**Business Management 2321**

**Business Analytics**

**Autumn 2016 – Lecture Sections 34134, 4470, 4475, 4471**

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| **Instructors** | Dr. Mark Christobek, Terry Klinker |
| **E-mail Address** | Christobek.1@osu.edu, klinker.1@osu.edu  |
| **TAs** | Names, schedules, office posted on Carmen |
| **Course Text** | Required: **“Business Analytics”** – A Customized Version of Spreadsheet Modeling for Business Decisions, 5th Edition, by John F. Kros ISBN 978-1-4652-9977-2* This is an on-line version of the book, with only the chapters we will cover in the course. We developed this to reduce the price to students ($75 vs the $100-200 for previous texts) and to include on-line quizzes. You must sign up for this on-line version to gain access to required assignments.

Optional: Spreadsheet Modeling for Business Decisions, 5th Edition, by John F. Kros ISBN 978-1-4652-6055-0* This is not necessary. If you prefer a copy of the book in your hands, you may find it helpful. You may purchase older or international versions if you prefer; we will work from the 5th edition.
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| **Software** | Microsoft EXCEL with the SOLVER add-in. |

**Note: The classroom is “electronics free” during lectures - laptop computers or cell phones will be allowed. Any student violating this policy may be asked to leave the classroom.**

**COURSE OBJECTIVES**

The field of data analytics has its roots in the 1940’s, primarily in wartime logistics. Since then, data analytic techniques and expanded methodologies are increasingly implemented into the business world. Decisions based on operations research models are proven to increase revenues, decrease costs, and significantly impact the fiscal health of business organizations.

Data Analytics models are not limited to the field of operations. Models are used in the fields of finance, tax, marketing, human resources, materials, and logistics. Professions in health care, government, and transportation organizations benefit from the use of these models, and the ability to construct them. Recent computer software developments, combined with the rapidity with which data may now be collected, transferred, and shared, has opened the floodgates to the use of data analytics. Most CEOs of the Forbes Top 50 have several data analytics books listed on their list of required reading for senior executives.

The objective of the course is to familiarize you with several major decision modeling techniques, how to gather data for such models, how to derive and assemble the models, and how to interpret the results and make decisions using the results. Several of the techniques taught in this course are currently used in major corporations on very large scales. In addition, the integration of Microsoft EXCEL (along with the “Goal Seek” and “Solver” add-ins) makes this course an important foundation for future courses at Fisher as well as various business careers.

Professor Klinker has over 30 years of extensive experience in industrial and service applications and military planning and operations. Dr. Mark Christobek has nearly 40 years of extensive experience in the formulation of operations research models in both industrial applications and research. They have seen the area of modeling develop from a very specialized field, done by a small number of individuals, to a necessary tool to complete in the business world. Students who master the material presented in the course will have a competitive advantage over their peers both in school and in their future careers.

**PROCEDURES**

Students taking BusMGT 2321 are either business majors or persons interested in operations. We will treat each of our class sessions as *business meetings*. As the *meeting leaders*, we are expected to post an agenda and state the expectations, or end state, for each meeting. You will find those expectations in the course schedule. As *meeting attendees* **you are to be prepared for each meeting**, to include reading all materials, bringing ideas and questions regarding the material, and completing all deliverables (individual practical examples) prior to the beginning of each class. We expect you to be properly attired for class – our perception of you as a serious student will depend, in some part, on your appearance.

Cell phones and other distractions are not acceptable in business meetings. Turn cell phones off or place them on silent (not vibrate) and remove them from your desk. If you have a legitimate reason that any correspondence cannot be delayed during our classes (i.e. your wife is 8.99999 months pregnant and you are waiting for the “go” call), let us know before class. Personal computers are not allowed during class unless you are told to bring them for a specific subject. ***Our classroom expectations parallel the professional attitude your future employers will demand***.

