Semester: Fall 2018 (section 0C1)  

**Professor Joseph Kotowski**  
SK Division Office  
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*Google Voice: 773/451-KOTO (5686) (and text)*  
SK Office Hours:  
Rooms P134/B231  
TuTh 8-9:30a, 11:50-12:30  
*Email: koto@oakton.edu*  
DP Office Hours:  
Room TBA  
Mon 10:00-12:00pm  
Weds 2-3:30 (on days without meetings)  
MonWed 4:45-5:15 (2629)  

*email is the best way to communicate with me. I recommend an appointment for office hours. Text me if you are trying to locate me during available times. Make sure your emails and texts say who you are, what class you’re in and what you need. Also see tutoring URL’s below.*

**I. Course**  
**Prefix**  
MAT  
**Number**  
190  
**Course Name**  
Business Statistics  
**Credit**  
4  
**Lecture**  
4  
**Lab**  
0

**II. Prerequisite**  
MAT 140  
with minimum Grade of C or Math Placement.

**III. Course (Catalog) Description**  
Course introduces modern statistics designed for business students. Content includes descriptive statistics, probability, statistical inference, sampling techniques, correlation, regression, and analysis of variance. Computers used for business applications.

**IV. Course Objectives:**  
A. Compute measures of central tendency and dispersion.  
B. Construct, do calculations with, and graph frequency distributions.  
C. Understand and calculate probabilities.  
D. Understand probability distributions, including the binomial distribution.  
E. Compute probabilities as related to normal distributions.  
F. Apply the Central Limit Theorem.  
G. Understand and apply hypothesis testing and estimation.  
H. Draw statistical inferences about one population concerning the mean, the standard deviation or variance, and proportions.  
I. Draw statistical inferences about two populations concerning the mean, the standard deviation or variance, and proportions.  
J. Calculate linear correlation coefficients and regression lines.  
K. Draw statistical inferences concerning multinomial experiments and contingency tables.  
L. Draw statistical inferences about more than two populations using analysis of variance.  
M. Use technology to facilitate problem solving.

**V. Academic Integrity:**  
Students and employees at Oakton Community College are required to demonstrate academic integrity and follow Oakton’s Code of Academic Conduct. This code prohibits:

- cheating,
• plagiarism (turning in work not written by you, or lacking proper citation),
• falsification and fabrication (lying or distorting the truth),
• helping others to cheat,
• unauthorized changes on official documents,
• pretending to be someone else or having someone else pretend to be you,
• making or accepting bribes, special favors, or threats, and
• any other behavior that violates academic integrity.

There are serious consequences to violations of the academic integrity policy. Oakton’s policies and procedures provide students a fair hearing if a complaint is made against you. If you are found to have violated the policy, the minimum penalty is failure on the assignment and, a disciplinary record will be established and kept on file in the office of the Vice President for Student Affairs for a period of 3 years.

Details of the Code of Academic Conduct can be found in the Student Handbook.

VI. Outline of Topics:

A. Descriptive Methods
   1. Frequency distributions and graphing
   2. Measures of location - mean, median, quartiles, percentiles
   3. Measures of variation - variance, standard deviation

B. Basic Probability Theory
   1. Sample spaces, counting, factorials.
   2. Combinations, permutations
   3. Probability laws

C. Probability Distributions
   1. Normal distribution and normal curve.
   2. Binomial distribution and its relation to the normal distribution.
   3. Random samples and sampling techniques.

D. Statistical Inference
   1. Estimation.
   2. The classical approach to hypothesis testing.
   3. The probability - value approach to hypothesis testing.
   4. Inferences involving one population with regard to means, standard deviation or variance, and proportions.
   5. Inferences involving two populations with regard to means, standard deviation or variance, and proportions.
   6. Coefficient of correlation and regression lines.
   7. Multinomial experiments and contingency tables.
   8. Analysis of variance.

