



# MILLIKIN

## UNIVERSITY®

### SYLLABUS

#### Nursing 512 – Biomedical Statistics

#### Fall 2021

#### COURSE SYLLABUS

**Dates/Time:** 10/18/21-12/6/21, asynchronous course, on-line  
**Location:** on-line  
**Credit Hours:** 3

#### INSTRUCTOR INFORMATION

**Instructor:** Dr. Jason Themanson, Adjunct Professor, School of Nursing  
**Office:** on-line  
**Phone:**  
**Email:** [jthemans@iwu.edu](mailto:jthemans@iwu.edu)  
**Office Hours:** Monday mornings and Wed afternoons by appt on-line

#### PURPOSE OF THE COURSE

**Course Description:** This course is designed to provide a review of the basic statistics course, along with an introduction to higher-level statistical analyses. There is an emphasis on writing the results of the statistical analyses. Most analyses will be performed using the SPSS statistical software.

\*\*\*Nursing 512 will address real-world research and issues in the science and application of nursing, so that you can apply statistical thinking to real-world issues.

#### Course Objectives:

The major course objectives are for you to develop a conceptual understanding of statistics *and* to learn practical skills. More specifically, by the end of the course you should be able to:

- Define basic and advanced statistical terminology, techniques, and concepts.
- Discuss basic and advanced statistical analyses used in reports of scientific research.
- Discuss how and why statistics has developed as a tool for scientific inquiry.
- Identify appropriate statistical procedures for research situations in nursing.

- Conduct statistical analyses by computer using SPSS software.
- Demonstrate the reasoning and assumptions underlying the inferential statistical process.
- Be prepared for additional advanced courses in research methods and statistics.
- Use your understanding of statistics to make better decisions in daily life.
- Think with greater complexity about ways in which research and science in nursing can be applied to real-world problems.

**Text:** *Discovering Statistics Using IBM SPSS Statistics* (5th Edition) by Field (2017). (North American edition). SAGE Publications.

### **Grading:**

Homework Assignments: 20%

Quizzes: 30%

Midterm Exam: 20%

Final Exam: 30%

**Assignments:** There will be a series of weekly homework assignments throughout the course. These assignments will vary and will be due at the end of each week. Specific directions/instructions for each homework assignment will be made available to all students prior to the due date of the first assignment.

**Quizzes:** Weekly quizzes will be administered throughout the course. These quizzes will be based on the chapter/course content we are covering for that week and will be due at the end of the week. The quizzes will be presented on Moodle and each quiz will have a time limit.

**Exams:** There will be two (2) examinations in this class. The midterm exam is worth 20% of your grade and the final exam is worth 30% of your grade. The exams are cumulative in terms of the information covered because many topics build upon one another in statistics. The midterm exam will cover content included in the first half of the class and the final exam will cover content included throughout the course. However, the final exam will focus more on content covered in the second half of the course. The first exam will be scheduled during the semester and the second exam will be during the final week (see tentative exam dates below). Exam questions may consist of true-false, multiple choice, fill-in-the-blank, short answer, and longer answer questions. The exam dates listed in the course schedule are subject to change. However, any changes will be announced in advance so that there are no surprises. Makeup exams will only be given by prior arrangement with me. The exams will be presented on Moodle and each exam will have a time limit.

### **Grading Scale:**

A = 93-100    A- = 90-92

B+ = 87-89    B = 83-87    B- = 80-82

C+ = 77-79    C = 73-76    C- = 70-72

D+ = 67-69    D = 63-66    D- = 60-62

F = ≤ 59



## Important Notes:

- The assignments and requirements of this course may not be appropriate for all students. If you have special characteristics, needs, and abilities that make the course requirements inappropriate for you, please contact me as soon as possible so that reasonable accommodations and adaptations can be made.
- Everyone is expected to uphold the principles of academic integrity. Plagiarism and other forms of cheating will not be tolerated. If you are unsure if an act may be considered plagiarism, it is usually a good idea to err on the side of conservatism.
- **There will be no opportunities to either make up failed or missed assignments, quizzes, or exams. Further, there will be no opportunities to improve a grade by doing extra work.** In cases of unavoidable absences or emergencies, please contact me ahead of time in order to make arrangements in relation to exams and assignments.
- The best ways to contact me is via email (to ask a question, set up an appointment, etc.)
- Please seek my assistance whenever you have a question about an assignment or other material from class.
- Some important announcements may be made to the class via email. Please make sure that you check your email regularly. All emails from this class will contain “NU 512” in the subject line.
- Finally, I do not “curve” student grades, so there is no reason not to work together in an attempt to learn the material.

