-line exams during the semester. The final is cumulative. They are taken during the time periods noted in the course content outline.

A student who is unable to take an exam due to an emergency must inform me of that fact on or earlier than the period of the exam (except for extreme cases, i.e., you are in a coma in the hospital due to a car accident suffered the day you were to take the exam) and arrange for a make-up exam before the graded exam is returned to the class. Any student requiring a make-up will have to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead stating the nature of illness **and its severity**). Exams missed without prior approval (or documented proof that the unapproved absence was unavoidable) cannot be made up. In no event will a make-up be given after the graded exam is returned to the class.

Late Assignments:

Homework is to be turned in by midnight on the Sunday after the week assigned unless otherwise noted (see course content and tentative schedule attached). Late homework will lose 75% of its original value.

Attendance Policy:

It is expected that students will participate in all activities. It is the responsibility of the student to make up any missed material.

Class Participation:

Students will be assigned to discussion groups which will hold group discussion over current BI/BA applications. Each student is to use library resources and/or the internet to find reasonably current unique reference concerning business intelligence/business analytics which will be shared with the class, all of whom are to read the articles. Articles must be substantive, i.e. an announcement of a new product or a new release about a product does not count.

Each student will act as the Lead Discussant for a recent BI/BA article on a topic of their choice from a respected business journal (for example: **The Economist, Fortune, Bloomberg BusinessWeek, The Wall Street Journal**, etc.) or academic journal (for example, the **Sloan Management Review, the Harvard Business Review, Communications of the ACM**, etc.). They will prepare a **discussion board** entry for the article they chose to analyze. The discussion board entry should end with some questions raised by the article to guide the class discussion. This **discussion board** entry will then serve as the basis for a discussion by the class. What I envision is that the class will explore how BI is affecting business based on the articles. Each student is responsible for acting as the Lead Discussant for one article during the course of the semester.

The **discussion board** entry will contain web links to the article being discussed.

Course Content and Tentative Schedule:

The table below (see last page of this document) contains a schedule of topics by week. Please note that the dates given are the Sunday for the class. For example, the material assigned under 8/21 will be the topic for that week. Homework assignments over the material will be found in the assignments section of Blackboard. Assignment due dates are given with the assignments in Blackboard.

Web Assist Course:

This course will make use of the Blackboard Internet feature. Lecture material and homework assignments will be posted on Blackboard, with due dates. Grade information will also be found there. We will experiment with an occasional on-line session using Blackboard Collaborate. Additionally, there may be occasional on-line discussions. The times of these discussion periods will be determined as the semester progresses.

Netiquette (E-mail) policy:

All course related e-mail sent to the instructor MUST have "ISM 4403" (without the quotation marks) in the subject line. Each e-mail sent without the proper subject heading will reduce your final grade by 1 point.

Specifically, ALL e-mails should:

- **Have "ISM 4403" at the beginning of the subject line.**
- Include your name in the body of the message, since email addresses do not always identify the sender.
- Use proper salutations and signatures.
- Use the same type of language and manners that you would use in a formal, business setting.
- Ask specific questions which are not answered through Blackboard.

If you do not follow these guidelines, I reserve the right to request a revised email with appropriate changes before addressing your questions or issues.

Exams And Exam Make-Up Policy:

There will be two exams during the semester. The last one (the final) is cumulative in this course. These exams will be taken on-line during the time periods noted in the course content outline.

A student who is unable to take an exam due to an emergency must inform me of that fact on or earlier than the day of the exam (except for extreme cases, i.e., you are in a coma in the hospital due to a car accident suffered on the way to the exam) and arrange

for a make-up exam before the graded exam is returned to the class. Any student requiring a make-up will have to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead stating the nature of illness **and its severity**). Exams missed without prior approval (or documented proof that the unapproved absence was unavoidable) cannot be made up. In no event will a make-up be given after the graded exam is returned to the class, which is usually the week after the exam is scheduled.