**BusMGT 2321 has a different format beginning Autumn 2016:**

* General format changes:
	+ The course runs the entire semester
	+ The course has one weekly required lecture in Schoenbaum 105
	+ The course has one weekly optional recitation
* There are 4 graded components
	+ Exams – one midterm (20%) and one final (30%)
	+ Practical Exercises – four practical exercises (10% each, 40% of your grade)
	+ Model Building Exercise – a semester-long sequence of models, each building upon the last (5%)
	+ On-line Quizzes – generally one/week (5%)
* The course format has three components
	+ Video lectures - A series of 10-15 minute lectures to be viewed before weekly lectures, each concentrating on one key point from the text
	+ Weekly lectures - Face-to-face time with the instructors where we work problems, both individually and in groups, develop key points, and answer questions (1hr 20min)
	+ Weekly recitations - Optional meetings with Teaching Assistants; recitations include a problem and solution pertaining to the week’s subject matter and a question and answer period (55min)

For example, we will introduce network modeling in a series of video lectures, from which students should understand the differences in the models, how to set up such models, and then apply the models in a Practical Exercise. During lecture we will present specific issues with these models and work one together. Recitations will provide additional practice and time to interact with TAs or fellow students on specific issues.

*The following information should help you understand how to excel in the course:*

***Lectures:***

In general, lecture topics will follow the tentative course schedule. It will be assumed that the students will read the textbook material and watch the videos before the lecture.

***Homework:***

Practice is essential. Suggested homework problems are posted on the course website. **Homework is not collected**, but solutions are available. Students are encouraged to ask questions about the homework problems at any time in class or in office hours with Dr. Mark, Professor Klinker, or the Teaching Assistants.

***Class Attendance:***

Attendance in this class is highly recommended as the pace of the class is quite fast with new material taught each day. [Student athletes – refer for the section below for student athletes].

Organize your personal affairs to allow for attendance at every class session. You are responsible for all announcements and assignments made in class by your instructor. Any major changes in the tentative course schedule will be announced in class one week prior to the change and may change the content of material on the exams. If time remains in a class, we may start lecturing with material from the next lecture’s content.

***Course Grading:***

Your course grade will consist of the following components:

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| **Component** | **Total %** |
| Practical Exercises (4 @ 10% each) | 40% |
| On-Line Quizzes (10 @ 0.5% each) |  5% |
| Model Building Exercises (10 @ 0.5% each) |  5% |
| Midterm Exam | 20% |
| Final Exam (cumulative) | 30% |
| **Total** | **100%** |

***THE COURSE AVERAGE IS NOT CURVED OR ROUNDED IN DETERMINING THE COURSE GRADE!***

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| **Final Grade Determination** |
| **Average** | **Grade** | **Average** | **Grade** | **Average** | **Grade** | **Average** | **Grade** | **Average** | **Grade** |
|  |  | 67 < – < 70 | D+ | 77 < – < 80 | C+ | 87 < – < 90 | B+ |  |  |
| 0 < – < 60 | E | 60 < – < 67 | D | 73 < – < 77 | C | 83 < – < 87 | B | 93 < – < 100 | A |
|  |  |  |  | 70 < – < 73 | C– | 80 < – < 83 | B– | 90 < – < 93 | A– |

#### **Practical Exercises:**

Practical exercises will be assigned during the term. Hardcopies of the exercises are due at the beginning of class on the date indicated on the schedule. ***No exercises will be accepted after the class begins***. Electronic submissions of the assignments are not accepted. Material from the PEs will be included on the exams.

#### **On-Line Quizzes:**

The on-line quizzes are due per the schedule, generally on Monday at noon. ***If you miss the deadline, you will receive a zero for that quiz; 0.5% of your grade is gone***. Valid excuses, such as medical issues, will be considered. Waiting until the last minute and having the computer or system crash is not a valid excuse.

#### **Model Building Exercises:**

These are intended to help you master your MS Excel skills and to think through inputs, outputs, and displays when modelling. You will be given very specific step-by-step instructions are how to build some very simple models. You will be graded on formatting and accuracy. These models will be submitted on-line via dropbox. The models will be graded pass/fail – if the model is not exact, it will receive a grade of “0”. Before you panic, remember, you have step-by-step instructions, these are simple models, and, should you mess one up, they are only 0.5% of your grade. One misstep will not be an issue; several missteps will negatively impact your grade.

