General Course Description: This course is designed to teach introductory concepts in statistics as applied in the social sciences, particularly education. The course will provide a presentation of commonly used statistical procedures. Students will learn both conceptual and technical aspects of location and dispersion measures, regression and correlation, hypothesis testing, z-test, t-tests, and analysis of contingency tables. Proficiency with algebra is necessary; however, no mathematics beyond algebra will be taught in this course.

ONLINE COURSE SUPPORT

All of the materials you will need for each EDMS 451 class meeting, assignment, and assessment can be found on the course website on ELMS. This includes readings for the class meetings, resources for your selected use, assignment sheets and drop boxes, quizzes, and the final exam.

You must become familiar with the functions of ELMS immediately. Log in to the website (https://elms.umd.edu), click on the word “Help” in the top right corner of the screen, select “Canvas Guides,” then “Canvas Student Quickstart Guide,” and study it. You can then go on to the “Canvas Student Guides” to learn more about each of the elements of Canvas. The following are suggested as starting points: Assignments, Files, Grades, Syllabus, and Quizzes.

Students are expected to attend class ONLINE every Tuesday, as well as on Thursdays when there is a test.

Students will be expected to do a large amount of self-study for this course, supported by provided readings, recommended supplementary resources, and resources discovered through independent internet searches.

The format for the mandatory online Tuesday class meetings will NOT be a traditional lecture format. I will introduce the content to be covered during the week, share the instructional and assessment objectives with you, recommend resources that you can use to study the course content, and answer questions about previous and upcoming course content.

We will use ADOBE CONNECT for online class meetings. Students will access the website for class meetings using the following link: https://webmeeting.umd.edu/EDMS451ClassMeetings. Instructions for accessing this site and preparing for the first class meeting can be found later in this syllabus.

On Thursdays I will hold online open office hours (help sessions) on designated dates from 12:30 to 1:45 PM. I will review any practice exercises that have been included with the readings for the topic under study for the week. Attendance for office hours is not mandatory.

In addition, I will hold review sessions for Quizzes 2, 3, and 4 on the dates designated in the Course Schedule, which can be found at the end of this syllabus.

REQUIRED MATERIALS

THERE IS NO REQUIRED TEXTBOOK FOR THIS COURSE.

Reading material for each topic will be posted online (on the course website on ELMS) and supplementary resources will be recommended. To find the materials, open the course website. The Home Page is a list of modules, arranged in consecutive order by date. The documents (indicated by a symbol that looks like a cloud) are all required reading, and the links (indicated by a symbol that looks like a piece of chain) are supplementary materials for your use if you need additional information about the topic.
Required technology equipment:

- You are expected to have access to a computer for every class meeting. You must also have internet access. It is your responsibility to ensure that your computer is working effectively (including your microphone), that you have all of the necessary software updates installed, and that all of the functions of Canvas and ADOBE CONNECT are operating properly on your computer, so that you can communicate with me and your classmates via both voice and text.

- A headset with a microphone is absolutely mandatory for every online meeting. All students are expected to communicate verbally with the instructor and each other during class. If you try to use the mic that is built in to your laptop or PC, there will be echoing and static that will prevent your classmates from hearing you clearly. **If you are called on in class and you do not respond using a headset microphone, you will lose points for class participation.**

  You must therefore check the functionality of your system before every class meeting. Failure to do this may result in a loss of points if you can’t respond and be heard clearly when called on.

- You will need a calculator that is capable of calculating square roots for the practice exercises, quizzes, and final exam.

Required software: You will use EXCEL for one of your assignments. Practice exercises will be provided for versions 2000, 2002, 2003, and 2007. Newer versions of the software are acceptable, however the exercises will only be provided in the above versions. If you are already proficient with EXCEL, you may use the version to which you are accustomed.

Required preparation for the first class meeting:

You will access class meetings at the following URL: [https://webmeeting.umd.edu/EDMS451ClassMeetings](https://webmeeting.umd.edu/EDMS451ClassMeetings).