Additional Course Policies

Blackboard Spam:

In past semesters SPAM has found its way into Blackboard. Occasionally someone uses the email section in Blackboard to send out messages for offerings such as tutoring or other services. **This practice is not condoned in any way or approved by the instructor.** Students in the course should be wary of anyone asking to be allowed to post advertising no matter how "helpful" it may seem. Should you receive such emails via Blackboard do not respond to their offers as they may not be legitimate and are not approved by the instructor.

Anti-plagiarism Software:

Written components of any assignment or project may be submitted to anti-plagiarism software to evaluate the originality of the work. Any students found to be submitting work that is not their own will be deemed in violation of the University's honor code discussed above.

Selected University and College Policies

Code of Academic Integrity Policy Statement:

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a

system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty.

For more information, please see FAU Regulation 4.001 at: [FAU Regulation 4.001](#).

While the FAU Honor Code governs all student activities throughout the course, there are some specific comments which are applicable.

Homework is to be an individual effort. It is certainly permissible to work with other students on assignments, but the final result turned in must be your own work. It is almost impossible for a program of any size above trivial to use identical variables, algorithms and computer memory. Having said that, you may incorporate code you find from other sources as long as you properly reference the sources. (Reuse of code is one of the objectives of object oriented programming after all). However, cheating, plagiarism, and unauthorized collaboration are unacceptable and subject to disciplinary actions. Plagiarism is turning in someone else's ideas as your own work. Cheating is copying from someone or giving your work to someone else. Such actions may include an "F" in the course and the placement of a letter of fact in your student record in accordance with the rules of the University and the College of Business.

Disability Policy Statement:

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS)—in Boca Raton, SU 133 (561-297-3880); in Davie, LA 131 (954-236-1222); or in Jupiter, SR 110 (561-799-8585) —and follow all SAS procedures. Their web site is: <https://fau.edu/sas>.

Religious Accommodation Policy Statement:

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments.

For further information, please see FAU Regulation 2.007 at: [FAU Regulation 2.007](#).

University Approved Absence Policy Statement:

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is the student's responsibility to notify the course instructor at least one week prior to missing any course assignment.

Incomplete Grade Policy Statement:

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

The specific time required to make up an incomplete grade is at the discretion of the instructor. However, the College of Business policy on the resolution of incomplete grades requires that all work required to satisfy an incomplete ("I") grade must be completed within a period of time not exceeding one calendar year from the assignment of the incomplete grade. After one calendar year, the incomplete grade automatically becomes a failing ("F") grade.

Withdrawals:

Any student who decides to drop is responsible for completing the proper paper work required to withdraw from the course.

Grade Appeal Process:

A student may request a review of the final course grade when s/he believes that one of the following conditions apply:

- There was a computational or recording error in the grading.
- Non-academic criteria were applied in the grading process.
- There was a gross violation of the instructor's own grading system.

The procedures for a grade appeal may be found in [FAU Regulation 4.002](#).

Disruptive Behavior Policy Statement:

Disruptive behavior is defined in the FAU Student Code of Conduct as “... *activities which interfere with the educational mission within classroom.*” Students who behave in the classroom such that the educational experiences of other students and/or the instructor’s course objectives are disrupted are subject to disciplinary action. Such behavior impedes students’ ability to learn or an instructor’s ability to teach. Disruptive behavior may include, but is not limited to: non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor’s expectations for classroom conduct.

Faculty Rights and Responsibilities:

Florida Atlantic University respects the right of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions which do not impede their exercise. To ensure these rights, faculty members have the prerogative:

- To establish and implement academic standards
- To establish and enforce reasonable behavior standards in each class
- To refer disciplinary action to those students whose behavior may be judged to be disruptive under the Student Code of Conduct.

