

## MATH-4621-Mathematical Statistics-Section A (3 Credit hrs, NH 3035)

**INSTRUCTOR: Dr. ANDREAS LAZARI**

**OFFICE** : NEVINS HALL 2214 or 2072A **Phone #:** 229-333-7154 or 229-259-2042

**OFFICE HOURS:** Monday and Wednesday 11:00am-12:15pm

Tuesday and Thursday 12:30pm-1:45pm

**ANY OTHER TIME - BY APPOINTMENT**

**Course Description:** Prerequisite-MATH 2263 and MATH 3600. Distributions of random variables, conditional probability and stochastic independence, multivariate and some special distributions, and distributions of functions of random variables.

**TEXT: Introduction to Mathematical Statistics by**

**Hogg, McKean, Craig (Seventh Edition-ISBN: 978-0-321-79543-4) .**

**COURSE COVERAGE:** Selected Topics from Chapters 1 - 4.

**EXAMS:** THREE IN-CLASS EXAMS AND A FINAL. THE FINAL EXAM WILL BE COMPREHENSIVE.

**CALCULATOR:** No calculator is allowed in this course.

**HOMEWORK:** Homework will be assigned daily and turned in on the day of the quiz. You are RESPONSIBLE for doing and completing the HOMEWORK ON TIME. The homework is designed to help you develop analytical thinking skills. If you have difficulty with a particular problem, you can come to the office for help.

**QUIZZES:** Quizzes will be given weekly covering the HOMEWORK and LECTURE notes for that week. You are advised to complete and understand the HOMEWORK and study the LECTURE notes. DO NOT WAIT THE DAY BEFORE THE HOMEWORK IS DUE TO ASK FOR HELP BECAUSE YOU MAY NOT GET THE HELP YOU NEED. Total grade on the quiz=25pts (100%)=20quiz (80%)+5HW (20%) .

<b>EVALUATION:</b> EXAM#1 100	<b>GRADES :</b> A 450 - 500 90 - 100%
EXAM#2 100	B 390 - 449.99 78 - 89.99%
EXAM#3 100	C 325 - 389.99 65 - 77.99%
Quizzes(80%Q+20%HW) 100	D 275 - 324.99 55 - 64.99%
FINAL EXAM 100	F 0 - 274.99 0 - 54.99
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TOTAL POINTS 500	

### STUDENT LEARNING OUTCOMES:

- 1. Students will demonstrate understanding of the concepts of set theory, counting techniques, laws of probability and the use of Bayes' Theorem.
- 2. Students will be able to derive probability distributions for both univariate and bivariate random variables.
- 3. Students will be able to derive joint cumulative distribution functions, marginal density functions, conditional probability functions, mathematical expectation, and conditional expectation.
- 4. Students will be able to derive moment generating functions for both univariate and bivariate random variables.
- 5. Students will demonstrate understanding of the concepts of estimating probabilities using Chebyshev's Inequality.

All of these objectives will be assessed quantitatively via homework, quizzes, tests, and qualitatively via class discussion.

### GENERAL POLICIES:

1. There are NO MAKE-UP EXAMS. IF YOU HAVE A GOOD REASON FOR MISSING AN EXAM, (i.e.

**HOSPITALIZATION AND DEATH IN THE FAMILY), YOU MUST PROVIDE PRIOR NOTICE AND UPON VERIFICATION I WILL ALLOW YOU TO COUNT YOUR FINAL EXAM TWICE.**

2. Withdraw before midterm and you get a **WP** grade. Withdraw after midterm for **NO GOOD REASON** and you get **WF** grade.
3. Don't cheat on exams. Procedures for academic dishonesty, which will result in an F in the course and possibly dismissal from VSU, will be followed if you cheat.
4. Attendance is expected for every scheduled class meeting. You are expected to come on time and stay for the full period. If you are not in class, you are still responsible for the lecture, any assignments, and any information that was given in class. Be certain to get the information from another student in the class. As stated in the VSU catalog, if you miss more than 20% of our class meetings (6 days), then you will receive an F in the course. Three tardies will count as one absence.
5. Laptops, tablets, cell phones, headphones, and other electronic devices may not be used in class. **EXCEPTION: After getting permission from Dr. Lazari, you may take a seat in the front row only to use your electronic device.**
6. Cell phones must be turned off and put away during class, and exams. Cell phones may not be used as calculators during class, and exams. If you expect an emergency call during class you need to talk to Dr. Lazari. If a cell phone rings, it will be collected and returned to the Student Affairs Office.
7. **No Apple Watches** are allowed during Exams. Please turn them off and place them in your book bag.
8. **CLASS NOTES:** You are responsible for getting the material of the internet <http://blog.valdosta.edu/mathonline> before class.
9. Cell Phones. No cell phones should be used during class, text messaging, or any other form. If you expect an emergency call during class you need to talk to Dr. Lazari. If a cell phone rings, it will be collected and returned to the Student Affairs Office.
10. Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in University Center, Entrance 5, Room 4136, 1500 N. Patterson St., Valdosta, Georgia 31698. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP), and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: [access@valdosta.edu](mailto:access@valdosta.edu).
11. Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination based on race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment, and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Miss. Selenseia Holmes, **Director of Student Conduct & Title IX** Office of Student Affairs | Student Union 3rd Floor | Room 3106, 229.333.5941 ext. 9300.
12. **SOI Statement:** At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available on Banner. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term).