MISSISSIPPI STATE UNIVERSITY

Industrial & Systems Engineering

IE 4933/6933: Information System in IE

Fall 2026

Instructor:	Ryan Feng Lin, PhD	**Meeting Time:**	M,W,F 10:00 AM–10:50 AM
E-mail:	ryanflin@ise.msstate.edu	**Room:**	MCCAIN 120 (In Person)
Contact Method:	Canvas or Email		Online (Asynchronous Online)
Response expected within three business days.		**Course Delivery:**	In person/Asynchronous Online
Office Hours:	M,W 11:00AM–12:00PM or by appointment	*Recordings can be accessed via the following link:*	*https://oc-engage.engr.msstate.edu/engage/ui/index.html*
Office Location:	260L McCain or online	**Prerequisites:**	Grade of C or better in CSE 1233
Grader:	Jacob Lindsey		CSE 1284 or equivalent.
E-mail:	jbl362@msstate.edu	**Corequisites:**	N/A
Office Hours:	TR 2:00PM-3:30PM	**Course Website:**	on Canvas
Office Location:	320C McCain or online	*https://canvas.msstate.edu/courses/186331*	

Welcome to IE 4933/6933 Information System in Industrial Engineering!

I am excited to have you in this course and look forward to exploring how information systems can solve practical engineering problems with you. You may enter the course with different experiences and strengths, and that is completely expected. Your questions, ideas, and participation will be an important part of our learning community.

Course Description

Three hours lecture. An introduction to the design and development of information systems for use in industrial engineering applications.

Course Learning Objectives

- **Use Excel for Data Analysis:** Develop proficiency in analyzing data with Microsoft Excel by creating and managing Excel worksheets, writing complex formulas, and using Pivot Tables and Charts.
- **Create Data Models and Custom Reports in Power BI Desktop:** Attain proficiency in utilizing Microsoft Power BI Desktop to import data, construct data models, and build custom reports and visualizations for business data analysis.
- **Design and Manage Databases in Microsoft Access:** Gain the skills required to design and manage relational databases in Microsoft Access by creating tables, establishing relationships, executing queries, and creating forms and reports for data analysis.
- **Manage Databases and Query Data in Microsoft SQL Server Management Studio:** Acquire the skills necessary to create and manage databases and database objects in SQL Server Management Studio and write and execute queries using Structured Query Language (SQL).

Software Requirements

Microsoft Excel 2016 (or later)
Microsoft Access 2016 (or later)
Microsoft Power BI Desktop
Microsoft SQL Server Management Studio

Reference Textbooks (Not Required)

[1] Jelen, B., & Alexander, M. "Excel 2016 - Pivot Table Data Crunching," Que 2016.
[2] Alexander, M., & Kusleika, D. "Access 2016 Bible," John Wiley & Sons, 2016.
[3] Russo, M. & Ferrari A., "The Definitive Guide to DAX", Pearson, 2020
[4] Larson B., "Data Analysis with Microsoft Power BI", McGraw Hill, 2020

Type of Assessments

All assignments will be assigned and submitted through Canvas. Submissions by email are **NOT** acceptable unless prior arrangements have been made by the instructor.

- **Participation/Reading**. Students will be required to complete **weekly** assigned participation activities (e.g., online quizzes) or reading assignments for participation grades.
- **Homework.** There will be five homework assignments, all assigned and submitted through Canvas. *Your lowest homework score will be dropped at the end of the semester.*
- **Midterm Exam.** There will be one midterm exam. No make-up exams will be given without a university-documented excuse.
- **Final Project.** You will complete a final project in which you apply the skills learned in this course to a data analysis problem of your choice. Detailed instructions will be provided throughout the semester.

Graduate Students

Graduate students will be required to answer additional questions on the exam and complete graduate-level project requirements. All other assessments are the same as those for undergraduate students.

Grading Policies

Grading Breakdown

Assignment Type	Percentage
Participation/Reading	20%
Homework	30%
Midterm Exam	20%
Final Project	30%
TOTAL	**100%**

Grading Scale

Grade	Points
A	90.0–100
B	80.0–89.9
C	70.0–79.9
D	60.0–69.9
F	< 60.0

Tentative Exam Date: October 7 **Tentative Project Presentation:** November 30

Late Submission and Make-up Work Policy

All the participation/reading, homework and project assignments must be submitted by 11:59 PM (Central Time) on the designated due date. Specific details regarding each assignment will be provided individually. Late submissions received after the deadline but before 11:59 PM (Central Time) the following day will incur a 20% penalty. Assignments submitted after this grace period will receive no credit, unless the delay is due to an officially excused absence. A make-up exam is **NOT** permitted without prior approval. Approval will be determined at the discretion of the instructor and must be supported by official university documentation.

Tentative Class Schedule

This schedule is subject to change.

