



SECTION 1 - GENERAL COURSE INFORMATION

Expected Characteristics of a Doctoral Student: *The ability to work and think independently is one of the fundamental requirements for studying in the DSc IT degree program. Being independent means that you are confident and highly motivated. You take initiatives and have the ability to take responsibility. You are committed to the program, have good time management and organizational skills. Other vital requirements are curiosity, creativity, discipline, and productivity.*

Course Title:	Statistical analysis for decision-making
Course Prefix and Number:	ITEC 7120
Course CRN#:	50725, 50726
Semester & Session:	Summer 2023
Campus Location:	Online
Meeting Days:	This course will be conducted completely online
Meeting Time:	This is a doctoral-level course and will be conducted completely online in an asynchronous format. Access via D2L Course Shell

INSTRUCTOR'S INFORMATION

Name:	Dr. Kevin Floyd, Professor & Associate Dean of the School of Computing
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Office:	PSC 316
Office Phone Number:	478-471-2801
Office Hours:	Available by Appointment

COVID-19 STATEMENT

The University System of Georgia recognizes COVID-19 vaccines offer safe, effective protection and urges all students, faculty, staff and visitors to get vaccinated; however, it is an individual decision to receive the vaccine and will not be required to be a part of our campuses. Everyone is encouraged to wear a mask or face covering while inside campus facilities. Unvaccinated individuals are strongly encouraged to get a vaccine, to continue wearing a face covering, and to continue socially distancing from others when possible. Updated protocols for isolation and quarantine will be in effect this semester in order to mitigate further spread of the coronavirus on our campuses. USG guidance is subject to change based on recommendations from GA DPH. MGA will remain flexible in their planning and be prepared to change course as necessary. MGA will continue to provide updated information at this website: <https://www.mga.edu/coronavirus/>.

SECTION 2 - DETAILED COURSE INFORMATION

Course Prerequisite: Admission to DSc in IT program

Credit Hours: 3

Course Description: The course emphasizes statistics to solve management problems for decision-making. Topics include describing and displaying data, experimental design, sampling, probability, hypothesis tests and confidence intervals, ANOVA, correlation, and regression.

Course Philosophy: The ultimate goal in this course must be “learning quantitative analyses to interpret results for decision-making”. While quantitative analysis will be used on weekly basis, the major emphasis should be on how to interpret results to make sound decisions for your organizations.

Student learning outcomes: *Upon completion of this course, students will be able to -*

- Think critically with respect to quantitative information
- Analyze datasets with various statistical analysis methods
- Explore, transform, and visualize datasets with proper analytical methods and tools
- Apply appropriate data collection and quantitative analysis methods to solve real-world problems.

Topics: *We will examine the following areas including, but not limited to:*

- Describing and displaying data
- Descriptive Analysis
- ANOVA
- GLM Univariate
- Regression
- Correlation

Required course materials: Intermediate Statistics Using SPSS, Hershel Knapp, ISBN: 978-1-5063-7743-8
SPSS Version 28 Statistical Analysis Software

Technology Requirement: *The following will be used in this course:*

- Students are required to have access to a computer and the Internet. All assignments, the course schedule, announcements, course syllabus, course content, rubrics, and supplemental course materials are posted on the D2L Course Shell.
- We may use a computer webcam with a built-in microphone to participate in possible virtual meetings with the instructor and group members.
- Microsoft Office (Word, Excel, & PowerPoint)

Library/Learning Resources: As a Middle Georgia State University student, you have complete access to GALILEO (Georgia Library Learning Online), a virtual library of licensed commercial databases. It provides access to over 100 databases indexing thousands of periodicals and scholarly journals. There are over 10,000 journal titles available in full text. Additional GALILEO resources include e-books, government documents, reference collections, and video databases. The Middle Georgia State University library also has a core collection with locally purchased resources to support this graduate course. Currently, the exclusive e-

holdings for the M.S. in Information Technology graduate courses are as follows: e-Journals = 1,661 and e-books = 4,325. The following are examples of online databases that support this undergraduate course. They are available to you through GALILEO and/or institutionally funded subscriptions:

- ACM Digital Library
- Computer Source
- Computing (ProQuest)
- Academic Search Complete
- Research Library (ProQuest)
- Wilson Omnifile: Full-Text Mega Edition
- Google Scholar

SECTION 3 - COURSE ASSESSMENT INFORMATION

Overview of Grading

Excellent. The quality of work meets the doctoral requirements in both originality and mastery of the material. This is equivalent to an A grade.

Satisfactory. The work meets the minimum requirements. The work is short of excellence, originality, and does not fully demonstrate mastery of the material. This is equivalent to a B grade.

Unsatisfactory: The work is deficient as the minimum requirements have not been. This is equivalent to an F grade. (Anything below a Satisfactory (B-level) is deemed to be a failing grade.)

Your grade for the semester will be determined by the following assessment of completed assignments. The letter grade for this course is based on the total points earned on all assignments.

Assignment	Weight
Data Analysis/Report/Application & Peer Evaluation (Individual)	6 @ 10% each = 60%
Final Project - Critical Review of a peer-reviewed Journal Article (Individual)	20%
Final Project Presentation	20%
Total Achievable Grade Points =	100%

The following point scale will be used to calculate the final course grade. NOTE: A grade of B or higher is required to successfully complete this course:

- A: 90% - 100% – Excellent Work
- B: 80% - 89% – Satisfactory Work
- Below 80% – Unsatisfactory Work

Overview of Course Assignments

Data Analysis/Report/Findings/Application & Peer Review

For Week 2 – Week 7

Resources provided for each week include handout(s) containing notes for a research article and/or a research article (s), three variations of an actual dataset, and a handout containing a step-by-step analysis of data. The graded activity for each week includes analysis of data, a report of the results, your thoughts/reactions for applying/making use of data as a part of the business operations and peer review of a colleagues' posting.

Final Project - Critical Review of a peer-reviewed Journal Article

Visit the MGA online Library and find a scholarly peer-reviewed journal article that is quantitative in nature. The article must have used one or 2 of the quantitative analyses we have covered in this course (i.e., ANOVA, GLM Univariate, Regression, Correlation, etc.). You are to read the article and write a critical analysis (2 to 3 pages, single-spaced) using the following six-part outline:

Part 1. Information about the article (i.e., authors, title, publication date/source, etc.)

Reference the article in APA Style.

Part 2. The goal of the paper (Include the paper's statement of the problem or opportunity, the purpose of the study, and research hypotheses or questions.)

Part 3. An evaluation of the review of the literature (Is the review of the literature describe, summarize, objectively evaluate and clarify the previous research related to the topic of the paper? Are the cited references relevant and consistent with the goal of the paper?)

Part 4. Interpretation and evaluation of the paper's methodology. Briefly describe the measurement instrument/Survey; the participants/sample population, and the procedure – how data were collected; what data analysis procedure(s) was/were used.

Part 5. A critical evaluation of the data analysis and the results presented. Describe the statistical analysis (i.e., ANOVA, Two-Way ANOVA/MANOVA, Regression, Correlation, Factor Analysis, etc.) and its suitability to answer research questions or accept/reject the research hypotheses. For example, if the ANOVA test is used, does the paper indicate the requirements for this analysis, i.e., the dependent variable is continuous, the independent variables consist of two or more independent groups/levels, etc.

Describe how the results are reported – in Tables and within the text? Have they been reported accurately – style guidelines, i.e., APA?

Describe how the article interprets the results leading into implications (theoretical & practical) of the study.

Part 6. Conclusions. The conclusions part should include your personal assessment of the strengths and the weaknesses of the paper. It should also include your views about the paper's overall contribution to the research field.