VII. Methods of Instruction:
This is an online class. Chapters from the ebook, powerpoints, review sheets, student solution manuals and links to videos are available to you through the MyLabsPlus site. Homework (with hints and links to book) will also be posted on MyLabsPlus and will have due dates with late penalties. It is up to you, the student, to use these resources to master the concepts and be able to solve typical problems.

We also have face-to-face tutoring available.
See http://www.oakton.edu/studentservices/learning_center/tutoring/tutschdpc.php and http://www.oakton.edu/studentservices/learning_center/tutoring/tutschdpc.php for periodic updates to Des Plaines and Skokie campus schedules linked on the left side of the page. You want to look for the tutors who have a * next to their name which indicates they can do statistics.

If you are having trouble with a problem you can click on the “Ask Your Instructor” button that is associated with each homework problem and then clearly state for what you need clarification. Make sure you have started and thought about the problem first and send me a scan of your work and/or your Excel file, if appropriate. I highly recommend Excel whenever possible. Use Excel as a calculator, for formulas and to generate tables. Each chapter of the book shows how to Excel for that chapter.

VIII. Course Practices Required:
First and foremost, read assigned sections of chapters, paying particular attention to figures, tables and demonstration problems within each section. Depending on your comprehension of the reading, I advise you to look at the extensive resources under the “Read, Study & Practice” tab (in MyLabsPlus) to help clear up muddy points. In particular, have student solutions manual available to you with worked out solutions for some of the book problems. Some of your homework will correspond to these solutions but will have different values in the problem.

Resist the temptation to look at the solutions before YOU have thought critically about and attempted the problem. Remember, during exam situations you will not have any of these aids available. Just you, your calculator and one side of an 8.5x11 piece of paper as a “formula sheet” (notice, I did not use the word “cheat”). Keep in mind that categorization of problems is a critical skill. When you prepare for exams, mix up the problems (index cards, cut and paste) so that you have to think about what type of problem it is.

I HIGHLY RECOMMEND that you have a notebook dedicated to this class in which you number each section and problem, restate the problem in your own way and show all the steps to solve the problem (and box in the answer). When using online materials, it is tempting to work off the screen using only scratch sheets that are of no use when it comes time to review for an exam. If you go to the tutor, send me work electronically or make email arrangements to meet with me, an organized notebook, as described above, WILL BE EXPECTED. When you ask me questions via email represent the problem and your work in detail. You can take a picture of your organized work and email it to me.

During exams, technology can be used on some problems but not others. I will give guidance on this as the course progresses. If you are not sure, ask me. See section IX. below for more information.

IX. Instructional Materials: Required:
You are required to register for MyLabsPlus (MyMathLab) to access course materials. Once you register for the Oakton course, goto my.oakton.edu and click on “My Courses”. Clicking on our course, launches you into MyLabsPlus. All materials, including integrated text, can then be purchased online (with a credit card) and are viewed online. For your convenience (and a slight upcharge), Oakton’s bookstore will carry an access card for purchase as well as a bundle that includes a softcover version of the book.

This is a two-step process. First registering for the Oakton course and then registering for the course materials (your book).
To access your MyLabsPlus course:

1. Navigate to my.oakton.edu (available as the myOakton link on the top of this Web page). Enter your username and password.

2. On the myOakton Portal home page, go to "My Courses" tab.

3. On the "My Courses" tab, go to "Click Here To:" link in the "My Courses" Channel.

4. This will show a listing of all courses you are taking for the term; select the math section.

5. This will open a new browser window and take you to the online math home page, where you must pick the term and class again.

The site for this class is based on:

The MyLabsPlus site is loaded with many supplements and contains an e-book that is an exact copy of the printed text. The ebook is convenient to use because it is linked to the homework assignments (click on “Question Help => Textbook”. Also, the ebook is completely searchable and bookmarkable (new word). The site also has live links to videos, applets and data sets.

Microsoft Excel is required for some problems and encouraged for others. The book and the MyLabsPlus resources have Excel support. Excel has full statistical capability including add-in “Data Analysis” tools that are described in the book and my video. You should learn to use Excel as your “calculator” to document your work. Do NOT use your actual calculator because your work cannot be captured. Excel is a highly employable skill for business majors. Statcrunch and Google Sheets can be used if Excel is not an option.