Course Outline:

ISM 4403 Fall 2016
Schedule of Events

Week	Date	Topic	Text
1	8/21	Introduction Excel Review	Obtain Texts Ex Ch 27
2	8/28	Range Names, Time Functions Intro to VBA	Ex Ch 1,12 VBA Chs1, 3
3	9/4	Lookup Functions, Conditional Formatting VBA Basics	Ex Chs 2, 3, 4 & 23 VBA Ch 5
4	9/11	Text, Date & Financial Functions VBA Ranges	Ex Chs 5, 6, 7,8 & 9 Blackboard notes
5	9/18	Functions & Statistics VBA Control Structures	Ex Chs 11, 19, 20, 41 & 42 VBA Ch 7
6	9/25	Sorting, Tables & Filters VBA Subroutines, Functions & Arrays	Ex Chs 24, 25 & 49 VBA Ch 10
7	10/2	Subtotals, What If Analysis VBA UserForms	Ex Chs 51, 16,17,18 VBA Ch 11
8	10/9	Mid Term Exam	
9	10/16	The Auditing Tool, Importing Data VBA User Forms, Error Handling	Ex Chs 15, 38, 39 VBA Ch 11
10	10/23	Sparklines, Charts, Trends, SUMPRODUCT VBA Advanced User Forms	EX 47, 52, 53 Blackboard(BB) notes
11	10/30	Excel Pivot Tables VBA Advanced User Forms	Ex Ch 43 VBA BB notes
12	11/6	Pivot Charts, Dashboards VBA Advanced User Forms	EX 43 BB notes
13	11/13	Dashboards & Correlations	EX Ch. 56 & BB notes
14	11/20	Dashboards & DB Stat Functions	Ex Ch. 48 & BB notes
15	11/27	Data Model, Power Pivot & Power View	EX 44, 45 & 46
16	12/4	Review	



	12/7	Reading Days	
17	12/8	Final Exam Period Begins	

Please note that while several chapters from the Excel book are covered in some weeks, these are short chapters and the intent is to cover those topics in that week.

Disclaimer: This course is still a “work-in-progress”. As we gain experience we will be making adjustments. If portions of the instructions provided are unclear or do not make sense, feel free to question me as to what is meant and adjustments will be made.
progress of the class.

Selected References:

Books:

Albright/Winston – **Business Analytics: Data Analysis & Decision Making**, 6th Edition, Cengage, 2017, ISBN-13 978-1-305-94754-2

S. Christian Albright - **VBA For Modelers Developing Decision Support Systems with Microsoft Office Excel**, 5th Edition, Cengage, 2016, ISBN-13 978-1-285-86961-2

Steven G. Powell and Kenneth R. Baker, **Management Science: The Art of Modeling with Spreadsheets**, 4th edition, : Wiley, 2013, ISBN-13 978-1118582695

Sharda, Ramesh, Delen, Dursun and Turban, Efraim, **Business Intelligence and Analytics: Systems for Decision Support**, 10th Edition, Prentice Hall, **2015**, ISBN-13: 978-0-133-05090-5.

*Harda, Ramesh, Delen, Dursun and Turban, Efraim, **Business Intelligence: A Managerial Perspective on Analytics**, 3rd Edition, Prentice Hall, 2014. ISBN-13: 978-0-133-05105-6.*

Articles:

Ransbotham, Sam; Kiron, David; Prentice, Pamela Kirk, *Beyond the Hype: The Hard Work Behind Analytics Success*, **MIT Sloan Management Review**, Spring, 2

“Big data: The next frontier for innovation, competition, and productivity”, and can be found at: http://www.mckinsey.com/insights/mgi/research/technology_and_innovation/big_data_the_next_frontier_for_innovation

Hugh J. Watson and Mark Jackson, *Piedmont Healthcare: Using Dashboards to Deliver Information*, **Business Intelligence Journal**, September 2016, pp. 4-9.

Bernard Marr, *The Amazing Ways Big Data And Analytics Are Used At Wimbledon*, **Forbes**, Whitepaper, 2016

Kiron, David; Ferguson, Renee Boucher; Kirk Prentice, Pamela., *From Value to Vision: Reimagining the Possible with Data Analytics*, **MIT Sloan Management Review**, Spring 2013.

Chichernea, Virgil, *Smart Cities Communities And Smart ICT Platform*, **Journal of Information Systems & Operations Management**, Summer 2015.

Henry, Regina; Venkatraman, *Santosh, Big Data Analytics The Next Big Learning Opportunity*, **Journal of Management Information and Decision Sciences**, 2015

Thamir, Alaskar; Poulis, EfthimiosBusiness, *Intelligence Capabilities and Implementation Strategies*, **International Journal of Global Business**, June 2015