Presentation of Final Project - Critical Review of a peer-reviewed Journal Article

Each student will develop a virtual presentation of their final project. The presentation should be 7 to 10 minutes in duration. The completed presentation should be uploaded to YouTube and the link must be posted on Week 8 – Discussion Forum.

SECTION 4 - COURSE EXPECTATIONS

EXPECTATIONS

Online courses are not self-paced and regular participation in online courses is required and will be recorded by your instructor. Students are expected to complete all course assessments using D2L.

Online learning assumes a high level of maturity and professionalism. It is designed to make learning more convenient but no less rigorous. The lack of a formal meeting schedule in an online course can be liberating. It can also be demanding because you must determine when to make time for class. Self-discipline and good time management skills are necessary when taking an online course.

Please remember that you will spend as much or more time completing an online course as you would taking it in a traditional face-to-face/classroom format. The special circumstances of taking an online course demand regular and consistent participation. Be sure to pace yourself throughout the semester making sure your responses to communications and assignments are timely. If you are not able to participate in any assigned class activities, you must contact your instructor immediately.

The instructor is required to report “no-shows” or students who do not show up on the first day of class. Therefore, all students enrolled in the course must verify their enrollment. This can affect financial aid and you may be dropped from the class. Your instructor will notify you as to how to verify your enrollment before the beginning of the term to ensure that you are not reported as a “no-show”.

ATTENDANCE POLICY

Students whose number of absences is more than twice the number of class meetings per week may be assigned a failing grade for the course. Students who have more absences than the number of class meetings per week but less than twice the number of class meetings per week will be penalized on the participation portion of the grade. Students who have absences that are less than or equal to the number of class meetings per week will not be penalized. This policy holds for face-to-face and hybrid courses.

Students that do not submit any work for more than 14 consecutive days in an online course or partially online course may be assigned a failing grade for the course.

The MGA policy on attendance is found in Section 5.04.05 of the Faculty Handbook and in the Academic Catalog (<https://mga.smartcatalogiq.com/2020-2021/Undergraduate-Catalog/Academic-Policy-and-Information/Course-Policies/Attendance-Policy>).

CLASS BEHAVIOR EXPECTATIONS AND CONSEQUENCES FOR VIOLATIONS

Middle Georgia State University students are responsible for reading, understanding, and abiding by the MGA Student Code of Conduct.” Student Code of Conduct, Responsibilities, Procedures, and Rights are found at

http://www.mga.edu/student-affairs/docs/MGA_Student_Handbook.pdf#page=45.

STUDENT WITHDRAWAL POLICY

Students are encouraged to read the withdrawal policy found at <https://www.mga.edu/registrar/registration/drop-add.php> before dropping/withdrawing from the class.

Students who wish to withdraw from the University must complete the Withdrawal Form, obtaining the required signature from the advisor, and submitting it to the Office of the Registrar at the Macon campus or the administrative offices at other campuses. Withdrawal is not complete until all withdrawal procedures have been properly executed.

<https://www.mga.edu/registrar/>

Students may withdraw from the course and earn a grade of “W” up to and including the midterm date, which occurs on **June 28, 2023**. After this date students who withdraw will receive a grade of “WF.”

<https://www.mga.edu/academics/calendars/index.php>

POLICY ON ACADEMIC MISCONDUCT

As a Middle Georgia State student and as a student in this class, you are responsible for reading, understanding, and abiding by [Middle Georgia State’s Student Code of Conduct](#).

Quoted directly from the Student Handbook, I believe it is important that you recognize and understand the following about plagiarism and cheating:

Individuals will fulfill their academic responsibilities in an honest and forthright manner.