At least one hour prior to the first class meeting you must log in to Adobe Connect, go through the Audio Setup Wizard, and use the Connection Test check to make sure your computer is equipped with all of the software applications that Adobe Connect needs to run the class meeting application. If your computer is NOT equipped with all of the applications that Adobe Connect needs, you may get an error message. Follow the instructions within the application to either download or update your applications.

Follow these instructions to log in and check your computer system prior to the first class meeting:

1. The University recommends that you use Firefox to connect to ADOBE CONNECT, as other browsers (especially Chrome) do not work well with this application.

2. Access the meeting website using the link above. Log in using either your UID and password or your name, then click on the word “Meeting” at the top left of the screen.

3. Scroll down to and click on “Audio Setup Wizard.”

4. Follow the instructions on the next 6 screens, clicking on the “Finish” button when you are done. NOTE: If you have an internal microphone in your computer and you are also using a headset, you may have to make sure that your headset is the selected microphone. ADOBE CONNECT may select the internal mic as the default setting. HINT: With my computer, I have to have the headset plugged in and turned on BEFORE I log in to ADOBE CONNECT, or the application will not recognize the headset.

5. After the “Audio Setup Wizard” process is finished, click on the word “Help” in the upper right corner of the screen.

6. Scroll down and click on “Troubleshooting.” Your computer will automatically go to the Adobe Connect Connection Test. The test will launch and it will take more time than you think it should to finish.

7. Follow any instructions that pop up (such as a prompt to install the Adobe Add-in).

8. Close the Connection Test by clicking on the “X” in the “Test Meeting Connection” tab in the top left corner of the screen.
9. Find the Adobe Connect icon (looks like a screen with 3 people in front of it) at the bottom of your screen and click it to return to the meeting room page.

10. You will not be able to use your microphone unless I have logged in and given microphone rights to all participants. When this occurs at the beginning of the class meeting, you will see a white microphone icon at the top of the screen. Click on the down arrow beside the icon, and then select "Connect My Audio." The microphone icon will turn green. You can mute the mic by clicking on the icon.

11. At this point you should be ready to go. On the first day of class, after I log in, you will see my name in the "Host" box in the "Attendees" pod and your name in the "Participants" box.

For more information about the requirements for ADOBE CONNECT, log in to ELMS, click on “Student Support,” click on “Other Docs,” and then on “Attending an Adobe Connect Class.” There is a link you can use to test your computer for the necessary capabilities and software applications.

If you are unable to complete the Audio Setup Wizard and Connection Test, please call the DIT Help Desk for assistance.

COMMUNICATION

Online Appointments: Private, online conferences are available with or without video via the following URL: https://webmeeting.umd.edu/kaaconferences. Please contact me by email to set up an online conference.

Please note that I live in Colorado and that there is a two-hour time difference between Colorado and Maryland. When it is 8:00 AM in Maryland it is only 6:00 AM in Colorado. All conferences will therefore be held between 9:00 AM and 7:00 PM Maryland time.

EMERGENCIES: If ELMS is down and/or if you cannot get in touch with me any other way, you may use one of the following means of contact:

- UMD email alvestad@umd.edu;
- Back-up email alvestad.umd@gmail.com; or
- Text message sent to 301-887-3236. (I do not answer calls to this number; only text messages.)

COURSE REQUIREMENTS

Reading Assignments and Other Preparation: Students are expected to complete all required reading PRIOR to the class meeting for which it is assigned. During each class meeting, students will be expected to demonstrate that they have read the assignments by responding to questions. It may be helpful for you to come to class meetings with a list of your own questions.

Class Participation: Participation in class is required during mandatory Tuesday class meetings when content is covered (Jan. 27, Feb. 3, 10, 17, and 24, Mar. 3, 24, and 31, Apr. 14, 21, and 28, and May 5).

Five points will be available for each class meeting and will be awarded to students who:

a. Log in on time and remain logged in throughout the meeting (1 point);

b. Respond using hand raises and other requested means during the meeting (2 points); and

c. Respond immediately, using a microphone, when called upon to answer a question or give an opinion (2 points).