#### **Examinations:**

***Faculty rules state that all final exams must be given during the times specified by the Registrar.***

#### All exams in this course are **closed book / closed notes**. The dates of the exams are listed on the tentative schedule. Exams may be short answer, fill-in-the blank, multiple choice, etc. You will not be told the format before the exam – this prevents you from studying for the exam format.

#### We implement the following procedures for exams:

#### All students will take the exam as assigned in the schedule

#### There will be assigned, random seating for the exams

#### There will be multiple versions of the exams

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| **No early exams or makeup exams will be given!** |

Students missing the midterm exam with a university-approved excuse will be handled on an individual basis. Unless your university-approved excuse is an emergency, you must coordinate your activity 10 days before missing an exam or assignment to receive credit.

Students missing the final exam with a university-approved excuse will be given an “I” (Incomplete) grade until the exam is taken at a time agreeable to both the student and the professor in accordance with university policy.

If you miss the midterm exam or the final exam without a university-approved excuse (family vacations, job interviews, weddings, sleeping-in, etc. are not university-approved absences), you will receive a zero on that exam and will not have an opportunity to take the exam.

If you cannot attend classes and take the exams as scheduled, ***drop the course today!***

Students have the right to have a question re-graded only if they are in class on that day. The exams and the answer keys will be collected at the end of class; ***students not returning their exam will receive a zero grade for the exam and submitted for academic misconduct***. The exams will be kept in our offices for a minimum of two quarters after this course is completed. All exam pages containing personal information are shredded at that time.

***Calculator:***

It is the ***student's*** responsibility to bring a functioning calculator to each exam. The instructor will not provide a replacement calculator, batteries, nor will students be allowed to share calculators during an exam. If you haven’t replaced the batteries in your calculator since high school, buy batteries later today. ***The use of PDA’s, MP3 players, and cell phones as calculators are prohibited during exams!*** All student materials other than a calculator, extra pencils, and an eraser must be packed away prior to the entering the exam classroom.

***Cell Phones:***

Cell phones must be turned off during class. If you are expecting to receive an important phone call or text message during class, please leave the classroom to answer the call or read the text message. Any student seen texting or using a cell phone during class will be asked to leave the classroom. During exams, all cell phones must be turned off and stored in the students’ book bags.

***iPods/MP3 Players:***

No iPods or other MP3 players are to be in use during class or exams.

***Disability Services (ODS):***

If you need special accommodations based on the impact of a disability stop in to Professor Klinker’s office prior to Friday, January 22nd during scheduled office hours to initiate the process of registering with ODS. I may not sign ODS forms that are submitted after the 2nd week of class. Understand that without prior arrangement, special accommodation will not be given by ODS or the instructors.

***Academic Misconduct:***

Your instructors and the Management Sciences Department expect professional and ethical behavior in this class at all times. We have found that most students are honest and do their own work and that they appreciate knowing that we take academic misconduct very seriously. The Management Sciences Department and the University follow a standard procedure for those who choose not to behave ethically. The student code of conduct can be found on the Internet at ***studentaffairs.osu.edu/resource\_csc.asp*** . A link to this website will be placed on Carmen.

***Examination Materials:***

All exams will be returned to us after going over them in class and will be retained for students to examine in my office for **two** semesters after the final exam. All exams and other material from this class will be shredded following the Spring Semester.

### STUDENT ATHLETES

### Student athletes receive no preferential treatment in my class. We have failed student athletes in the past and will not hesitate to fail student athletes in the future. We report progress on all student athletes to the Athletic Department. We have called coaches directly to report on the progress (and lack of progress) of student athletes in my classes.

### Student athletes are required to sign an attendance roster at every class.

### Student athletes must have their coach submit a letter with all scheduled competitions and scheduled practices by the Tuesday, September 1st. Exam conflicts with varsity athlete competitions will be handled on an individual basis only after receiving official notification signed by the coach.