Examples of prohibited behavior include but are not limited to: plagiarizing another's work (such as using another's phrasing, concepts or line of reasoning as your own without giving proper credit to the author or creator); submitting

course assignments that are not your own; submitting the same paper in different classes without prior approval from both instructors; cheating (the use of any unauthorized means to gain academic advantage on assignments, laboratory reports or examinations); acquiring or using test materials without faculty knowledge; accessing any information, resource, and/or means of communication during an exam or assignment without specific authorization from the professor; failing to follow class policy; obtaining academic benefits through computer fraud or unauthorized access; engaging in academic fraud alone or with others; using material downloaded off Internet without proper citation; illicitly attempting to influence grading; failing to abide by test-taking procedures. The MGA Withdrawal Form, is available online or in the Office of the Registrar. The entire Student Code of Conduct is included in Middle Georgia State's Student Handbook and is available online at <https://www.mga.edu/student-conduct/>

The penalty for academic misconduct is a grade of zero for the work involved and will be referred to the Dean of Students. Subsequent academic misconduct results in a failing grade for the course.

PLAGIARISM POLICY

A plagiarism prevention service is used in the evaluation of written work submitted for this course. As directed by the instructor, students are expected to submit or have their assignments submitted through the service to meet the requirements for this course. The papers will be retained by the service for the sole purpose of checking for plagiarized content in future student submissions.

POLICY ON DISABILITY ACCOMMODATIONS

Students seeking academic accommodations for a special need must contact the Middle Georgia State University Office of Disability Services in Macon at (478) 471-2985 or in Cochran at (478) 934-3023. Students may also visit the Disability Services Office in room 266 of the Student Life Center on the Macon campus or in Georgia Hall Lower Level on the Cochran campus. <https://www.mga.edu/accessibility-services/index.php>

DELAYED OPENING OR CLOSING OF THE UNIVERSITY

If class is unable to occur for an opening or closing of the university, go to the online webpage of the course for additional instructions. If there are no additional instructions provided on the course homepage news section, then just plan to meet at the normal next regularly scheduled meeting for the course.

HB 280 CAMPUS CARRY LEGISLATION

<https://www.mga.edu/police/campus-carry.php>

END OF COURSE EVALUATIONS

Student evaluations of faculty are administered online at the end of each term/session for all courses with five or more students. Students will receive an email containing a unique link to a survey for each course in which they are enrolled. All responses are anonymous and completion of evaluations is voluntary.

Students are responsible for reading, understanding, and adhering to all Middle Georgia State University student policies, including those linked on the [Syllabus Policy](#) page.

SECTION 5 - INSTRUCTOR-SPECIFIC POLICIES

General Guidance.

This syllabus is provided for general guidance on course activities and expectations. The instructor reserves the right to modify the syllabus in response to changing student needs or pedagogical circumstances. Changes are announced in class and posted in D2L/Brightspace.

SECTION 6 - TENTATIVE COURSE SCHEDULE AND OUTLINE

Modules/Assignments	Readings/Activities
<p style="text-align: center;">Week 1</p> <p style="text-align: center;">Begins: 5/24 Ends: 5/30</p> <p style="text-align: center;">Activities</p> <p>Launch SPSS Import one of the Excel Datasets for Week 1</p> <p>Master the skills for the following:</p> <ul style="list-style-type: none"> • How to use SPSS • Importing data • Defining variables • Coding/recoding • Computing variables <p>See Week 1 handout guide</p>	<p>Refresh/re-visit the following topics from the previous course - Research for Decision Making. (Text: Research Design: Qualitative, Quantitative, and Mixed Methods Approaches 5th Ed. By John W. Creswell, J. David Creswell; ISBN-13: 978- 1506386706; Publisher: SAGE)</p> <p>Read Chapter 1 and Chapter 2 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p> <ul style="list-style-type: none"> • <i>Survey/Instrument revisited</i> • <i>Dependent & Independent Variables</i> • <i>Data</i> • <i>Intro to Descriptive Statistics</i> • <i>Intro to Inferential Statistics</i> <p>Objectives:</p> <ul style="list-style-type: none"> • How to use SPSS • Importing data • Defining variables • Computing variables • Coding/recoding <p>Videos:</p> <p>Overview of SPSS</p> <p>https://youtu.be/1VVeR5C5BpM SPSS Introduction 1</p> <p>https://youtu.be/klrC94nO2ds SPSS Introduction 2</p> <p>SPSS Tips</p> <p>https://youtu.be/ppJ_dqj-8Y4 - Part 1</p> <p>https://youtu.be/zaidac5OnyU - Part 2</p> <p>https://youtu.be/2NGRxlpfTk - Part 3</p> <p>Importing & Entering Survey Data</p> <p>https://youtu.be/Kp_js1i6xwE</p> <p>https://youtu.be/l7Yl-o6KWzk</p> <p>Likert Scales & Coding</p> <p>https://youtu.be/2b6sE8oCq9c</p> <p>https://youtu.be/S7LHzafAGgU</p> <p>Scales of Measurement</p> <p>https://youtu.be/KIBZUk39ncl</p>