Assignments: There are two mandatory assignments. Each is valued at 20 points. Instruction sheets and drop boxes for the assignments will be posted on the course website in the “Assignments” section.

1. Data Analysis Project Using EXCEL Software
   Students will be given a data set and will use EXCEL to calculate statistics and develop graphs for the data.

2. Research Article Review and Summary of Statistics
   Each student will find and read a research article from their field of study. You will then complete a summary of specified elements of the research and the statistics used. Vocabulary, notation, and interpretation of the statistics will be included.
Assessments

1. **Quizzes**
   Mandatory online quizzes will be administered on February 19, March 12, April 9, and May 12 and will only be accessible on ELMS from 12:30 to 1:45 PM. This means that you must take the quizzes during that time period on the designated dates. All quizzes will be comprised of selected-response items ONLY (no essays). The quizzes will cover designated course objectives, which will be distributed at the beginning of each class meeting. The tests will cover only what is listed and nothing more. NOTE: NONE of the quizzes are cumulative.

2. **Final Exam**
   The Final Exam will be administered on the date and time assigned by the University for all EDMS 451 classes. It will be administered ONLINE, and will include both selected-response and essay items. It will be a cumulative exam, and all of the course objectives covered will be clearly designated before the last class meeting.

**GRADING PLAN**

The grading system for EDMS 451-0401 is an absolute – or criterion-referenced – system. This means that there are a specified number of points available for each assignment and assessment based on predetermined criteria for mastery of each concept, skill, and product. **Your final grade will be determined by the number of points accumulated. Percentages are irrelevant in this course.** Your final course grade indicates your overall level of mastery of the course objectives, as indicated by the number of points you earn throughout the semester.

This type of grading system puts you in control of your grade. There is no need to continuously calculate averages and percentages and convert raw scores in order to know where you stand. Students are encouraged to keep track of the value added to their grade by each assignment and assessment, and to plan their performance accordingly.

**Points Possible for Each Class Meeting, Assignment and Assessment:**

<table>
<thead>
<tr>
<th>Class Participation</th>
<th>5 available points for each of 12 class meetings</th>
<th>60 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Data Analysis Project Using EXCEL Software</td>
<td>20 points</td>
</tr>
<tr>
<td></td>
<td>Research Article Review and Summary of Statistics</td>
<td>20 points</td>
</tr>
<tr>
<td>Assessments</td>
<td>(MSGEs = Major Scheduled Grading Events)</td>
<td></td>
</tr>
<tr>
<td>Quiz #1</td>
<td></td>
<td>25 points</td>
</tr>
<tr>
<td>Quiz #2</td>
<td></td>
<td>25 points</td>
</tr>
<tr>
<td>Quiz #3</td>
<td></td>
<td>25 points</td>
</tr>
<tr>
<td>Quiz #4</td>
<td></td>
<td>25 points</td>
</tr>
<tr>
<td>Final Exam</td>
<td></td>
<td>50 points</td>
</tr>
</tbody>
</table>

Final grades will be assigned as follows:

<table>
<thead>
<tr>
<th>Point Range</th>
<th>GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>243 – 250</td>
<td>A+</td>
</tr>
<tr>
<td>232 – 242</td>
<td>A</td>
</tr>
<tr>
<td>225 – 231</td>
<td>A-</td>
</tr>
<tr>
<td>218 – 224</td>
<td>B+</td>
</tr>
<tr>
<td>208 – 217</td>
<td>B</td>
</tr>
<tr>
<td>200 – 207</td>
<td>B-</td>
</tr>
<tr>
<td>193 – 199</td>
<td>C+</td>
</tr>
<tr>
<td>183 – 192</td>
<td>C</td>
</tr>
<tr>
<td>175 – 182</td>
<td>C-</td>
</tr>
<tr>
<td>168 – 174</td>
<td>D+</td>
</tr>
<tr>
<td>158 – 167</td>
<td>D</td>
</tr>
<tr>
<td>150 – 157</td>
<td>D-</td>
</tr>
</tbody>
</table>

Students earning fewer than 150 points will receive a failing grade.
Please note that the percentage grades in the ELMS grade book are not meaningful in this course. Your final grade is not determined by averaging percentage grades. The only information you can use to estimate your final grade in the course is your total number of points earned. You can keep track of the number of points earned and determine how close you are to your final grade goal by consulting the table above.

