



## IME 780AL Energy Analytics & Management – Fall 2023

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- Preferred Method of Contact: Office hours/email/phone/appointment
- Office Hours: Monday 1-3pm (or by appointment)
- Classroom Day/Time: Mondays, 5:35-6:50pm (Jabara Hall)
- Prerequisites: EE 282 or instructor's approval
- Teaching Assistant: Rahul Joshi
- TA Contact: N/A

### How to use this syllabus

This syllabus provides you with information specific to this course, and it also provides information about important university policies. This document should be viewed as a course overview; it is not a contract and is subject to change as the semester evolves.

**In case of any changes, they will be communicated in the class or through email/website.**

### Student Office Hours

My student office hours are listed on page one of the course syllabus. Please utilize this time to meet with me for course related discussions: asking for extra help, seeking further clarification of material presented in class, and follow up on aspects of the class they are interested in. These hours are not required for the course, but are available to help support you on your path to success.

### Course Description

Covers topics on energy auditing, rate structures, economic evaluation techniques, analysis of opportunities in energy systems including but not limited to lighting, compressed air, process heating, steam, and other process-based energy systems. Also covers multiple software programs used by energy auditing professionals.

### Definition of a Credit Hour

Success in this 3 credit hour course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction and preparation/studying or course related activities for a total of 135 hours.

Go to [4.08 / Definition and Assignment of Credit Hours](#) for the policy and examples for different types of courses and credit hour offerings.

## Measurable Student Learning Outcomes

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

- A. Identify and describe energy conservation opportunities.
- B. Evaluate energy rate structures.
- C. Apply energy auditing techniques.
- D. Use software programs to analyze energy saving opportunities.
- E. Perform an economic evaluation of energy conservation solutions.

## Required Texts/Readings Textbook

Capehart, Barney L., Turner, Wayne C., Kennedy, William J., Guide to Energy Management, 7th Edition, 2011, Fairmont Press.

## Other Readings

Appropriate material will be provided in Blackboard.

## Other Equipment/Materials

Students are required to have complete access to a functioning laptop or PC with internet capabilities. This laptop or computer must have Microsoft Word and Excel. If you do not have Microsoft Word and Excel on your PC or Laptop, Wichita State does provide free access to Microsoft Office 365 for students. Follow the instructions below to get Microsoft Office:

1. Log in to [MyWSU](#)
2. Click on Office 365 located on the "Home" tab
3. Follow the Office 365 wizard instructions

Before you begin your coursework, ensure that your computer meets technical standards (software, computer equipment, general skills, program management skills, communication skills, and managing your WSU e-mail) for use in online courses:

[https://www.wichita.edu/services/mrc/elearning/online\\_orientation/ComputerSkillsPreparation.php](https://www.wichita.edu/services/mrc/elearning/online_orientation/ComputerSkillsPreparation.php)

## Class Protocol and Conduct

This is a university course with commensurate expectations. We expect professional conduct in the classroom. Unprofessional conduct, e.g. off topic activities, may affect your grade or even your academic career. Be respectful at all times. Students demonstrating confrontational, disruptive, or threatening behavior will be asked to leave the classroom immediately and will not be allowed to return to the classroom for the remainder of the class period. Consequences of this behavior may also include (and are not limited to): Suspension from class for a minimum of one additional class period and report or referral to the WSU police department, Student Conduct and the WSU Care Team.

Though this is a hybrid class, participation is still crucial. Students are expected to:

- Maintain a collegial environment in all communications (email, forum/discussion, etc.).
- Complete and submit all assignments on time.

- Work on all assignments individually unless indicated otherwise (e.g. team project).
- Access the class website regularly (Monday through Friday) to review updates and/or work on assignments (attendance is based on login times). In general, material for the given session will be available by noon on the day of the session. Deviation from this schedule will be announced in the class or through an email.
- Respond to emails within 24 hours.
- Use the posted material only for this class and not share it with anyone else.
- Actively participate in forum/discussions and team projects.
- Contact the instructor if s/he has any questions.
- Follow other WSU's Student Code of Conduct as applicable.

## Contact Policy

Although you may attempt to reach me by phone, email communication is always preferred. Feel free to email me any questions or concerns following these guidelines:

- Always use the course name in the subject line of the email
- Remember to sign your name.
- **Always** email me from your WSU email address. Email sent from personal email servers like Gmail, Yahoo, etc., have a tendency to end up in my spam folder, and I never see them. You may also email me through Blackboard via the Email My Instructor tab. I also offer an Ask My Instructor forum on Blackboard which allows common questions to be seen and responded to publicly.
- You should NOT contact me for tech support.
  - Any technical problems involving your computer, or issues regarding file uploading or sharing, should go through the Blackboard Support. You can contact them at 316-978-3909. You can also fill out a request for help form at their website: <https://wichita.edu/BbSupport>
  - However, if you have a problem with access or uploading assignments, you *should* let me know before your assignment is due. You will also have to accompany this notification with the file in question, so I can verify that it is completed by the due date/time.

