



HYDR 2330 Fluid Power System Design

Course Syllabus

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

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Office Hours: Monday-Thursday 3:30-4:30 p.m.

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description:

Advanced operation of control valves and their controls for open and closed loop systems. Topics include filtration requirements for hydraulic systems operation of hydraulic circuits; design circuits, including hydraulics, pneumatics, electrical/electronic controls, and mechanical interface.

Student Learning Outcomes:

Identify the fluid power symbols for control valves; the fluid requirements for control valves; and describe the operation of control valves; contrast open and closed loop control; describe symmetrical and nonsymmetrical spools; apply the use of constant torque motors; describe the operation of linear velocity displacement transformer (LVDT) in proportional valves; and describe digital electrohydraulic devices; and design a fluid power system.

Evaluation/Grading Policy:

The breakdown of the course requirements is as follows:

Assignments	Percentage
Online Quiz	40%
Hands on Skills Assessment	50%
Course Participation and Safety	10%

Semester grades will be earned as follows

89.5% - 100% = A

79.5% - 89.4% = B

69.5% - 79.4% = C

59.5% - 69.4% = D

0-59.4% = F

Required Instructional Materials:

Online Subscription to Learnamator.com sold in 4, 6, and 12 month durations from the Northeast Texas Community College Bookstore.

Student Responsibilities/Expectations:

- Students are expected to demonstrate Safety in all classes and lab activities.
- Students will be taught in a competency-based, self-paced environment with the instructor serving as a learning facilitator. If you have FAFSA, Scholarship, or other obligations you must complete your courses during the semester you enrolled in.
- Students will complete both a Quiz covering the objectives contained in the LAPs, and Skills Assessments that demonstrate mastery of the skills taught in the LAPs.
- Students must clock in and be present each week to be successful at completing your courses.
- Failure to attend over a two-week period without communication can negatively affect your course participation.
- A written progress review will be provided to all students as needed and counseling will be provided for those students who are progressing in a less than satisfactory manner.
- Students receiving financial assistance must complete courses during the semester they are enrolled.

Instructional Methods:

The primary method of instruction will be a self-paced facilitator model. The instructor will serve as a facilitator for the student's learning; thus, enabling the student to move at his/her own pace. Learning Activity Packets (LAP), computer-based online learning modules, and practical hands-on activities will be incorporated throughout the course. Classroom presentations will be used infrequently at the instructor's discretion. Self-reviews, skill activities, Quiz assessments, and Skills assessments will be used to evaluate the student's competency.

Quizzes and Hands on Skills must be performed on the Following Topics:

- Hydraulic DCV Applications
- Hydraulic Cylinder Applications
- Hydraulic Relief Valve Operation
- Hydraulic Check Valve Applications
- Accumulator Applications
- Pneumatic DCV Applications
- Air Logic
- Pneumatic Maintenance

Withdrawal Procedures:

Withdrawal requests MUST BE initiated by the students. Requests for withdrawal become official and effective the date they are received in the records office. Students who stop coming to class and/or stop participating online but fail to drop the course will earn an "F" for the course.

Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements:

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (<http://www.ntcc.edu/>) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made

to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

Statement Regarding the Use of Artificial Intelligence (AI) Technology:

Employees and students shall be permitted to explore artificial intelligence (AI) and implement its use in and out of the classroom in accordance with policy and administrative regulations. The use of AI shall only be as a support tool to enhance student outcomes or as necessary to engage in research and shall never take the place of faculty, staff, and student decision-making. Any use of AI must comply with law, policy, and administrative regulations relating to student and employee privacy and data security. A student shall only use AI tools with faculty permission and shall be expected to produce original work and properly credit sources, including AI tools used in creating the work.

Example:

APA (7th edition)

OpenAI. (2026). ChatGPT (March 25 version) [Large language model]. <https://chat.openai.com/>

MLA (9th edition)

OpenAI. ChatGPT. 25 Mar. 2026, <https://chat.openai.com/>.

Employees or students who use AI tools to deceptively harm, bully, or harass others shall be disciplined in accordance with policy. [See DH, DIA series, FFD series, FFE, FLB, and the FM series] AI Use by Employees and Students. Northeast Texas Community College 225500 TECHNOLOGY RESOURCES CRB ARTIFICIAL INTELLIGENCE (LOCAL) DATE ISSUED: 12/8/2025 1 of 1 UPDATE 50 CRB(LOCAL)-AJC Adopted: 12/16/2025

NTCC Academic Honesty/Ethics Statement:

NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodation for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodation as required to afford equal educational opportunity. It is the student's responsibility to request accommodation. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

Family Educational Rights and Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.