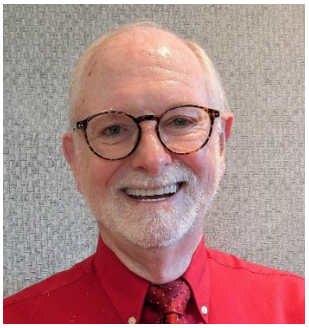
IE 409.001 Work Design

COURSE SYLLABUS: Fall 2025

INSTRUCTOR INFORMATION



Instructor: Paul R. McCright, PhD – Instructor
Office Location: Charles Austin Engineering Technology Bldg. (Ag/IT), 213B
Office Hours: Mon/Wed/Thurs: 1:30-3:30 or by appointment
E&T Department Phone: 903-886-5474
E&T Office Fax: 903-886-5960
University Email Address: Paul.Mccright@tamuc.edu
Preferred Communications: Email
Usual Response Time: 4-6 Hours

COURSE INFORMATION

Textbook Required:

Niebel's Methods, Standards, and Work Design (13th ed.). Freivalds, A. and Niebel, B. W. (2014).

Software Required:

Microsoft word, Excel, and PowerPoint

Course Description

Advanced course emphasizing the analysis and design of job requirements, workplace arrangements, human-machine system design processes and principles which improve the human workplace. Students will create a system design project. Prerequisites: IE 318

The *syllabus/schedule are subject to change.*

Student Learning Outcomes

Upon completion of this course:

1. The student will have an understanding of professional and ethical responsibility.
2. The student will be able to perform motion study, time study, work sampling, and performance rating.
3. The student will have an understanding of manufacturing systems, its components, and the impact of engineering solutions.
4. The student will have ability to design a system, component, or process to meet desired needs.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

1. A scientific calculator for exams.
2. Microsoft Word, Excel, PowerPoint.

Instructional Methods

This course utilizes readings, lectures, discussions, and assignments to assist students in achieving the course learning outcomes. A term project is required.

Student Responsibilities or Tips for Success in the Course

1. Students are responsible to know the contents of the syllabus, including amendments that may be made during the semester.
2. Students are responsible for knowing all deadlines and meeting them throughout the semester.
3. Nothing contributes to success like good attendance and personal involvement in the course throughout the semester. I have seen it over and over again. Students with poor attendance do not learn as much and make lower grades than those who attend class regularly.
4. Whenever you have difficulty understanding concepts, techniques, or assignments, do not be shy about asking the instructor for help. (That's one of the instructor's key responsibilities.)
5. Maintain a professional attitude whenever interacting with the instructor, classmates, or visitors to the course.
6. Pay particular attention to any written work submitted on assignments or exams as spelling, punctuation, and grammar are always considered in assigning grades.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% or Below

Weights of the assessments in the calculation of the final letter grade.

Assignments	25%
Group Design Project	25%
Midterm	25%
Final	25%
TOTAL	100%

Assessments

The assessment criteria for the stated student learning outcomes will include homework assignments (sometimes a problem set, sometimes an essay, and sometimes a mini-project), a midterm exam, and a final exam.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool
https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

The instructor will respond to your questions on D2L tools within 24 hours if possible. For urgent questions, and for questions that are not answered within 24 hours, please use e-mail correspondence.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

1. Late assignments will be accepted up to 24-hours after due date with a 15% grade deduction; after this, no assignment will be accepted.
2. You will be expected to do all the readings throughout the semester.
3. Each exam will be given in class. Exams are closed book and notes (necessary formulas will be provided). Students will need a scientific calculator for exams. Cell phones are not acceptable as a calculator. Use of unauthorized aids on exams will result in a grade of zero.
4. There will be one design assignment and it will be a group project.

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5. No make-up exams will be permitted unless official documentation for absences is provided (e.g., death in the family, illness).

