

**IME 780AN: Big Data Analytics in Engineering**  
**Spring 2024**

**Instructor:** Wjun Si, PhD  
**Department:** Industrial Systems & Manufacturing Engineering  
**Office Location:** 120F Engineering Building

## Reference Tutorials for Coding

Another Book on Data Science: Learn R and Python in Parallel; Nailong Zhang

(<https://www.thebookofscience.com>)

R for Beginners; Emanuel Paads (<https://oamproject.org/doc/contrib/Paads%20R%20en.pdf>)

## Class Protocol

- Inevitably all cell phones must be turned off. You cannot use your cell phone as a calculator.
- You are strongly recommended to have your own textbook during every class.
- All material and notices will be posted on the Blackboard.
- Now, besides using emailing, texting, or any other activity that divides your attention is allowed.

## 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 services 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 One Stop. You can contact them at 360.978.3800. You can also fill out a request for help from their [website](#).

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.

## 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 of your classes.)

### Exams and Course Project

- The mid exam (Exam 1) will cover Chapters 1-6. It is open book, open notes, and open slides.
- The final exam (Exam 2) will cover Chapters 7- End. It is open book, open notes, and open slides.
- Course project should involve (or at least partially involve) knowledge from Chapter 7. End. Otherwise, a 20% penalty will be applied.

### Missed Exams

Non make up exams will be given

- We only have two exams in this class, i.e., the mid term and final exams.
- Missed exam plan for the exams accordingly- non make up exam will be given.

### Measurable Student Learning Outcomes

Upon successful completion of this course students will be able to ..

**Know basic concepts, definitions and key properties of big data and analytics**

**Identify data structures and data repositories**

**Know state of the practice in analytics**

**Identify key roles for the new big data ecosystem**

**Identify data analytics lifecycle**

**Understand and implement basic data analytic methods using R**

**Be familiar with the use of R**

**Conduct exploratory data analysis with R**

**Implement statistical methods for evaluation with R**

**Understand and implement advanced analytical theory and methods for big data analytics with R & Python**

**Perform clustering**

**Implement association rules**

**Conduct regression**

**Perform classification**

**Intellectual Property**  
**CARE Team**  
**Counseling and Prevention Services**  
**Student Health Services**  
**Haskett Center and Campus Recreation**  
**Inclusive Excellence and Respect for Diversity**  
**First Generation Students**  
**Nams and Promms**  
**Disability Services**  
**Title IX**  
**Corrected Copy Policy**

### **Academic Honesty**

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 Code of Conduct <http://vls.wichita.edu/inact/d805.htm> and the Student Academic Honesty policy <http://vls.wichita.edu/inact/d217.htm>. When the faculty member determines actions 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://vls.wichita.edu/about/student-conduct/ahp/>.  
Violations of classroom standards include:

- Cheating in any form, whether in formal examinations or elsewhere**
- Plagiarism, using the work of others as your own without assigning proper credit to the source**
- Misrepresentation of any work done in the classroom or in preparation for class**
- Falsification, forgery, or alteration of any documents pertaining to academic records**
- Disruptive behavior in a classroom or on campus**