### Athletes participating in club sports are not excused from exams and/or individual practical exercises.

### STUDENT GRIEVENCE PROCEDURE

If a student has a specific problem with the administration of this class, the student has the right to discuss the problem with Fisher faculty and staff. The first step in the process is to discuss the problem with the instructor. If the problem cannot be resolved, the next step is to discuss the problem with the Management Sciences department chairperson (Dr. Kenneth Boyer), and then followed be a representative from the Fisher College Deans Office. Failure to follow this progression will usually result in delays in achieving problem resolution or the problem going unresolved.

### E-MAIL

On average, we receive over 100 e-mails daily. A majority of the e-mails are SPAM or contain viruses that are directed at educators with subject lines such as “1st Assignment” or “Question about final exam”, Our e-mail is filtered twice (OSU university level and Fisher College level) and we run virus protection software on our computers in an effort to separate the “good e-mails” from the “bad e-mails”. However, the filters and virus protection software are not 100% efficient.

### In an effort to identify and delete malicious e-mails without trashing “good” student e-mails, the following criteria for all student e-mail have been established:

### E-mails must be professional or no response will be given.

### Send e-mails to *klinker.1@osu.edu* or to the any of the teaching assistants’ e-mails listed on Carmen.

### E-mail subject line must begin with BusMGT 2321 followed by the student’s last name and the subject.

### For example, if the student Jane Smith were sending an e-mail about the first exam, the subject line would be

### BusMGT 2321 Smith Exam #1 Question

### E-mail not conforming to the above will not be read and will be immediately deleted.

### Do not send e-mails from Carmen or use the “Page” function in Carmen.

### MAIL

### If we are not in our offices, DO NOT slide papers, assignments, etc. under our office doors. Please take all papers to the receptionist in the Management Sciences office (600 Fisher Hall). The receptionist will time-stamp the papers and will put them into the appropriate Management Sciences mailbox.

### STUDENT CONDUCT

### This class is preparing student for situations that they will encounter in business. We will be running the classes as a business meeting. No hats in the classroom or office hours. No revealing clothing in the classroom or office hours. No offensive clothing in the classroom or office hours.

### All correspondence will be handled in a business manner. E-mails with “Mr. Christobek”, “Hey Christobek”, etc. will not be answered.

### We do not “friend” students on Facebook and we are not on LinkedIn.

### Students are expected to arrive to class on time and be prepared for class at the scheduled starting time.

### GRADE NOTIFICATION POLICIES

In accordance with the 1974 Family Educational Rights and Privacy Act (FERPA), the following policies dealing with grades have been adopted:

* Student grades earned in the course (individual assignment / individual practical examples / exam grades and final grades) will not be posted in any public place including bulletin boards and/or web sites.
* Student grades earned in the course (individual assignment / individual practical examples / exam grades and final grades) will not be discussed over the phone as the identification of the student cannot be established with certainty and confidentiality may be violated.
* Student grades earned in the course (individual assignment / individual practical examples / exam grades and final grades) will not be discussed using electronic media including personal (non-OSU) e-mail as the identification of the student cannot be established with certainty and confidentiality may be violated.
* Student grades earned in the course (individual assignment / individual practical examples / exam grades and final grades) may be discussed using electronic media through the student’s authorized OSU e-mail account at the discretion of the professor. It is the responsibility of the student to keep the confidentiality of correspondence through their OSU e-mail account.
* The preferred method for discussion of student grades is in person. Students can stop in my office during office hours posted for present or subsequent terms.
* Student grades earned by a student will only be discussed with that student. Student grades for other classmates will not be discussed and/or distributed.
* Student exams during the term will not be distributed to the students to keep but will be stored for a minimum of one quarter to be used as a basis to rectify any and all grade disputes. Student requests to examine exams must be made in writing to allow for the collection of requested materials from the files.

If a student feels that a mistake was made in the determination of the final grade, that student may petition in writing (or through e-mail) for a recalculation of the grade. The individual assignment / individual practical examples / exam grades will be verified and the final grade recalculated; the student will be notified of the results of the recalculation.