## Response Time

To Email and Forum Questions: 48 hours

Feedback on Assignments: two weeks

## Academic Integrity

Students at Wichita State University are expected to uphold high academic standards. WSU will not tolerate a lack of academic integrity. Students are responsible for knowing and following the [Student Academic Integrity Policy 2.17](https://www.wichita.edu/about/policy/ch_02/ch2_17.php) ([https://www.wichita.edu/about/policy/ch\\_02/ch2\\_17.php](https://www.wichita.edu/about/policy/ch_02/ch2_17.php)).

When the faculty member determines sanctions are warranted for violations of academic

integrity, regardless of severity, the faculty member must report the infraction to the Office of Student Conduct and Community Standards. If you need more information about the process or wish to appeal a decision, please visit [https://www.wichita.edu/about/student\\_conduct/ai.php](https://www.wichita.edu/about/student_conduct/ai.php)

Please note in particular that *Unauthorized Use or Possession of Materials or Resources* (Policy item IV.B.2) includes unauthorized use of generative AI like ChatGPT or GPT4. In this course, all use of generative AI is prohibited except as may be specified in assignment instructions. Any student suspected of unauthorized use of generative AI may be asked to demonstrate their mastery of the assignment learning outcomes in an alternate format, such as a verbal interview or an additional problem set, before a determination is made as to whether an academic integrity violation report is warranted.

**Academic dishonesty penalty in this course includes a failing grade for the course.**

## **Sexual Harassment, Discrimination and Retaliation**

Wichita State University is committed to creating a safe and healthy environment for all of our community members. To that end, we are partnering with Everfi to provide sexual assault prevention trainings that will help us all be informed on topics vital to achieving our goal. These trainings, in addition to being highly interactive and engaging, are based in research around the best practices for healthy communities. All students, staff and faculty are required to complete these trainings annually. Students will need to [complete Everfi training](#) in the fall semester before being able to enroll for the spring.

We are committed to the elimination of sexual misconduct, relationship violence, and stalking within the University community. These incidents may interfere with or limit an individual's ability to benefit from or fully participate in the University's educational programs. Students are asked to immediately report incidents to the University Police Department, (316) 978-3450 or students may contact the Title IX Coordinator at (316) 978-5177 or submit a report to the Office of Civil Rights, Title IX & ADA Compliance at [Office of Civil Rights, Title IX & ADA Compliance \(CTAC\) Report Form \(maxient.com\)](#).

Students may also report incidents to an instructor, faculty or staff member, who are required by law to notify the Title IX Coordinator. If a student wishes to keep the information confidential, the student may speak with staff members of the Counseling and Psychological Services (316) 978-3440 or Student Health Services (316) 978-3620. For more information please refer to policy [3.06 / Sexual Harassment, Discrimination and Retaliation for Employees, Students and Visitors](#).

## **Students with Disabilities**

A disability is something that affects a major life activity. These life activities include but are not limited to, learning, walking, breathing, hearing, and seeing, in addition to many other physical, sensory functions, and psychological disabilities.

If you are a student with a disability or believe you might have a disability, which requires accommodations, please contact the Office of Disability Services (ODS) at [www.wichita.edu/ods](http://www.wichita.edu/ods) to discuss reasonable and appropriate accommodations and eligibility requirements. It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability ODS will review your concerns and determine, with you, what academic accommodations are necessary and appropriate for you. For example, adaptations of teaching methods, class materials or testing may be made on a case-by-case basis if warranted, as required by the Americans with Disabilities Act (ADA). All information and documentation of your disability is confidential and will not be released by ODS without your written permission.

The Office of Disability Services (DS) is located in Grace Wilkie, room 203, (316) 978-3309 (voice/tty) (316-854-3032 videophone). DS will review your concerns and determine, with you, what academic accommodations are necessary and appropriate for you. All information and documentation of your disability is confidential and will not be released by DS without your written permission.

## **Respect for Diversity**

Wichita State University is committed to being an inclusive campus that reflects the evolving diversity of society. To further that goal, Wichita State University does not discriminate in its employment practices, educational programs, or activities on the basis of age (40 years or older), ancestry, color, disability, gender, gender expression, gender identity, genetic information, marital status, national origin, political affiliation, pregnancy, race, religion, sex, sexual orientation, or status as a veteran. Retaliation against an individual filing or cooperating in a complaint process is also prohibited.

Students from all diverse backgrounds and perspectives are welcome in this course and the diversity that students bring to this course should be viewed as a resource, strength, and benefit. All materials and activities are presented with the intent to be respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

Complaints or concerns related to alleged discrimination may be directed to the Office of Civil Rights, Title IX & ADA Compliance (CTAC), Wichita State University, telephone 316-978-3187.