Unless a student experiences a catastrophic event leading to extreme hardship, a grade of “Incomplete” will not be given.

POLICIES

Academic Accommodations Policy of the University of Maryland
In compliance with and in the spirit of the Americans with Disabilities Act, I am happy to work with you if you have a disability that is relevant to your work in this course. If you need academic accommodation by virtue of a documented disability, please contact me immediately following the first class meeting to discuss your needs. If you have a disability and have not yet registered with the University, please contact Disability Support Services in the Shoemaker Building (www.counseling.umd.edu/DSS/ or 301.314.7682) as soon as possible.

Academic Integrity Policy of the University of Maryland
The University of Maryland, College Park has a student-administered Honor Code and Honor Pledge. For information on the Code or the Student Honor Council, please visit www.shc.umd.edu. This Code sets standards for academic integrity at Maryland for all students. As a student you are responsible for upholding these standards for this course.

It is very important for you to be aware of the consequences of cheating, fabrication, facilitating academic dishonesty, and plagiarism. Instances of this include submitting someone else’s work as your own, submitting your own work completed for another class without permission, or failing to properly cite information other than your own (found in journals, books, online, or otherwise). Please be very aware about when collaboration is allowed in EDMS 451 and when it is strictly prohibited. Academic dishonesty will not be tolerated, and any sign of academic dishonesty will be reported to the appropriate University officials.

Please demonstrate your commitment to academic integrity by signing the Honor Pledge on all exams and assignments.

Attendance Policies of the University of Maryland
Students are expected to be familiar with all of the attendance policies of the University and to provide the documentation required when requested.

Missed single class due to illness: Once during a semester, a student’s self-authored note will be accepted as an excuse for missing a minor scheduled grading event in a single class session if the note documents the date of the illness, acknowledgement from the student that information provided in the note is correct, and a statement that the student understands that providing false information is a violation of the Code of Student Conduct. Students are expected to attempt to inform the instructor of the illness prior to the date of the missed class.

It is especially important for students to remember to provide documentation for absences in online courses.

Major scheduled grading events: Major Scheduled Grading Events (MSGE) are indicated on the syllabus (see below). The conditions for accepting a self-authored note do not apply to these events. Written, signed documentation by a health care professional, or other professional in the case of non-medical reasons (see below), or a University-approved excuse for the student’s absence must be supplied. This documentation must include verification of treatment dates and the time period for which the student was unable to meet course requirements. Providers should not include diagnostic information. Without this documentation, opportunities to make up missed assignments or assessments will not be provided.

Non-consecutive, medically necessitated absences from multiple class sessions: Students who throughout the semester miss multiple, non-consecutive class sessions due to medical problems must provide written documentation from a health care professional that their attendance on those days was prohibited for medical reasons.

Non-medical excused absences: According to University policy, non-medical excused absences for missed assignments or assessments may include illness of a dependent, religious observance, involvement in University activities at the request of University officials (i.e. participation in University-sponsored sports), or circumstances that are beyond
the control of the student. Students asking for excused absence for any of those reasons must also supply appropriate written documentation of the cause and make every attempt to inform the instructor prior to the date of the missed class.

Documentation for involvement in University activities at the request of University officials must come from the coach or sponsor of the activity.

Documentation for other potentially excusable absences will depend upon the nature of the absence and will be determined at the discretion of the instructor.

**Attendance Policy Expectations for EDMS 451-0401**

Students are expected to attend all class meetings, to log in to the course website by the time the class is scheduled to begin (class meetings are usually opened 20 to 30 minutes before the class is scheduled to begin), to complete the Audio Setup Wizard and the Connection Test in Adobe Connect immediately upon logging in, and to stay engaged in the class meeting for the entire class period.

