

Nashville State Community College
Business, Applied Arts & Technologies Division
Architectural, Civil and Construction Engineering Technology

Master Course Syllabus

CIT 2400 Structural Design

3 Credits
3 Class Hours

A continuation of CIT 2110. Emphasis is placed on the design of wood, steel and concrete structural elements. The NDS, AISC and ACI Codes are used respectively. Topics include steel beams, columns, detailing and connections, concrete beams, slabs, foundations and reinforcing bars. Prerequisite(s): CIT 2110

Instructor Information:

Name:
Email:
Office Phone:
Office Location:
Office Hours:

Textbook and Other Materials:

Textbook: None
Reference materials: American Institute of Steel Construction, Manual of Steel Construction, Allowable Stress Design
American Institute of Steel Construction, Detailing for Steel Construction
American Concrete Institute, Building Code Requirements for Reinforced Concrete (ACI 318-89)
American Concrete Institute, ACI Detailers Manual, 1988

Additional open lab time will be available as scheduled. Students may also use the Lab during other scheduled class times if space is available and with the permission of the instructor present.

Course Outcomes:

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

- Draw steel connections
- Design elementary steel beams and calculate deflection
- Design elementary steel compression
- Calculate allowable load and design simple bolted and welded connections – single and double shear, bolt spacing, full bearing and edge distance.
- Design elementary steel tension members
- Use steel tables to select roof trusses and decking materials

Grading Policy

| | |
|------------------------------|-----|
| Homework | 40% |
| Tests 3-4 | 40% |
| Final Exam | 15% |
| Attendance and Participation | 5% |

If you cannot take a test when scheduled you must notify the instructor and make arrangements to take the test prior to the scheduled date. Homework not turned in on time is subject to a 25% grade reduction. Homework will not be accepted if more than 1 week late or after an assignment has been returned to the class whichever comes sooner. Homework should reflect your understanding of the subject, not that of your classmates. There will be no make-up on missed labs. Make every effort to attend every lab.

Grading Scale:

Grades will be determined as follows (Average = Total points earned / Total points):

| Grade | Average | Points |
|-------|----------|--------|
| A | 90 – 100 | |
| B | 80 -- 89 | |
| C | 70 -- 79 | |
| D | 60 -- 69 | |

Topics to be Covered:

Wood Construction
 Design value tables
 Load duration factors
 Spanning Elements
 Wood beam design
 Solid sawn columns
 Columns with bending
 Fastening of Wood Structures
 Structural Steel Products
 Steel beams and framing elements
 Steel columns and frames
 Bolted Connections
 Welded Connections
 Properties of Concrete
 Designing concrete beams
 Concrete structural elements and framing systems
 Slab and Beam Systems
 Designing columns
 Development lengths and splices

Attendance Policy

A student is expected to attend all scheduled classes and laboratories. Each instructor will formulate an attendance policy and provide it on the course syllabus. Absences are counted from the first scheduled meeting of the class, and it is the responsibility of each student to know the attendance policy of each instructor in whose class he/she is enrolled. If a student is absent from a class, he/she should give an advanced explanation to the instructor. Absences in a course may affect a student's final grade. The student is responsible for all assigned work in the course regardless of excused or unexcused absences. Tardiness may also affect a student's final grade.

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)

Student Communication Channels

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.

Early Warning System

Nashville State Community College has implemented an Early Warning System to notify students via e-mail about academic problems such as poor classroom attendance, poor performance on assignments/tests, poor communication skills, late/missing assignments, and/or lack of classroom participation. Please note that Early Warning Alerts do not affect a student's academic standing.

ADA Compliance Statement

Nashville State 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 Student Disabilities Office at 353.3721.

Classroom Misconduct

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. Please consult your Student Handbook for more specific details.

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. Students may appeal through the appropriate college grade appeal procedures.

Inclement Weather Policy

In the event of an inclement weather event, check the Nashville State web site home page at www.nsc.edu for announcements on campus closures. Campus closures will also be announced on local television stations (channels 2, 4, 5, and 17).

When classes are cancelled, an online assignment will be posted in NS Online. Check your NS Online email for a message from your instructor regarding your online assignment requirements. Even though classes may be cancelled, some areas, i.e. Testing Center, may be open. However, you should check before commuting to campus.

The Vice President for Academic Affairs and the Director of Security are responsible for cancellation decisions during an inclement weather event for the Nashville State main campus and the Southeast campus. Cookeville, Waverly, and Dickson Campus Directors will make class cancellation decisions based on conditions in their respective areas. Decisions about class cancellations are based on actual conditions, not forecasts. The perspective used for making decisions is that of the college as an employer, not as a K-12 institution. Students should use their own best judgment in determining whether to report to campus during inclement weather when classes are not cancelled.

NOTE: This syllabus is meant simply as a guide and overview of the course. Some items are subject to change or may be revised at the instructor's discretion. Each instructor will further clarify their criteria for grading, classroom procedures, attendance, exams and dates, etc. on his/her course syllabus.