



WACO, TEXAS

---

## **COURSE SYLLABUS AND INSTRUCTOR PLAN**

**ENGINEERING ECONOMICS  
ENGR 2308 – 95**

**PAULINA Z. SIDWELL  
APRIL K. ANDREAS  
LAURA WRIGHT**

**NOTE: This is a Blended/Hybrid course.**

**COVID 19 Notice:**

McLennan Community College is committed to providing you with every resource you need to reach your academic goals including your safety. We will continue to monitor the evolving situation with COVID 19 and adjust our safety guidelines to make sure we offer a safe environment for you and our faculty. Please make sure to consult your faculty and the MCC website at <https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html> on any changes to these guidelines.

# ENGINEERING ECONOMICS

ENGR2308.H1

---

## **Course Description:**

Methods used for determining the comparative financial desirability of engineering alternatives. Provides the student with the basic tools required to analyze engineering alternatives in terms of their worth and cost, an essential element of engineering practice. The student is introduced to the concept of the time value of money and the methodology of basic engineering economy techniques. The course will address some aspects of sustainability and will provide the student with the background to enable them to pass the Engineering Economy portion of the Fundamentals of Engineering exam.

This is an International Engineering Experience course. This means that a portion of the class will involve traveling overseas and learning about the international aspects of Engineering Economics.

## **Prerequisites and/or Corequisites:**

Students must have a C or better in MATH 2413—Calculus I

## **Instructor Information:**

Instructor Name: Professor Paulina Sidwell  
MCC E-mail: [psidwell@mclennan.edu](mailto:psidwell@mclennan.edu)  
Office Phone Number: (254) 299-8544  
Office Location: S 144  
Office Hours: By appointment.  
<https://calendly.com/psidwell>

Instructor Name: Professor Laura Wright  
MCC E-mail: [lwright@mclennan.edu](mailto:lwright@mclennan.edu)  
Office Phone Number: (254) 299-8419  
Office Location: S 246  
Office Hours: by appointment  
[https://calendly.com/professor\\_wright/](https://calendly.com/professor_wright/)

Instructor Name: Dr. April K. Andreas  
MCC E-mail: [aandreas@mclennan.edu](mailto:aandreas@mclennan.edu)  
Office Phone Number: (254) 299-8130  
Office Location: S 221  
Office Hours: By appointment  
<https://calendly.com/akandreas>

## **Required Text & Materials:**

\*Note: This course uses Inclusive Access, meaning that your course materials have been included in the course fees and thus do not need to be purchased separately.

Title: Engineering Economy MyLab with Pearson e-text

Author: Sullivan, Wicks, & Koelling

Edition: 17th

Publisher: Pearson

**MCC Bookstore Website:** <http://www.mclennan.edu/bookstore/>

**Additional requirements:**

Students must have a reliable computer and internet connection. Students must be able to demonstrate basic computer literacy skills such as keyboarding, sending and receiving email, and using a web browser. Also, a scientific calculator will be allowed for tests.

Requirement for the Overseas Experience portion of the class:

- A passport valid through December 2023
- Approved travel visas (if applicable)
- A smart phone with an international data plan, including about 100 MB per day, and about 100 texts and about 100 minutes of talk total

**Methods of Teaching and Learning:**

As this is a travel/flex course, there will be multiple avenues for learning. Most of the course content will be taught prior to the trip, via online videos and face-to-face meetings. Additionally, students will learn through independent research, work on online homework, reports, exams, and independent and team research projects. Teaching while on the International Engineering Experience (IEE) portion will take place during scheduled activities, daily meetings at breakfast and dinner, and during downtimes while in transit (airports, buses, etc.) The IEE portion can best be described as experiential learning; you must be present to learn.

**Course Objectives and/or Competencies:**

Upon successful completion of this course, students will:

1. Apply different methods to calculate the time value of money. (*All Chapters*)
2. Construct cash flow diagrams for a given problem. (*Ch. 4, 5, 6, 8, 9, 10, 11*)
3. Estimate total revenue, total cost, and break even points. (*Ch. 1, 2, 3, 11*)
4. Calculate the uniform series payment, given principal, interest rate, and pay period (*Ch. 4, 5, 6*)
5. Perform project evaluation, including cost/benefit analysis. (*Ch. 10*)
6. Articulate principles of taxation and depreciation. (*Ch. 7*)
7. Perform capital budgeting, cost comparisons, and replacement analyses. (*Ch. 9, 13*)
8. Solve problems at a level consistent with expectations of the engineering economics portion of the Fundamentals of Engineering exam. (*All Chapters*)