	https://youtu.be/yJpiUHbLKLU
<p>Week 2</p> <p>Begins: 5/31</p> <p>Ends: 6/6</p> <p>Activities</p> <p>Launch SPSS</p> <p>Import one of the Excel Datasets for Week 2</p> <p>Perform descriptive analysis on the dataset</p> <p>See Week 2 handout(s)</p> <p>Assignment – DUE 6/6 By 11:59 PM</p> <p>Data</p> <p>Analysis/Report/Findings/Application</p>	<p>Objectives</p> <ul style="list-style-type: none"> • Measures of Frequency: Count, Percent, and Frequency • Measures of Central Tendency: Mean, Median, and Mode • Measures of Dispersion or Variation: Range, Variance, and Standard Deviation • Measures of Position: Percentile Ranks, Quartile Ranks <p>Readings</p> <p>Read Chapter 3 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p> <p>Videos</p> <p>Frequencies</p> <p>https://youtu.be/gZaPXp-zSD0</p> <p>Measures of Central Tendency</p> <p>https://youtu.be/zHXOWZ5dd_w</p> <p>https://youtu.be/I5dDI_C3xCU</p> <p>Variability</p> <p>https://youtu.be/bkfo_ikSGM0</p> <p>https://youtu.be/I9uzLvd92WA</p> <p>Ranks</p> <p>https://youtu.be/mDJvDRvvDXo</p> <p>https://youtu.be/g9IDmiZooFg</p>

<p style="text-align: center;">Week 3</p> <p style="text-align: center;">Begins: 6/7 Ends: 6/13</p> <p style="text-align: center;">Activities</p> <p>Launch SPSS</p> <p>Import one of the Excel Datasets for Week 3</p> <p>Perform t-Test on the dataset</p> <p>See Week 2 handout(s)</p> <p>Assignment – DUE 6/13 By 11:59 PM</p> <p>Data Analysis/Report/Findings/Application</p>	<p>Objectives</p> <ul style="list-style-type: none"> • T-Test <p>Readings</p> <p>Read Chapter 4 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p> <p>Videos</p> <p>https://www.youtube.com/watch?v=o-e9I_VbLR8</p>
<p style="text-align: center;">Week 4</p> <p style="text-align: center;">Begins: 6/14 Ends: 6/20</p> <p style="text-align: center;">Activities</p> <p>Launch SPSS</p> <p>Open one of the SPSS Datasets for Week 4</p> <p>Perform ANOVA on the dataset</p> <p>See Week 3 handout guide</p> <p>Assignments DUE 6/20 By 11:59 PM</p> <p>Data Analysis/Report/Findings</p>	<p>Objectives</p> <ul style="list-style-type: none"> • ANOVA <p>Readings</p> <p>Read Chapter 5 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p> <p>Videos</p> <p>P-Values (Statistical Significance)</p> <p>https://youtu.be/128yz0OCG-l</p> <p>ANOVA</p> <p>https://youtu.be/ykGAuUot1cc</p> <p>https://youtu.be/xml3ZQzeLCc</p> <p>https://youtu.be/wYOeC47psRE</p> <p>https://youtu.be/QRfJYnQ44y4</p> <p>Begin searching for the peer-reviewed journal article to be used for Final Project.</p>
<p style="text-align: center;">Week 5</p> <p style="text-align: center;">Begins: 6/21 Ends: 6/27</p> <p style="text-align: center;">Activities</p> <p>Launch SPSS</p> <p>Open one of the SPSS Datasets for Week 5</p> <p>Perform Factorial ANOVA analysis on the dataset</p>	<p>Objectives</p> <ul style="list-style-type: none"> • GLM ANOVA/Factorial ANOVA • ANCOVA <p>Readings</p> <p>Read Chapter 6 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p>