Tentative Schedule of Topics and Assignments (The following schedule is subject to change.)

<b>WEEK OF</b>	<b>TOPIC/TOPICS</b>	<b>READINGS</b>	<b>IMPORTANT NOTES</b>
Oct. 18	SPSS Intro, Stats Intro	Ch. 4, 1	This week will introduce you to SPSS and provide a useful background on why/how we use statistics in nursing and science
Oct. 25	Sampling, Hypotheses	Ch. 1, 3	This week will talk about sampling, errors, hypothesis testing, confidence intervals, significance, and effect sizes
Nov. 1	Correlation	Ch. 8	This week will talk about correlation, correlation coefficients, and significance with correlations
Nov. 8	Regression	Ch. 9	This week will cover linear regression and prediction, which builds from our understanding of correlations. <b>Midterm Exam: Friday, 11/12</b>
Nov. 15	Comparing Means	Ch. 10	This week will cover t tests, comparing groups and mean differences, and between and within group designs
Nov. 22	ANOVA	Ch. 12	This week will look at Analysis of Variance (ANOVA) and one-way, independent groups ANOVAs
Nov. 29	Group Designs	Ch. 14-16	This week will cover a variety of ANOVA group designs: factorial, repeated measures, and mixed designs
Dec. 6	Factor Analysis	Ch. 18	This week will look at factor analysis, factors, components, and latent variables <b>Final Exam: Friday, 12/10</b>

## **UNIVERSITY REQUIRED LANGUAGE**

### **TECHNICAL, CLASSROOM, AND COLLEGE POLICY INFORMATION**

#### **University Commitment to Student Success**

Millikin University is committed to the success of all students. As such, the University provides a variety of services devoted to academic support of both undergraduate and graduate students, although some service provision may vary by degree level. The Center for Academic and Professional Performance serves as the hub for these services. Services include, but are not limited to, the following:

- Tutoring
- Supplemental Instruction
- Study Skill Assistance
- One on One Advising
- Major Change Assistance
- Development of Personalized Academic Growth and Success Plans
- Support of Exploratory Studies majors
- Support for students on Academic Probation or Progress Warning
- Accommodations for Students with special learning needs
- Online Resource Library

In addition to the Center for Academic and Professional Performance, the University Writing and Math Centers offer students intensive support in these subject areas.

#### **Academic Integrity Standards**

The intellectual and moral integrity of an academic community depends upon an uncompromising commitment to honesty which guides the actions of all its members. Any disregard for this threatens the unrestricted and honest exchange of knowledge. The Faculty has the right and the responsibility to hold students to high ethical standards in conduct and in works performed, as befits a scholar at the university. Violations of academic integrity include, but are not limited to:

- Cheating
- Collusion
- Electronic Dishonesty
- Grade Falsification
- Plagiarism

Faculty members have the responsibility to investigate all suspected breaches of academic integrity that arise in their courses and shall have the authority to decide whether the student(s) has violated the Academic Integrity Policy. If it is determined that the violation occurred, the faculty member will decide the consequences, taking into account the severity and circumstances surrounding the violation, and will inform the student in writing, forwarding a copy of the letter to the Registrar and to the Dean of Student Development.

Consequences to an academic integrity violation include, but are not limited to:

- A letter in the student's academic file
- Failure on assignment(s)
- Failure in the course
- Issuance of an XF for the course
- Conduct hearing with Student Development

If a student received an XF, this remains as a permanent grade and cannot be removed from the official transcript. Some programs and majors have more explicit ethical standards, which supersede this Policy, and violation of which may result in dismissal from some programs or majors within the University. The complete policy may be found at <<https://www.millikin.edu/student-development/student-handbook>>.

### **Disruptive Behavior Policy**

Students who exhibit behaviors that are considered to obstruct or disrupt the course goals or learning environment are subject to student conduct action per the University Standards of Conduct. Behaviors that are considered disruptive include, but are not limited to: tardiness, sleeping, inappropriate use of mobile or electronic devices, use of language that is offensive or discriminatory, excessive interruption, and/or repeated violation of faculty or classroom expectations which are stated in the course syllabus. Students who exhibit such behavior may be dismissed from the class and referred to Student Development.

### **Distance Delivery Components**

Millikin University is committed to providing support for students using technology resources in pursuit of academic success. The Department of Information Technology resides in Shilling Hall and offers walk-in support. Please visit <<http://millikin.libguides.com/ed-tech>> for link, resources, and additional information that aid in the use of technology in distance/hybrid delivery and technology policies.