# ENGINEERING ECONOMICS

ENGR2308.H1

## Course Outline or Schedule:

To complete the materials for this course, students must work on modules and complete activities based on the following calendar. **Additional due dates are in the Travel Guide Assignment Document.**

<b>Week Beginning</b>	<b>Friday Info (Bring smart phone to all mtgs)</b>	<b>Module</b>	<b>Engr Econ Topic</b>	<b>Due by 11:59 pm Friday</b>
Mon, Jan 9	Mtg #1, 1/13: 1 pm – 4 pm <ul style="list-style-type: none"> <li>• Orientation</li> <li>• Set up phones</li> <li>• Travel Guide Project</li> </ul>	Week 1	Ch 1: Introduction	• Syllabus Quiz
Mon, Jan 16		Week 2	Ch 2-3: Cost Concepts, Estimation Techniques	• HW 1: Ch 1 - 3
Mon, Jan 23		Week 3	Ch 4: Time Value of Money part 1	• HW 2: Ch 4 pt 1
Mon, Jan 30	Mtg #2, 2/3: 1 pm – 4 pm <ul style="list-style-type: none"> <li>• Names Quiz</li> <li>• GooseChase</li> <li>• Dallas Scavenger Hunt Assignment</li> </ul>	Week 4	Ch 4: Time Value of Money part 2	• HW 3: Ch 4 pt 2
Mon, Feb 6		Week 5	<b>Test 1 Review Study!</b>	• Test 1 (Ch 1 – 4)
Mon, Feb 13	<b>FRIDAY</b> Mtg #3, 2/17: 8 am – 10 pm (full day) Dallas Scavenger Hunt (counts as a quiz)	Week 6	Ch 5: Evaluation a Single Project	• HW 4: Ch 5

## ENGINEERING ECONOMICS

ENGR2308.H1

<b>Week Beginning</b>	<b>Friday Info (Bring smart phone to all mtgs)</b>	<b>Module</b>	<b>Engr Econ Topic</b>	<b>Due by 11:59 pm Friday</b>
Mon, Feb 20		Week 7	Ch 6: Comparison and Selection Among Alternatives	• HW 5: Ch 6
Mon, Feb 27		Week 8	Ch 10 - 11: Benefit-Cost Analysis, Breakeven Analysis, Sensitivity Analysis	• HW 6: Ch 10 - 11
Mon, Mar 6		Week 9	<b><i>Spring Break!</i></b>	
Mon, Mar 13		Week 10	<b>Test 2 Review Study!</b>	• <b>Test 2 (Ch 5, 6, 10 &amp; 11)</b>
Mon, Mar 20	Mtg #4, 3/24: 1 pm – 4 pm • Take Map Quiz • Take Basic Italian Timeline Quiz • Determine roles for travel • A first look at packing	Week 11	Ch 7: Depreciation, Income Taxes	• HW 7: Ch 7
Mon, Mar 27		Week 12	Ch 8: Price Changes, Exchange Rates	• HW 8: Ch 8
Mon, April 3		Week 13	Ch 9: Replacement Analysis	• HW 9: Ch 9
Mon, April 10	Mtg #5, 4/14: 1 pm – 4 pm • Take Current Events Quiz • Ethics and Behavioral Expectations • Packing and Logistics	Week 14	Ch 12-13: Probabilistic Risk Analysis, Capital Budgeting	• HW 10: Ch 12, Ch 13
Mon, April 17		Week 15	<b>Test 3 Review Study!</b>	• <b>Test 3 (Ch 7, 8, 9, 12 &amp; 13)</b>

# ENGINEERING ECONOMICS

ENGR2308.H1

<b>Week Beginning</b>	<b>Friday Info (Bring smart phone to all mtgs)</b>	<b>Module</b>	<b>Engr Econ Topic</b>	<b>Due by 11:59 pm Friday</b>
Mon, April 24	Mtg #6, 4/28: 1 pm – 4 pm <ul style="list-style-type: none"> <li>• Final logistics</li> <li>• Safety &amp; financial considerations</li> <li>• Customs</li> <li>• Public transportation</li> <li>• Phone/App Check</li> </ul>	Week 16	Final Exam Review	<ul style="list-style-type: none"> <li>• <b>Final Exam (Comprehensive)</b></li> </ul>