Please pay careful attention to the following policies, as it is your responsibility to know when an absence qualifies as excused, whether or not make-up work is allowed, when to provide documentation if it is necessary, and how to turn in the make-up work if appropriate.

**Attendance Documentation**
I take attendance at the beginning of class. If you arrive after class starts you must send a message to me in the “chat” box to let me know so that I can mark you present.

If you have technology problems that prevent you from participating in class you must notify me immediately via one of the emergency communication methods listed on the third page of the syllabus. Take a screen shot of the error message you receive, and send the screen shot to me. Otherwise, you will not receive credit for attendance.

**Major Scheduled Grading Events**
The following assignment and assessments are “Major Scheduled Grading Events” and therefore require written documentation from the Health Center or from an outside health care provider if you are absent or miss a due date due to an illness:
- Quizzes
- Final Exam

Students who are absent from a test or miss a due date for a Major Scheduled Grading Event due to other situations (as stipulated in the UMD Attendance and Assessment Policy) will be allowed to take a make-up exam or turn the work in late, as long as I am notified in advance of the absence and acceptable documentation is provided.

Students anticipating an excused absence from a test must notify me in writing no later than two weeks prior to the scheduled test, and should be prepared to take an alternative examination prior to the scheduled date.

**Copyright Notice**
Please note that class presentations and all other materials used in EDMS 451-0401 are copyrighted and they may not be reproduced for any purpose other than this course without written permission from me.

**Course Evaluations at the University of Maryland**
As a member of our academic community, students have important responsibilities. One of these is to submit course evaluations each term though CourseEvalUM in order to help faculty and administrators improve teaching and learning at UMD. All information submitted to CourseEvalUM is confidential.

You will receive notification from ELMS when CourseEvalUM is open for you to complete your evaluations for fall semester courses. Please go directly to the website given in the notification to complete your evaluations.

By completing all of your evaluations each semester, you will have the privilege of accessing the evaluation reports for the courses for which 70% or more students submitted their evaluations.
Examinations
All tests will be open-book, open-notes. All tests are formatted to open and close at very specific times. Canvas does not make exceptions to the formatting. Tests WILL shut down at the specified time.

You may not under any circumstance collaborate with any other individual during any of the tests. This means that you may not work with or talk to any other person about the content or items on the test while you are working on it. Furthermore, you may not talk to or communicate about the test in any way, in person or electronically, after you have completed the test. This applies most specifically to students in other sections of EDMS 451, because doing so leaves you vulnerable to charges of facilitating academic dishonesty (see section on Academic Integrity on page 5).

Formatting Written Work
Please note that this policy is very important and may affect your grade considerably if you do not follow it.

Microsoft WORD® (version 2010 or earlier) is the only software application acceptable for written work. Assignment documents have been developed in Microsoft WORD® (version 2010) and must be completed, saved, and uploaded to the drop box in their original form. If the assignment documents are converted to other software applications that will not open on the instructor’s computer they will not be graded.

Inclement Weather and Other Emergencies
One of the great advantages of an online delivery format is that we can hold class in spite of University closures due to inclement weather or other emergencies. If the University has a delayed opening or a closure, we will meet online as planned. The attendance policy will, of course, be flexible in these instances. If you have lost electrical power or do not have access to a computer you will be given every reasonable consideration for making up the work done in class. Please notify me as soon as possible if a situation occurs that prevents you from attending class or turning in assignments.

Professional Conduct
Students are expected to follow the policies of the University of Maryland as well as those of the College of Education in regard to professional conduct. Most specifically, the College of Education Conceptual Framework contains standards for professional conduct that define how students are expected to demonstrate the “ability to work within a set of reasonable expectations for conduct as defined by the profession and/or workplace.”

Recording of Course Material and Meetings
Students are advised that it is unlawful in the State of Maryland to record any conversation or meeting with another individual without their express permission. This applies to the audio portion of all class meetings and conferences.