### **Dropping a Course and the University Withdrawal Policy**

There is an add/drop deadline for each academic term. During the allowed period, students may elect to add or drop courses by completing the proper form and requesting signature from the instructor or department chair as required. (Forms are available in Registrar's Office). Faculty members reserve the right to permit dropping or adding courses after the set deadline. Courses dropped during the appropriate period result in a W on the student transcript. Courses dropped after this period will result in the earned grade at the time of drop.

Students who leave the University during or at the end of the semester must report to the Registrar's Office to complete the necessary procedures and forms. Students who withdraw from the University may be eligible to receive a refund of charges assessed by the University in accordance with the refund schedules (undergraduate traditional, accelerated, or graduate) posted in the Academic Bulletin. Students may also be involuntarily withdrawn if they engage or threaten to engage in behavior which poses a danger of causing physical harm to self or others. The Involuntary Withdrawal Policy may be found in the Student Handbook.

## **Course Evaluations**

Millikin University utilizes online course evaluations which are available beginning in the last week of each course term. Students may log into their MyMillikin portal to complete course evaluations. Evaluations are considered an important part of the teaching and students should feel comfortable giving thoughtful, honest feedback.

## **Coronavirus Guidelines and Attendance Policy**

Students or faculty that are ill should NOT attend or hold face-to-face classes or meetings. If you experience any combination of the following symptoms, you should contact your primary care provider or the DMH Health Clinic at 217-424-6360.

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

People with COVID-19 have had a wide range of symptoms reported, ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19. You should explain your symptoms to your primary care provider or the DMH Health Clinic so they can determine whether you should be tested for COVID-19, and how long you should self-quarantine. You are not required to show documentation that you have seen a healthcare professional. Faculty who hold face-to-face class who are symptomatically ill or under quarantine should be reported to their academic chair or dean.

You will not be penalized for missing a face-to-face class due to symptomatic illness or under quarantine but are still required to complete assigned work. You may be assigned additional work to engage in course material missed during class. You should take note of the Academic Dishonesty policy in this syllabus as it relates to lying to or misleading faculty as it relates to course engagement and attendance.

## **Classroom Health & Safety**

It is the shared responsibility of everyone in this course to maintain health and safety guidelines to reduce the risk of spreading COVID-19 and other illnesses. To that end, you have the responsibility to not only adhere to the safety guidelines listed below, but also to hold your classmates and faculty accountable. With compassion, bring noncompliance to their attention and remind them that it is to everyone's benefit to follow the health and safety guidelines outlined. The instructor reserves the right to ask noncomplying students to leave the classroom at any time. You have the right and responsibility to report non-compliance of the instructor to their department chair, director, or dean.

- All students and faculty are required to follow current university masking guidelines. As of August 15, all persons, regardless of vaccination status, are required to wear masks indoors.



- All students and faculty are required to follow current university social distancing guidelines. All students and faculty are required to maintain a minimum of 3' of distance in classroom environments.
- Students and faculty will jointly clean and sanitize equipment, furniture, instructional and meeting spaces with supplies provided by the University. At the end of each class, you will be expected to wipe down surfaces and ensure that the area you used is free of any papers, wrappers, bottles, trash, etc.

If you have an underlying health condition or increased risk factors, you may wear additional personal protective equipment (PPE) beyond a mask. In doing so, you will not be discriminated against. It is possible, however, that assignments or projects may be modified to accommodate additional PPE.

### **Academic Dishonesty - Addendum to Existing Policy**

Given the aforementioned leniency regarding attendance policies, the instructor is placing inherent trust in you to report missed class meetings accurately and truthfully. Misrepresenting your symptoms or quarantine status will be treated as an act of academic dishonesty as outlined in the university bulletin.

You are not allowed to share or reproduce any electronic content from this course. Doing so will result in a failing grade or an XF for egregious incidents. For example, sharing clips of video or audio to social media (even if it is very funny!) is prohibited and will result in an F for the course.

## MILLIKIN UNIVERSITY WELL BEING GUIDELINES

### CREATING AN EQUITABLE AND INCLUSIVE LEARNING ENVIRONMENT

Dignity and respect for individuals, and dedication to a diverse and inclusive community are among the core values that shape the work we do at Millikin University including our work together in this class. All employees of the university strive to assure that we live by these core values and abide by the requirements of the law to protect people against discrimination or mistreatment. This requires active attention and involvement from every member of the Millikin community, and that all members of the community, especially students, are empowered and comfortable sharing information and reporting concerns. Faculty members work with students as teachers, mentors, and advisors, but there are also times when faculty members are required to report information that may be shared with them, especially if it involves gender-based violence and sexual misconduct or information about a crime that may have occurred on the Millikin campus. It is very important for you to know about the University policies and reporting mechanisms available to you help assure that Millikin is the best university community it can be. The following paragraphs detail specific information about university commitments and ways in which you can report problems of this type.

