

## **MATH 651: Differentiable Manifolds**

**Instructor:** Dr. Amani Saloom

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**Notes: If you could not find me at my office, kindly leave a note or send an email. In addition, kindly update your contact info (Mobile no., email, etc in ODUS PLUS) to facilitate communication.**

### **Classrooms:**

Building: 007 Room: TBA

Office Hours: TBA

### **Recommended Books:**

- John M. Lee. *Introduction to smooth manifolds, Graduates Texts in Mathematics*. Springer-Verlag, New York, 2002.
- William M. Boothby. *An Introduction to Differentiable Manifolds and Riemannian Geometry*. Academic Press, 2003.

If you cannot get hold of those books, any book of Differentiable Manifolds covers the syllabus below shall be useful.

### **Overview and Background:**

This course is about differentiable manifolds that are topological spaces on which there are defined coordinates allowing using multivariable calculus; however, the results are coordinate-independent. Manifold theory and differential geometry play important roles in modern mathematics and physics. Students need a good background in differential geometry, topology and linear algebra.

**Syllabus:** refer to the Course Outlines on my webpage.

### **Homeworks:**

Homeworks will be assigned in classes.

**Examinations:**

First Periodic Exam: TBA  
Second Periodic Exam: TBA  
Final Exam: TBA

The exams may include the following:

- explicit, computational questions
- ask to state theorems/definitions
- questions that require insight
- proofs or examples from the lectures or homeworks

**Grading Policy:**

First Periodic Exam 20%  
Second Periodic Exam 20%  
Homeworks and projects 20%  
Final Exam 40%

**Wish you a successful semester!**