Note-taking during meetings and conferences is encouraged, but verbatim recording is prohibited without permission. Permission will not be granted as long as any person in the class objects to having their participation in the meeting recorded.

Religious Observances Policy of the University of Maryland
The University of Maryland policy on religious observances states that students may not be penalized in any way for participation in religious observances. Students shall be allowed, whenever possible, to make up academic assignments that are missed due to such absences. However, you must contact the instructor 2 weeks before the absence with a written notification of the projected absence, and arrangements will be made for make-up work or examinations. Please note that in some cases due to timeliness of course activities you may be expected to turn in an assignment or take a test prior to your absence.

USING CANVAS FOR EDMS 451

To find assignments on the course website, follow these instructions:
1. From the home page of the course website, click on the “Assignments” tab;
2. Click on the assignment title.

To participate in a conference with your instructor, use the following instructions:
1. Go to the following URL: https://webmeeting.umd.edu/kaaconferences
2. Log in as you usually do for class meetings.
3. If you are not able to log in, it means that there is another student in the meeting room. Log out and try again in a few minutes, or wait until your scheduled conference time.
### Course Schedule for Spring Semester 2015

**CLASS MEETINGS FOR WHICH ATTENDANCE IS MANDATORY ARE INDICATED IN RED**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 27, 2015</td>
<td>Course Introduction and Basic Concepts</td>
</tr>
<tr>
<td>January 29, 2015</td>
<td>Office Hours</td>
</tr>
<tr>
<td>February 3, 2015</td>
<td>Frequency Distributions, Percentiles, and Graphs</td>
</tr>
<tr>
<td>February 5, 2015</td>
<td>Office Hours</td>
</tr>
<tr>
<td>February 10, 2015</td>
<td>Normal Distribution, Central Tendency, and Variability</td>
</tr>
<tr>
<td>February 12, 2015</td>
<td>Office Hours</td>
</tr>
<tr>
<td>February 17, 2015</td>
<td>Linear Transformation and Standard Scores</td>
</tr>
<tr>
<td>February 19, 2015</td>
<td>Quiz #1</td>
</tr>
<tr>
<td>February 24, 2015</td>
<td>Correlation and Regression</td>
</tr>
<tr>
<td>February 26, 2015</td>
<td>Office Hours</td>
</tr>
<tr>
<td>March 3, 2015</td>
<td>Probability</td>
</tr>
<tr>
<td>March 5, 2015</td>
<td>Office Hours</td>
</tr>
</tbody>
</table>
DATE: March 10, 2015  Review for Quiz #2

DATE: March 12, 2015  QUIZ # 2

March 17 and 19, 2015  NO CLASSES – SPRING BREAK

DATE: March 24, 2015
TOpic: Sampling Distributions
ASSIGNMENT DUE: Data Analysis Project Using EXCEL Software

DATE: March 26, 2015  Office Hours

DATE: March 31, 2015
TOpic: Statistical Inference

DATE: April 2, 2015  Office Hours

DATE: April 7, 2015  Review for Quiz #3

DATE: April 9, 2015  QUIZ #3

DATE: April 14, 2015
TOPICS: Effect Size, Error, and Power

DATE: April 16, 2015  Office Hours

DATE: April 21, 2015
TOpic: Hypothesis Testing

DATE: April 23, 2015  Office Hours
DATE: April 28, 2015
TOPIC: Confidence Intervals

DATE: April 30, 2015
Office Hours

DATE: May 5, 2015
TOPIC: Chi-Square
ASSIGNMENT DUE: Research Article Review and Summary of Statistics

DATE: May 7, 2015
Review for Quiz #4

DATE: May 12, 2015
QUIZ #4

DATE TBD
FINAL EXAM

PLEASE NOTE: Since this is the first time that EDMS 451 has been taught totally online, changes in the schedule and sequence of topics may be necessary in order to meet students’ needs. Any changes that are necessary will be announced in class, reiterated in a message on ELMS, and reiterated again in an announcement on the ELMS course website.

Please check your messages and the announcements on the course website FREQUENTLY to make sure you are apprised of any changes.