See Week 4 handout(s)

Assignments DUE 6/27 By 11:59 PM

Data Analysis/Report/Findings

Videos

Factorial ANOVA

<https://youtu.be/x9i0xWveOFM>

<https://youtu.be/pW8hqDyR6Q8>

<https://youtu.be/AY2PFW0daQc>

<https://youtu.be/6BNPGJhGBhU>

ANCOVA

https://www.youtube.com/watch?v=_uYASFVUNpQ

Work on final project requirements

Week 6	Objectives
<p>Begins: 6/28 Ends: 7/4</p>	<ul style="list-style-type: none"> • Regression Analysis • Correlation
<p>Activities</p>	<p>Readings</p>
<p>Launch SPSS</p>	<p>Read Chapter 11 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p>
<p>Open one of the SPSS Datasets for Week 6</p>	<p>Regression</p> <ul style="list-style-type: none"> • https://statistics.laerd.com/spss-tutorials/linear-regression-using-spss-statistics.php • https://www.spss-tutorials.com/regression/
<p>Perform Regression Analysis on the dataset</p>	<p>Correlation</p> <ul style="list-style-type: none"> • https://statistics.laerd.com/spss-tutorials/pearsons-product-moment-correlation-using-spss-statistics.php
<p>See Week 6 handout guide</p>	<p>Videos</p>
<p>Assignments DUE 7/4 By 11:59 PM</p>	<p>Pearson Correlation</p> <p>https://youtu.be/3lD6wN6-6C4</p> <p>https://youtu.be/lllyl7bsvIQ</p>
<p>Data Analysis/Report/Findings</p>	<p>Regression</p> <p>https://youtu.be/ubZT2F12UkQ</p> <p>https://youtu.be/altU9ZVb49s</p> <p>https://youtu.be/BilhAXMhVKM</p> <p>https://youtu.be/KEXak_FSHJI</p>
	<p>Continue working on final project requirements</p>

<p style="text-align: center;">Week 7</p> <p style="text-align: center;">Begins 7/5 Ends 7/11</p> <p style="text-align: center;">Activities</p> <p>Launch SPSS</p> <p>Open one of the SPSS Datasets for Week 7</p> <p>Perform Chi Square on the dataset</p> <p>See Week 7 handout guide</p> <p style="text-align: center;">Assignments DUE 7/11 By 11:59 PM</p> <p>Data Analysis/Report/Findings</p>	<p>Objectives</p> <ul style="list-style-type: none"> • Chi Square <p>Readings</p> <p>Read Chapter 10 – Intermediate Statistics Using SPSS 1st Ed. By Herschel Knapp; ISBN 978-1506377438; Publisher: SAGE</p> <p>Videos</p> <p>https://youtube.com/playlist?list=PLRV_2nAtkiVO8IiZ4YZ6UuAQUaFxpMva</p> <p>Wrap up final project</p>
<p style="text-align: center;">Week 8</p> <p style="text-align: center;">Due 7/19 by Noon</p> <p>Submit your Final project & Post your presentation link - Post your 7 to 10 minute presentation of your final project on YouTube. Post the link on D2L for all to access and view.</p>	