MATH 2010-N01  
Linear Algebra

Instructor Information:

• Instructor:
• Office phone:
• Office location:
• E-mail address:
• Office Hours:

Course Description

A traditional introductory linear algebra course. Topics include matrices, determinants, systems of linear equations, vectors, vector spaces, linear transformations, eigenvalues and eigenvectors.

3 credit hours
Prerequisites: Math 1910

Materials:

• Required: calculator/software: A graphing calculator capable of doing matrix arithmetic is required. The TI-84+ calculator will be the demonstration tool in the classroom. Maple and/or other software may be used. (The instructor will clarify.)

Summer 2017
• Required: Pearson’s MyMathLab access code

Fall 2017
• Required: Pearson’s MyMathLab access code (ISBN: 9780321989871)
Course Outcomes

Upon successful completion of this course, students will be able to:

1. Solve problems using mathematics, and determine if solutions are reasonable.
2. Apply mathematical concepts to solve real-life problems using formulas (deduction) and interpret the meaning of the solution.
3. Construct meaningful connections (transfer of knowledge) between mathematics and other disciplines.
4. Apply technology for mathematical reasoning and problem solving.
5. Analyze data/graphs by using mathematical modeling and/or statistical reasoning.

Topics

- Systems of Linear Equations
- Row Reduction and Echelon Forms
- Vector Equations
- The Matrix Equation $Ax = b$
- Solution Sets of Linear Systems
- Linear Independence
- Introduction to Linear Transformations
- The Matrix of a Linear Transformation (optional)
- Matrix Operations
- The Inverse of a Matrix
- Characterizations of Invertible Matrices
- Subspaces of $\mathbb{R}^n$
- Dimension and Rank
- Introduction to Determinants
- Properties of Determinants
- Cramer’s Rule
- Vector Spaces and Subspaces
- Null Spaces, Column Spaces, and Linear Transformations
- Linearly Independent Sets
- Bases
- The Dimension of a Vector Space
- Rank
- Eigenvectors and Eigenvalues
• The Characteristic Equation
• Complex Eigenvalues

Course Policies

• Each Instructor will provide information regarding his/her attendance policy. Failure to attend class will result in a final course grade of “FA” or “FN” (see explanation below) depending on the individual instructor’s course policy.

• FA= failure, attendance-related (unofficial withdrawal) Last recorded date of attendance required
  FN= failure, never attended class (unofficial withdrawal)

• Method of Evaluation:
  Grading:  90-100, A  80-89, B  70-79, C  60-69, D  below 60, F

• The instructor will clarify specific examination, homework, and other methods of evaluation.

ADA Statement

Nashville State Technical Community College complies with the Americans with Disabilities Act. If you wish to request any special accommodations for any courses in which you are enrolled, contact the Disability Coordinator at 353-3721. Such services must have proof of documentation that is not over three years old.

Classroom Behavior

Nashville State Community College has a zero tolerance policy for disruptive conduct in the classroom. Students whose behavior disrupts the classroom will be subject to disciplinary sanctions.

The instructor has primary responsibility for control over classroom behavior and maintenance of academic integrity. He/she can order temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or in conduct which violates the general rules and regulations of the College. Disruptive behavior in the classroom may be defined as, but is not limited to, behavior that obstructs or disrupts the learning environment (e.g., offensive language, harassment of students and professors, repeated outbursts from a student which disrupt the flow of instruction or prevent concentration on the subject taught, failure to
cooperate in maintaining classroom decorum, etc.), the continued use of any electronic or other noise or light emitting device which disturbs others (e.g., disturbing noises from beepers, cell phones, palm pilots, lap-top computers, games, etc.).

Please be aware that children are not allowed in class or unattended on campus.

Academic Dishonesty (Honor Code)

Any form of academic dishonesty, cheating, plagiarizing, or other academic misconduct is prohibited. “Plagiarism may result from: (1) failing to cite quotations and borrowed ideas, (2) failing to enclose borrowed language in quotation marks, and (3) failing to put summaries and paraphrases in your own words” (A Writer’s Reference 331). Academic dishonesty may be defined as, but is not limited to, intentionally trying to deceive by claiming credit for the work of another person, using information from a web page or source without citing the reference, fraudulently using someone else’s work on an exam, paper, or assignment, recycling your own work from another course, purchasing papers or materials from another source and presenting them as your own, attempting to obtain exams/materials/assignments in advance of the date of administration by the instructor, impersonating someone else in a testing situation, providing confidential test information to someone else, submitting the same assignment in two different classes without requesting both instructor’s permission, allowing someone else to copy or use your work, using someone else’s work to complete your own, altering documents, transcripts or grades, and forging a faculty/staff member’s signature.

In addition to other possible disciplinary sanctions that may be imposed through regular college procedures as a result of academic dishonesty the instructor has the authority to assign an “F” or a “Zero” for the exercise, paper, or examination or to assign an “F” for the course.

Inclement Weather Policy

If classes at NSCC are cancelled the instructor will post an assignment in the class NSOnline shell. If classes are cancelled, it is the student’s responsibility to check for the assignment and complete it by the posted deadline.

Electronic Devices

All electronic devices are to be turned off (or 'vibrate') during class unless prior consent has been given by the instructor. Students wanting to make use of an electronic note-taking device (laptop, iPad, etc.) must see the instructor and sign a 'use-contract' prior to using the device.
It is the student’s responsibility to check D2L and MyNSCC email on a regular basis. These are the official communication channels between the college and students. Students are responsible for the information communicated through those channels. D2L contains specific course information and MyNSCC contains information important for other purposes.

NOTE: This syllabus is meant simply as a guide and overview of the course, the topics, the objectives, the general assessments, and some standard college policies. Some items are subject to change or revision at the instructor’s discretion. Each instructor will further clarify their criteria for grading, classroom procedures, attendance, exams and dates, etc.