For general online information: http://www.oakton.edu/academics/distance_online_learning/index.php. Pay particular attention to the section “Is Online Learning Right for You” and check out the link “Five steps to get started” at the bottom of the page.

I will send out information to your Oakton email account. You will not receive this information until you activate your account or specify an alternate email: http://www.oakton.edu/about/officesanddepartments/info_tech/resources/my_email/index.php

VIII. Methods of Evaluating Student Progress:
Homework will be delivered and turned in using the MyLabsPlus software. As I roll out the assignments, only those assignments marked Homework count toward your grade. All the other assignments are there for you to use if you choose. There will be a midterm and a final. The Midterm and Final will be printed tests for you to work on. You will need to take them at either one of Oakton’s two testing centers, or a previously approved testing site. You are responsible for knowing the open hours of the testing site (and allowing for holidays). You will need a picture I.D. Your work will be evaluated for partial credit, so it is important that you show all of it. You may use Excel and a calculator during the tests and must turn in your “formula sheet” (which must be in your own handwriting—no photocopying or sharing) along with your written work.
It is in your best interest to be organized in your approach to problem solving, to show your work and describe your steps as you go. Also, number your problems and box in your answers. The easier it is for me to follow, the more likely you are to get partial credit for the problem.

You may make an appointment (koto@oakton.edu) to review your graded test at my office. Missing a test without proper documentation (a note from a doctor, judge, etc…) will result in a grade of 0%.

See the OCC calendar for important deadlines. Note the drop date. It is your responsibility to drop the course before the drop date otherwise a grade will be given. Keep in mind that homework deadlines are posted within MyLabsPlus and the allowable dates to take exams are in the schedule at end of this document. The last day to take the final exam is Tuesday, 12/13/14.

The scoring breakdown is:

Homework 30%  Quizzes 20%  Midterm#1 25%  Midterm#2 25%

Note1: you have three attempts to earn 70% on each homework for the chapter in order to take the chapter quizzes. Also, you have two attempts to earn 70% minimum on the quizzes. If you need an additional attempt, I will require you do the optional “Review Homework” before I will authorize another attempt. For homework’s and quizzes, the highest of all of your attempts will be used.

Note2: A MINIMUM OF 70% FOR HOMEWORK and QUIZZES RELATED TO AN EXAM IS REQUIRED TO BE ELIGIBLE TO TAKE THAT EXAM. Two days before the exam, the instructor will check your average score for any assignments relating to that exam that is due at that point.

Note3: some homework assignments take longer than others. WORK AHEAD SO YOU HAVE A BUFFER against late HW. There is a 5% per day penalty for late HW and for late QUIZZES. I allow one extension upon request. No extensions for exams+++ 

With documentation (see notebook above), I can manually adjust your gradebook for minor errors you may have made. Send me an email, explaining the mistake along with a picture of your documentation.

Grades will be earned on a straight scale: 90↑ A  80↑ B  70↑ C  60↑ D  59↓ F

See schedule at the end of this document for more information regarding Midterm and Final.

XI. Other Course Information:

Just as in a face-to-face course, when a student is inactive online (i.e. not showing up), the instructor is required to periodically drop students from the course. This normally happens in the second week and before the half-way point for the course. Instructors will be looking at your online homework, D2L access and exam grade (if applicable) to see if you are actively participating in the course. If not, you will be dropped from the course.

If you have a documented learning, psychological, or physical disability you may be entitled to reasonable academic accommodations or services. To request accommodations or services, contact the Access and Disability Resource Center at the Des Plaines or Skokie campus. All students are expected to fulfill essential course requirements. The College will not waive any essential skill or requirement of a course or degree program.
Oakton Community College is committed to maintaining a safe campus environment emphasizing the dignity and worth of all members of the community; and complies with all Title IX requirements by state and federal law. For pregnancy-related accommodations, click [here](#).
For resources and support for victim-survivors of sexual misconduct (including sexual harassment, sexual assault/rape, domestic violence, dating/intimate partner violence, and stalking), click [here](#).
For resources and support for LGBTQ+ students, click [here](#).