## Course Grading Information:

<b>Grade Distribution</b>	
<b>Due prior to travel</b>	<b>80%</b>
- Homework	15%
- Tests	30%
- Quizzes	10%
- Research Paper & Edits	15%
- Italian Progress	10%
<b>Due during/after travel</b>	<b>20%</b>
- GooseChase Points	10%
- Research Paper Final	10%
<b>Total</b>	<b>100%</b>

**A: 90%+      B: 80% – 89%      C: 70% – 79%      D: 60% – 69%      F: 0% – 59%**

## **Pre-trip Work**

**Homework:** All homework will be done online through MyLab Engineering, which is integrated into the Brightspace course. The homework exercises are available from the beginning of the semester and are due according to the calendar above. Homework is due at 11:59 on Friday of the end of the week as indicated by the syllabus. Late homework will be accepted, but penalized for every day that it is late. The last day in the semester to complete homework is Friday, April 28 at 11:59 pm.

**Tests:** There will be a total of four tests (the fourth test is the final exam). All tests will be closed book, closed notes. A 3 by 5 inch index card may be used as a formula sheet (both sides) as well as a calculator. Compound interest tables and depreciations tables (AKA the Test Handout) will be provided via Brightspace, and each student is responsible to print out a set and bring it to the test. Nothing can be hand-written on the Test Handout. Tests must be taken via Respondus Monitor by the end of the week (Friday) in which they are assigned as found in this Instructor Plan. The lowest test grade will be dropped. If you get less than 60% on any of the first three tests, you must meet with Professor Sidwell before you

# ENGINEERING ECONOMICS

## ENGR2308.H1

---

are allowed to take the subsequent test. Failure to meet with Professor Sidwell will result in an automatic zero on the next test, which will jeopardize your ability to participate in the travel portion of the course.

**Quizzes:** There will be several quizzes through the semester. Details will be provided in class.

**Individual Chapters and Edits:** As part of this course, you will be developing an engineering travel guide. Details will be provided in class.

**Italian Progress:** For safety reasons, it is imperative that students have a “basic knowledge” of Italian. Details will be provided in class.

*Even if you fall behind, you must still complete all Italian language study requirements. If you fail to complete the required tasks by Friday, April 28, 11 pm, you will not be allowed on the travel portion of the course and will not be eligible for any refunds.* In the case that you are not allowed to travel due to non-completion of language study requirements, your professors will make adjustments to the syllabus that may still allow you to earn credit for the course.

### **During and Post-trip Work**

**GooseChase Points:** We will be using the app GooseChase (available on Apple and Android mobile systems) to keep track of a variety of “scavenger-hunt-like” tasks that will require you to get involved with your surroundings and people you will meet along the way. There are well over 150 points available. Students will be graded out of 100 points, with a max score of 110%. Additional details will be provided in class.

**Research Paper:** After travel, students will make appropriate revisions to their paper. These revisions will be due soon after we return to the U.S. Details will be provided in class.

### **A Note About Traveling and Intellectual Curiosity**

While not every stop every day is going to be desperately fascinating to you, it is important that you do not impede others’ ability to appreciate the experience by poor attitude and/or behavior. We reserve the right to reduce your final grade in the class for attitudes and behaviors that have a negative effect on the logistics (including being late), the trip participants, or locals. Details will be provided in class.

**Academic Dishonesty.** Any student that is found guilty of academic dishonesty such as cheating, plagiarism, or collusion, will receive the zero grade on every test or assignment involved. For repeated violations, a guilty student can be assigned a failing grade in this course and can be recommended for suspension from the McLennan Community College District. Academic dishonesty in any class may result in your dismissal from this course, including the travel portion.

**Late Work, Attendance, and Make Up Work Policies:**

Late assignments will not be accepted, unless a specific penalty has been set by the instructors (for example, for homework assignments). If you have to miss class on the day that something is due, you must turn it in early. If you are legitimately ill during an assessment, you must email Professor Sidwell the morning of the exam (before you miss it), and provide a doctor's note **the first day** you are back in class in order to receive consideration for a makeup exam.

