

**Math 557 - Applied Matrix Analysis - WWP**  
Spring 2016 Course Information  
Nicholls State University

**Instructor:** Dr. Matthew Gamel  
**Email:** matthew.gamel@nicholls.edu  
**Office:** 112 Peltier Hall  
**Phone:** (985) 448-4382  
**Office Hours:** 1:00-4:00 PM (Monday), 3:00-4:00 (Tuesday), 2:00-5:00 (Thursday), By Appt.

I will be available online at the times listed above (central/Louisiana time) so if you send me correspondence during these times, I should respond quickly. I will endeavor to respond to any questions, comments, or concerns promptly, as soon as I receive them. A good many of you this term are located in the Thibodaux area and I will certainly be happy to arrange to meet with you in person if you prefer so feel free to drop by during the times listed above or by appointment.

**Catalog Description:** MATH 540. Applied Matrix Analysis. 3-3-0. Prerequisite: MATH 360. Vector spaces and transformations, eigensystems, quadratic forms.

**Course Information:** In this course, we will focus on abstract linear algebra over a concrete field and corresponding matrix analysis. We will do some actual matrix analysis if time permits. Please see the *Getting Started* document on Moodle or the objectives in the syllabus for more information.

**Prerequisites:** The official prerequisite is Math 360 (Linear Algebra). Basically, what this means to you is that you should know how to write proofs and you should also be able to make basic computations from undergraduate linear algebra (row operations, solve linear systems, compute inverses, etc).

**Internet Delivery:** A few words need to be said about the Internet delivery of this course. All assignments, notes, announcements, etc will be posted on Moodle (<http://moodle.nicholls.edu/moodle>). Due to the nature of this course, all

students enrolled in an Internet course should have basic computer skills. Some tips on preparing yourself for an online course are available at <http://www.nicholls.edu/distance/faqs>. Naturally, since this course is online, it will mainly be self-paced. This will, therefore, require self-discipline and self-motivation on an entirely different level than that required in a traditional lecture course.

It is important that homework is turned in promptly and on time. It is the responsibility of the student to notify the instructor of technical and/or personal problems that may interfere with online participation. All students must check their Nicholls e-mail account regularly as this will be our primary means of communication. Just like a typical class, instances of academic dishonesty, such as plagiarism, will not be tolerated. Sanctions for such behavior are outlined in the Code of Student Conduct (Section 1.9).

**Textbook:** The required textbook for this course is *Linear Algebra*, 4th ed by Friedberg, Insel, and Spence (ISBN-13: 978-0130084514)

**Drop Date:** The last day to drop this course and receive an automatic **W** is Wednesday, April 6, 2016.

**Course Evaluation:** You will mainly be evaluated on homework and there will be a final exam. Please see the document on grading that has been posted to Moodle for more information about how grading will work.

**Homework:** Homework assignments will be posted on Moodle and due dates will be posted with each assignment. Please consult the course schedule for more information.

Homework can be submitted to me either by bringing it to my office, placing it in my campus mailbox in the department office, or by scanning it in and sending it to me in the form of a PDF (no JPEGs, GIFs, or image files, please). Naturally, if you do not live near Thibodaux, your only option is to scan it<sup>1</sup> as a PDF and send it to me. If you elect to send me your homework electronically, it must be submitted to me no later than 11:59 PM on the due date. You may also feel free to send it to me via postal service but if you send me homework through the mail, it must be postmarked by the due date.

Because homework is essential for success in this course and because getting behind can make it seriously difficult for you to progress, late homework will generally not be accepted.

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<sup>1</sup>Note that if you elect to type up your problems in Microsoft Word, please save the file as a PDF. Please don't send me Word documents.

**Fine Print:** I reserve the right to make changes to this syllabus and to course procedure. I will inform you and make it clear if any changes are made.

**Learning Objectives:** At the completion of this course, a student should be able to:

1. describe and define the concept of a vector space and a linear transformation
2. be able to state and prove basic facts about vector spaces and linear transformations
3. be able to state and use the Cayley-Hamilton Theorem

*Note:* There may be time for more material than this; we will just have to wait and see.

**Academic Honesty:** The following is the instructor's policy on academic honesty.

- Disciplinary action for academic dishonesty will be handled according to the Code of Student Conduct
- Dishonesty/cheating will not be tolerated
- Use of cellular phones, computers, graphing calculators, or calculators with a QWERTY keyboard will be prohibited during tests and quizzes
- Section five of the Code of Student Conduct: Academic Dishonesty and Disruptive Behavior, has been revised and includes a requirement that faculty file a charge complaint statement with the dean whenever a student is confronted and/or disciplined for cheating. The Office of Academic Affairs will maintain these records and any student confronted and/or disciplined for multiple offenses (more than one) of academic dishonesty will be brought before the Academic Affairs Integrity Committee for further review and/or sanctions. Please read the Code of Student Conduct for further details regarding this policy.

**Academic Grievances:** The proper procedure for filing grade appeals or grievances related to academic matters is listed in Section 5 of the Code of Student Conduct and at the following link:

[www.nicholls.edu/documents/student\\_life/code\\_of\\_conduct.pdf](http://www.nicholls.edu/documents/student_life/code_of_conduct.pdf)

**Continued Learning following an Extreme Emergency:** In order to make continued learning possible following an extreme emergency students are responsible for:

- reading regular emergency notifications on the NSU website;
- knowing how to use and access Blackboard (or university designated electronic delivery system);
- being familiar with emergency guidelines;
- evacuating textbooks and other course materials;
- knowing their Blackboard (or designated system) student login and password;
- contacting faculty regarding their intentions for completing the course.

faculty are responsible for:

- their development in the use of the Blackboard (or designated) software;
- having a plan for continuing their courses using only Blackboard and email;
- continuing their course in whatever way suits the completion of the course best, and being creative in the continuation of these courses;
- making adjustments or compensations to a student's progress in special programs with labs, clinical sequences or the like only in the immediate semester following the emergency.

**Disability:** If you have a documented disability that requires assistance, you will need to register with the Office of Disability Services for coordination of your academic accommodations. The Office of Disability Services is located in 158A Shaver Gym. The phone number is (985) 448-4430 (TDD 449-7002).