### Title IX, Sexual Misconduct, and Gender-Based Violence

Millikin University is committed to creating a campus culture of respect that is free from discrimination, sex discrimination and sexual misconduct of all forms. Sexual misconduct is unlawful and will not be tolerated. Title IX makes it clear that violence and harassment based on sex and gender are subject to the same rights and support as other protected categories. Gender-based violence is defined by any action (sexual or not) that is motivated by the gender-identity of the victim. Gender-related violence includes domestic violence, dating violence, and stalking. The sexual misconduct guidelines in the student handbook govern these offenses as well. If you or someone you know is a victim of sexual misconduct or gender-based violence, or you know of an alleged incident, you can speak to someone CONFIDENTIALLY by contacting Growing Strong Sexual Assault Center 217-428-0770, and can file a report directly to any one of the following:

- Diane Lane, Director of Human Resources/Title IX Coordinator @ [dlane@millikin.edu](mailto:dlane@millikin.edu) ; 217-362-6416;
- Raphaella Prange, Vice President for Student Affairs/Deputy Title IX Coordinator for Students @ [rpalmer@millikin.edu](mailto:rpalmer@millikin.edu) ; 217-424-6395;
- Electronic reports can be submitted confidentially to [TitleIX@millikin.edu](mailto:TitleIX@millikin.edu). Electronic reports will be responded to within 12 hours.
- Campus Conduct Hotline, an anonymous reporting line, 866- 943-5787 or the online system: <http://www.intouchwebsite.com/CCH1959>

It is important to remember that all Millikin University employees are designated as mandatory reporters under Title IX. This means that if you share information related to an incidence of sexual misconduct or gender-based violence, any faculty member will be required to report that information to our Title IX coordinators. The University's initial concern is for the survivor's physical well-being. Students who have been victims of sexual misconduct or gender-related violence are strongly encouraged to seek medical treatment immediately at the emergency room at Decatur Memorial Hospital or St. Mary's Hospital. Students may also seek support through our Student Mental and Behavioral Health Services staff at 217-424-6360. For more information and resources go to: <https://millikin.edu/campus-life/student-resources/policies-standards/sexual-misconduct>

### Disabilities Accommodations Policy

Please address any special needs or special accommodations with your instructor at the beginning of the semester or as soon as you become aware of your needs. If you are seeking classroom accommodations under the Americans with Disabilities Act, you should submit your documentation to the Center for Academic and Professional Performance, located in University Commons 312.

### **Gender Expression and Identity**

At Millikin you have the right to define your own identity. You have the right to be called by the name you wish, and for your name to be pronounced correctly. You have the right to ask to be referred to by the pronoun that makes sense to you. You have the right to adjust those things at any point in your education. Students whose preferred names do not match their state issued identification may have their preferred name placed on their Millikin student identification card, their student email account, and diploma. Students must make these requests by contacting the Dean of Students Office at 217-424-6395. If you find that there are aspects of course instruction, subject matter, or classroom environment that result in barriers to your inclusion, please contact your instructor privately without fear of reprisal.

### **Bias Incidents or Discriminatory Practices**

Millikin University respects and values diversity. At Millikin, diversity is understood in broad terms, including race, ethnicity, socio-economic status, gender, disability, national origin, religion, sexual orientation, and age.

Through ongoing efforts to recruit diverse students, staff, faculty, and administrators and by creating an environment that values diversity, Millikin seeks to provide an engaged learning community in which diversity enhances the total educational experience.

Any student that feels belittled, disrespected, threatened, or unsafe because of their identity or background needs to report such incidents. Millikin's response will include engagement in educational dialogue and constructive action to address bias incidents. Confidential reporting options include utilizing the Campus Conduct Hotline via toll- free phone (866) 943-5787 or the online system:

<http://www.intouchwebsite.com/CCH1959>. In addition, for faculty/staff related complaints, students may file a grievance with Human Resources, 217-362-6416. For student related complaints, students may also contact the Vice President for Student Affairs, 217-424-6395.

### **Student Well-Being**

As a student, you may experience a range of issues that can negatively impact your learning, such as anxiety, depression, interpersonal or sexual violence, difficulty eating or sleeping, loss/grief, and/or alcohol/drug problems. These mental health concerns or stressful events may lead to diminished academic performance and affect your ability to participate in day-to-day activities. In order to support you during such challenging times, Millikin provides free and confidential counseling and resources to all enrolled students through Student Mental and Behavioral Health Services located in the Millikin/DMH Clinic, 217-424-6360.