Attendance to all the meetings is mandatory. *If you have one unexcused absence (as defined by MCC absence policy), you will drop one letter grade. Per MCC policy, you may be automatically dropped after missing 25% of class meetings. Since we are meeting 6 times, that means 2 absences.* For this purpose, missing more than 20 minutes of a meeting counts as an absence. If you are dropped before the official drop date, you will receive a grade of W. If you are dropped after the official drop date, you will receive a grade of F, unless there are highly unusual circumstances. If you are dropped from the course, you will not be allowed to participate in the travel portion of the course as an Engineering Economics student.

MCC allows for "excused" absences caused by (1) authorized participation in official College functions, (2) personal illness, (3) an illness or a death in the immediate family, or (4) the observance of a religious holy day. It is your responsibility to let me know the reason for an absence the day you return to campus and provide sufficient documentation (doctor's note, email from coach, etc.).

**Student Behavioral Expectations or Conduct Policy:**

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of this educational opportunity. Additionally, since this is travel course, there are behavior expectations during the trip. During the semester, the instructor will explain to the students what these expectations are and will provide a form for students to sign, which will certify they understand and agree to the rules and the consequences for breaking them.

**[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)**

**(<https://www.mclennan.edu/highlander-guide/policies.html>)**

Click on the link above for the college policies on attendance and absences. Your instructor may have additional guidelines specific to this course.

**Your professors reserve the right to change any term on this syllabus  
at any time during the semester.**



---

Updated 11/04/2022

**McLennan**  
C O M M U N I T Y  
**COLLEGE**

---

## **ACADEMIC RESOURCES/POLICIES**

### **Accommodations/ADA Statement:**

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. For additional information, please visit [www.mclennan.edu/disability](http://www.mclennan.edu/disability).

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

[disabilities@mclennan.edu](mailto:disabilities@mclennan.edu) 254-299-  
8122  
Room 319, Student Services Center

### **Title IX:**

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the acting Title IX Coordinator at [titleix@mclennan.edu](mailto:titleix@mclennan.edu) or by calling, Dr. Claudette Jackson, (Diversity, Equity & Inclusion/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>.

Go to McLennan's Title IX webpage at [www.mclennan.edu/titleix/](http://www.mclennan.edu/titleix/). It contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the

crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

**Student Support/Resources:**

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom from 7:30 am - 6:00 pm Monday through Thursday and 7:30 am - 5:00 pm on Friday. You can contact the Academic Support and Tutoring team via Zoom (<https://mclennan.zoom.us/j/2542998500>) or email ([ast@mclennan.edu](mailto:ast@mclennan.edu)) during the above mentioned times.

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing [crew@mclennan.edu](mailto:crew@mclennan.edu) or a Success Coach by calling (254) 299-8226 or emailing [SuccessCoach@mclennan.edu](mailto:SuccessCoach@mclennan.edu). Both are located in the Completion Center located on the second floor of the Student Services Center (SSC) which is open Monday-Friday from 8 a.m.-5 p.m.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to [https://mclennan.co1.qualtrics.com/jfe/form/SV\\_07byXd7eB8iTqJg](https://mclennan.co1.qualtrics.com/jfe/form/SV_07byXd7eB8iTqJg). Both the Completion Center and Paulanne's Pantry are located on the second floor of the Student Services Center (SSC).

**MCC Foundation Emergency Grant Fund:**

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to <https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html> to find out more about the emergency grant. The application can be found at [https://www.mclennan.edu/foundation/docs/Emergency\\_Grant\\_Application.pdf](https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

**MCC Academic Integrity Statement:**

Go to [www.mclennan.edu/academic-integrity](http://www.mclennan.edu/academic-integrity) for information about academic integrity, dishonesty, and cheating.

**Minimum System Requirements to Utilize MCC's D2L|Brightspace:**

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/Faculty-andStaffCommons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

**Minimum Technical Skills:**

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

**Backup Plan for Technology:**

In the event MCC's technology systems are down, you will be notified via your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

**Email Policy:**

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are expected to read and, if needed, respond in a timely manner to college emails. For more information about your student email account, go to [www.mclennan.edu/studentemail](http://www.mclennan.edu/studentemail).

**Instructional Uses of Email:**

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

**Email on Mobile Devices:**

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email [Helpdesk@mclennan.edu](mailto:Helpdesk@mclennan.edu) for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

**Forwarding Emails:**

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support Cheat Sheet](#) or email [helpdesk@mclennan.edu](mailto:helpdesk@mclennan.edu).

**Disclaimer:**

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.