Topic	Week
Utilize Excel for Data Analysis	
Excel Background, Functions, and Formulas	2–3
Creating a Basic Pivot Table	4
Using Pivot Charts	5
Create Data Models and Custom Reports in Power BI Desktop	
Power BI Basics	6
Power BI Working with Data	6–7
Power BI Visualizing Data	7–8
Design and Manage Databases in Microsoft Access	
Introduction to Databases	9
Creating Tables and Relationships	9–10
Queries	10
Forms & Reports	12–13
Manage Databases and Query Data in Microsoft SQL Server	
Database Fundamentals and Introduction to SQL Server	13
SQL SELECT Statements, Filtering, and Aggregation	13–14
SQL Joins and CASE Statements	14–15

Attendance Policy

You will be considered in attendance when you a) participate in a course activity (e.g., discussion board); and b) communicate with the course instructor regarding a course topic within a specified time frame; and c) participate in graded participation/reading activities. Students will also need to participate in homework assignments, the midterm exam, and the final project. Students are ex-

pected to keep up with weekly (recorded) lectures, assignments, and any announcements, all available on Canvas unless otherwise stated by the instructor. Please refer to Academic Operating Policy 12.09, regarding attendance expectations and accommodations.

Class Meeting Policy

Classes will normally be held face-to-face, with recordings available asynchronously online. Any changes, including cancellations, a temporary transition to fully online instruction, instructor delays, or adjustments due to weather or other circumstances, will be communicated via Canvas announcements with details (students are expected to check Canvas frequently). However, if an unexpected conflict or emergency occurs which prevents the instructor (or someone else to take his place) from meeting the class without announcement, students are authorized to leave after waiting 15 minutes from the scheduled start time.

Collaboration Policy

Students are allowed to discuss course concepts and assignments with classmates, but they must submit their own solutions and code. Collaboration on exams and quizzes is strictly prohibited.

Mississippi State University Honor Code

> *"As a Mississippi State University student, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."*

Upon accepting admission to MSU, a student immediately assumes a commitment to uphold the Student Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Student Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or processes of the **Student Honor Code**. **If a student is found cheating on any assignment, the instructor will most likely recommend the student receive an "F" in the course.**

MSU Syllabus

"The Mississippi State University Syllabus contains all policies and procedures that are applicable to every course on campus and online. The policies in the University Syllabus describe the official policies of the University and will take precedence over those found elsewhere. It is the student's responsibility to read and be familiar with every policy. The University Syllabus may be accessed at any time on the **Provost Website** under Faculty and Student Resources and at https://www.provost.msstate.edu/faculty-student-resources/university-syllabus"

AI Policy

You may use generative artificial intelligence (AI) tools to support your studying and learning. However, you may not use AI to complete participation or reading activities, homework assignments, or

exams. All submitted work must be your own. Unauthorized AI use to complete an assignment constitutes academic dishonesty and will be reported as an Honor Code violation. Submissions may be filtered by Turnitin's AI Writing Detection tool. This review may initiate further discussion about the authenticity of the submission which could result in a more formal review through the Honor Code Council. Limited AI assistance is permitted for the final project's report or design, but the ideas, the analysis, and submitted work must remain your own. You must include a brief statement with your project report disclosing whether and how you used any AI tools.

Honorlock Statement

We will be using Honorlock, an online proctoring service, to proctor your midterm exam this semester. You will need a computer, webcam, photo ID, and a stable Internet connection. You do not need to create an account, download software, pay a fee, or schedule an appointment in advance. To get started, you will need to use Google Chrome and download the Honorlock Chrome Extension. You can download the extension at **Honorlock Website**. You should also review the information provided in Mississippi State University's **Honorlock Resources for Students**. It is very important to check your system compatibility and Internet connection speed in advance as described in the guide. Honorlock support is available 24/7/365 at **Honorlock Support**. If you encounter any issues, you are strongly urged to contact them by live chat within the Honorlock session.

Important MSU Dates

August 19	Classes begin
August 25	Last day to drop a course without a grade (5th class day) 11:59 p.m.
August 26	Last day to register or add a course (6th class day) 5:00 p.m.
September 7	Labor Day Holiday - no classes scheduled
September 30	First progress grade reporting deadline (30th class day)
October 8–9	Fall Break – no classes scheduled (subject to change)
October 12	Last day to drop a course with a "W" grade (36th class day) 5:00 p.m.
November 11	Last day to withdraw from semester (ten days of classes remaining)
November 25–27	Thanksgiving holiday – no classes scheduled
December 1	Last regularly scheduled class day
December 3–10	Final examinations
December 14	Final Grades Due 10:00 a.m.

Information for Students

- You are required to have access to an internet-connected computer with Microsoft Access and Excel 2016 (or later) installed. If you do not already have them installed on your computer, please visit **MSU ITS Service Desk Website** to download and install ASAP.
- **You are required to have access to a computer system capable of running Microsoft Power BI and Microsoft SQL Server Management Studio. It is highly recommended that you use a PC**

running Windows 11 for this course. If you choose to use a Mac or another operating system, it is your responsibility to make necessary accommodations (e.g., using a virtual machine) to complete assignments, exams, and other coursework.

- The course materials will be accessed through Canvas.
- You are required to check your MSU email account regularly.
- Students should expect to log in to Canvas no less than 3 times per week to access course information, lectures, and updates.
- The instructor reserves the right to make modifications to the syllabus, if needed. Any changes to the syllabus will be communicated to students via Canvas announcements.