## **Names & Pronouns**

Everyone has the right to be addressed as and referred to by the name and pronouns (including non-binary pronouns) that they choose and that correspond to their gender identity. A student's chosen name and pronouns are to be respected at all times in the classroom.

For information about chosen name, students should visit [www.wichita.edu/name](http://www.wichita.edu/name). To

provide preferred pronouns, click on “View and Update Personal Information” link in the Student Tools channel on the myWSU Home tab. Use the “Edit” buttons to update information.

## Syllabus Policies and Student Resources

All students should familiarize themselves with the course-related policies and student resources that can be found at: [www.wichita.edu/syllabuspolicies](http://www.wichita.edu/syllabuspolicies)

These include, but may not be limited to:

- Important Academic Dates
- Proctoring exam options: For more information and requirements for using proctoring, please see <https://wichita.edu/onlineproctoring>
- Video and Audio recording
- Shocker Alert System
- Intellectual Property
- CARE Team
- Counseling and Prevention Services
- Student Health Services
- Heskett Center and Campus Recreation
- First Generation Students

## Grading Scale

WSU uses a +/- grading scale for final grades and to calculate grade point averages. In this class, grades are assigned according to the following chart. (Other classes might assign grades differently: Be sure to understand the different grading scales in all your classes.)

Points/ Percentage	Letter Grade	Grade Points	Interpretation
90 – 100	A	4.00	A range denotes excellent performance
87 – 89.99	A-	3.70	
83 – 86.99	B+	3.30	
80 – 82.99	B	3.00	B range denotes good performance
77 – 79.99	B-	2.70	
74 – 76.99	C+	2.30	
70 – 73.99	C	2.00	C range denotes satisfactory performance
67 – 69.99	C-	1.70	
64 – 66.99	D+	1.30	
60 – 63.99	D	1.00	D range denotes unsatisfactory performance
57 – 59.99	D-	0.70	
<57	F	0.00	

## Assignments

- 1) Two exams in the semester;
- 2) Individual/team projects and presentations;

Periodic individual assignments will be made including but not limited to homework, quizzes, and forum posts. I will collect and grade some of your homework assignments and forum posts (announced when they are assigned). However, all of your quizzes will be graded.

Participation and attendance	5%
Exam #1	30%
Exam #2	30%
Projects and Presentations	10%
Individual Assignments (HW, quiz, and forum)	25%

## Late Assignments

In certain cases, late assignments (homework and forum only) submitted within 24 hours of the due date will be graded at a scale of 50% and will lose 100% points after 24 hours. Quizzes, exams, projects and other similar assignments cannot be submitted after the due date/time unless approved per University policies. **Once feedback is posted for an assignment, late assignments cannot be accepted.**

## Missed Assignments and Exams

No make-up will be provided unless it is approved per university policies. Documentation of reason for missing any assignment/exam may be required by instructor. Students must contact the instructor before the assignment/exam is due.

## Undergraduate vs. Graduate Credit

Undergraduate students enrolled in 700 level courses will receive undergraduate credit (not graduate credit) unless they have a previously approved senior rule application or dual/accelerated enrollment form on file in the Graduate School. Undergraduate credit earned in 700 level courses cannot later be counted toward a graduate degree.

## Extra Credit

Extra credit is not available in this course.

## Tentative Schedule

Week of	Topics, Readings, Assignments, Deadlines	Chapter
8/21	Introduction to Energy Management	1
8/28	The Energy Audit Process	2
9/4	Understanding Energy Bills	3
9/11	Economic Analysis and Life Cycle Costing	4
9/18	Lighting	5
9/25	Heating, Ventilation, and Air Conditioning	6
10/2	Understanding and Managing Boilers	7
10/9	Exam 1, Oct. 9	1-6
	Steam Distribution Systems	8
10/16	Insulation	11
10/23 10/30	Motors, Compressed Air Systems, and Process Energy Management	12
11/6	Special topics e.g. ISO 50001	N/A
11/13 11/20	Software programs	N/A
11/27	Semester project	N/A
12/4	Semester project presentations	N/A
12/11	Exam 2 ( <b>comprehensive</b> ), Dec 11	<b>All</b>

## Concealed Carry Policy

The Kansas Legislature has legalized concealed carry on public university campuses. Guns must be out of view, concealed either on the body of the carrier, or backpack, purse or bag that remains under the immediate control of the carrier.

Gun owners must familiarize themselves with WSU policy [11.19 / Weapons on University Property](#) and the [Kansas Board of Regent's weapons policy](#). If you believe that there has been a violation of these policies, please contact the University Police Department at (316) 978-3450.