## Course Dates

- **Homework and Quizzes** - see MyLabsPlus for most current due dates and email for update notifications
- **Exam#1 (Ch1-Ch7) taken in an authorized Testing Center Oct 11th (Thursday)**
- **Exam#2 (Ch8-Ch14) taken in an authorized Testing Center on Dec 11th (Tuesday)**
- **9/17 and 10/22 (with a W) - Drop dates (you will be dropped automatically for inactivity)**
- **College closed: 9/3, 11/11,11/22, 11/23. HOWEVER, this is an online course. Plan your time.**
- **12/15 grades posted on my.oakton.edu (visible by 12/17 or sooner)**

Exams must be taken in an Authorized Testing Center on the days indicated above. If you need an external testing site, book your times NOW (after you have been approved—see below).

Note that to be ready for the earlier testing date, homework must be completed earlier than schedule shows. Some assignments will take longer than others. WORK AHEAD SO YOU HAVE A BUFFER against late homework.

**Online students should book these testing dates with their approved site as soon as possible. See more information below.**

**Testing for Online students only:**
Local students can take exams on either one of Oakton’s two campuses (no prearrangements necessary):
- [http://www.oakton.edu/studentservices/learning_center/testing/make_up/index.php](http://www.oakton.edu/studentservices/learning_center/testing/make_up/index.php)

Students requiring out-of-district testing must read the Guidelines for Testing Off Campus, and submit a Test Proctoring Request form as soon as possible at the beginning of each term to initiate the process. Your instructor does not need to know what your arrangements are. I will assume that you have taken care of this ahead of time.

With two weeks’ notice and documentation of a conflict, exams may be taken EARLIER than scheduled dates (but not before all related homework is completed).

(see next page for the general schedule – exact dates are given within the MyLabs+ course)
<table>
<thead>
<tr>
<th>end of</th>
<th>hw due</th>
<th>due date</th>
<th>quiz</th>
<th>time*</th>
<th>Notes</th>
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<tbody>
<tr>
<td>week1</td>
<td>0,1.1-1.3</td>
<td>8/26</td>
<td>q1</td>
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<td>week2</td>
<td>1.4,2.1-2.3</td>
<td>9/02</td>
<td></td>
<td>8.0</td>
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<td>week3</td>
<td>3.1-3.3</td>
<td>9/09</td>
<td>q2</td>
<td>8.0</td>
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<td>week4</td>
<td>4.1-4.2</td>
<td>9/16</td>
<td>q3, q4</td>
<td>6.5</td>
<td>Two quizzes this week</td>
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<td>week5</td>
<td>5.1-5.3</td>
<td>9/23</td>
<td>q5</td>
<td>8.0</td>
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<td>6.1-6.2</td>
<td>10/07</td>
<td>q6</td>
<td>7.5</td>
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<td>7.1-7.3</td>
<td>10/07</td>
<td>q7</td>
<td>6.0</td>
<td>Exam#1 on 10/11</td>
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<td>7.0</td>
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<td>q8</td>
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<td>q9</td>
<td>6.5</td>
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<td>7.5</td>
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<td>8.0</td>
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<td>q12,q13</td>
<td>7.5</td>
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</tr>
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<td>q14</td>
<td>8.0</td>
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<td>week16</td>
<td>EXAM#2**</td>
<td>12/12</td>
<td></td>
<td>Note due date</td>
<td></td>
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</table>

* estimated time (in hours) spent online to complete hw and quiz for the week - not including reading time

**Exam#2 is not a cumulative final (covers ch8-14)

I look forward to working with you to learn this material and getting to know you (hard to do for online students, I know). Get off to a good start and schedule your time to do homework. The rule of thumb for a college course: for every one credit hour, put in 2-3 hours of homework weekly. So for this 3 credit hour course, schedule 8-12 hours of homework per week. Remember, there are no shortcuts. You have to put the time in.