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:
https://www.britannica.com/topic/netiquette

ETAMU Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf

Graduate Student Academic Dishonesty Form

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http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
East Texas A&M University
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and East Texas A&M University Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

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Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

East Texas A&M University Supports Students' Mental Health

The Counseling Center at East Texas A&M, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit **www.tamuc.edu/counsel**

AI Use in Courses

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors 'guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty
13.99.99.R0.10 Graduate Student Academic Dishonesty

In this course, AI is allowed with the following guidelines:

1. AI may be used to generate an outline for a paper or to generate ideas for inclusion. For example, to determine the full range of fuel sources for the generation of electricity or to obtain a list of the countries in Africa.
2. If used, the AI application must be listed in the Reference list as a source.
3. If used, include an Appendix after your Reference page showing the exact prompt given to the AI app and its full response.
4. Remember, AI has a tendency to invent references, so you need to check all references carefully to be sure they are legitimate. During the grading process, references are routinely checked, so you need to check them first.
5. Generally, it is not okay to use the paragraphs generated by AI, although like any source, you may paraphrase a particularly important point or actually quote the source. Be careful with this. A quote of more than about 40-50 words can indicate laziness on the part of the author.

Department or Accrediting Agency Required Content

This course addresses ABET Student Learning Outcome 6: An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

COURSE OUTLINE / CALENDAR

Week	Date	Topics	Assignment
1	8/26	Introduction to Course	
	8/28	Methods, Standards, and Work Design: Introduction	Ch 1: pp. 1-16
2	9/2	Problem Solving Tools: Exploratory Tools, Recording and Analysis	Ch 2: 21-41
	9/4	Problem Solving Tools: Quantitative Tools	Ch 2: 41-64 Assignment 1
3	9/9	Operation Analysis: Sect. 3.1-3.5	Ch 3: 76-95
	9/11	Operation analysis: Sect. 3.6-3.9	Ch 3: 95-120 Assignment 2
4	9/16	Prin. Of Work Design: Human Capabilities & Motion Economy	Ch 4: 132-149
	9/18	Prin. Of Work Design: Motion study	Ch 4: 149-175 Assignment 3
5	9/23	Workplace, Equipment & Tool Design	Ch 5: 181-225
	9/25	Work Environment Design	Ch 6: 235-272
6	9/30	Design of Cognitive Work: Sect. 7.1-7.3	Ch 7: 279-303 Assignment 4
	10/2	Design of Cognitive Work: Sect. 7.4-7.7	Ch 7: 303-317
7	10/7	Workplace and Systems Safety: Sect. 8.1-8.4	Ch 8: 326-350
	10/9	Workplace and Systems Safety: Sect. 8.5-8.9	Ch 8: 350-373 Assignment 5
8	10/14	Conclusions and Review for Midterm	Ch 1-8

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	10/16	Midterm Exam	Ch 1-8
9	10/21	Proposed Method Implementation	Ch 9: 380-409 Project Begins
	10/23	Time Study: Sect. 10.1-10.4	Ch 10: 416-426
10	10/28	Time Study: Sect. 10.5-10.8	Ch 10: 426-443 Assignment 6
	10/30	Performance Rating and Allowances: Sect. 11.1-11.5	Ch 11: 450-462
11	11/4	Performance Rating and Allowances: Sect. 11.6-11.10	Ch 11: 462-480 Assignment 7
	11/6	Standard Data and Formulas	Ch 12: 486-501
12	11/11	Predetermined Time Systems: Sect. 13.1	Ch 13: 508-532
	11/13	Predetermined Time Systems: Sect. 13.2-13.3	Ch 13: 532-547 Assignment 8
13	11/18	Work Sampling: Sect. 14.1-14.3	Ch 14: 556-570 Assignment 9
	11/20	Work Sampling: Sect. 14.4-14.9	Ch 14: 570-579
14	11/25	Project Work	
	11/27	Thanksgiving Break	
15	12/2	Project Presentations	
	12/4	Conclusions and Review for Final Exam	Ch 9 – Ch 14
16	12/9	Final Exam – 8:00 – 10:00	Ch 9-14

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