

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

DEPARTMENT MISSION

To serve the economic interests of industry and the evolving needs of society in a challenging, rapidly-changing, global environment, the Department of Business & Information Technology capitalizes on the strong technological emphasis of Missouri S & T to enable individuals to excel in a technology-centric business world. Recognizing this rapid evolution of the marketplace, we create and disseminate knowledge impacting the theory and practice of business.

COURSE INFORMATION

Course: Information Science and Technology 6443 Information Retrieval and Analysis

Days and Times: 2– 3:15 pm T Th **Room:** 107A Fulton

Instructor’s Name: Dr. Wen-Bin “Vincent” Yu **Office Location:** 106C Fulton Hall

Office Phone: (573) 341-7502

Email: yuwen@mst.edu

Web Locations: canvas.mst.edu

Office Hours: 9:30-10:30 am & 1- 2 pm Tu, Th, or by appointment (Zoom meeting available)

Catalog Description: Covers the applications and theoretical foundations of organizing and analyzing information of textual resources. Topics include information storage and retrieval systems, web search engines, text mining, collaborative filtering, recommender systems. Students will also learn the techniques with the use of interactive tools such as SAS. Prerequisite: ERP 5410 or statistics knowledge.

Prerequisites: ERP 5410 Business Intelligence or statistics knowledge.

Instructional Methods: Projects oriented; consist of lectures, SAS labs, discussions and critique.

Course Learning Objectives:

Understand fundamental terminologies related to textural data analysis in Text Mining.
 Understand current development of Information Retrieval mechanism such as search engines.
 Understand recommender system for Information Retrieval.

Planned Learning Outcomes:

	Program Learning Objectives					
	Oral Communication	Written Communication	Critical thinking	IT Impact Knowledge	Teamwork	Leadership
Course Objectives						
Be able to understand current development on Information Retrieval.				X		
Be able to understand current development on Textural Information Analysis.				X		
Be able to perform textural data analysis using text mining tool such as SAS Enterprise Miner.				X		
Be able to initiate a project that addresses some research gap in current literature on Information Retrieval and Analysis	X	X	X	X	X	X

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

COURSE ASSIGNMENTS

This is a project-oriented class. All assignments will lead to a semester project. Students will be assigned and/or choose their own reading assignments; turn in critiques for the reading assignments; and prepare to discuss your own assessments/analysis in class.

At around the 8th week, students will be asked to choose a project related to the topics covered in this class. By the end of the 10th week, students would need to submit a summary of literature survey of his/her semester project. Starting from 12th week, you will have couple of WIP(work-in progress) reports to turn in. By Week 16, students will be scheduled to present their project up-to-date and receive comments. During the finals week, students will turn in a complete paper ready to be submitted to a conference or journal.

COURSE POLICIES AND GRADING

Attendance:

For on-campus students, you are expected to attend all classes, be on time, and participate in classroom discussions and exercises. If you are absent, it is your responsibility to obtain any class material and announcement. You should attend the class by following the guidelines specified in the University Coronavirus Information website at <https://coronavirus.mst.edu/>

For distance students, live on-line participation is not mandatory. However, you need to watch class archives when live participation does not fit into your work schedule.

Evaluation Methods:

Discussions, Homework Assignments and Participations: 100 points

Projects milestone reports, Presentations and Final papers: 400 points

Grading Scale:

Final grades will be assigned according to the following criteria:

A = 450 - 500 points; **B** = 400 - 449 points; **C** = 350 - 399 points;
F = below 350 points.

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

IMPORTANT INFORMATION

Statement about Copyright, FERPA, and Use of Video

It is vitally important that our classroom environment promote the respectful exchange of ideas. This entails being sensitive to the views and beliefs expressed during discussions, whether in class or online. Please obtain instructor permission before recording any class activity. It is a violation of University of Missouri policy to distribute such recordings without authorization and the permission of all who are recorded. More information is provided [online](#).

Accessibility and Accommodations

It is the university's goal that learning experiences be as accessible as possible. Student Accessibility and Testing provides services and accommodations that facilitate full participation in Missouri S&T's learning experience for students with disabilities. If you anticipate or experience physical, academic, and/or digital barriers due to a disability, please contact Student Accessibility and Testing at (573) 341-6655, email dss@mst.edu, or visit <https://saat.mst.edu/> for information.

Student Honor Code and Academic Integrity

- All students are expected to follow the [Honor Code](#).
- [Student Academic Regulations](#) describes the student standard of conduct relative to the University of Missouri System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism, sabotage, and **unauthorized use of artificially generated content**, any of which will be reported to the Dean of Students.
- Other resources for students regarding academic integrity can be found [online](#).

Student Mental Health and Well-Being

Your well-being is important, and it contributes to your success in this course. At S&T, we provide resources to support your mental, physical, and social well-being. Any of us can experience challenges that make learning difficult. If you are struggling, take advantage of the following resources offered by the university:

[Student Well-Being](https://wellbeing.mst.edu/) (<https://wellbeing.mst.edu/>)

Student Well-Being provides counseling services, health promotion initiatives, and prevention programs to empower the S&T community to thrive and enhance personal, academic, and professional success. Department office hours are Monday-Friday, 8 a.m. – 5:00 p.m. On the website, you can find information related to confidential individual and group counseling, wellness consultations and trainings, case management services, resources for many health and wellness topics, and help for mental health crisis situations. For the 988 Suicide and Crisis Lifeline, call or text 988, or visit missouri988.org For the National Suicide Prevention Lifeline, call or text 988, or visit missouri988.org.

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

Health and Well-Being Canvas

Course (<https://umsystem.instructure.com/enroll/G3LY3G>)

The Health and Well-Being Canvas Course features trainings, presentations, and other health and well-being resources for students. The course is free for all students, is non-credit, and students can enroll at any point in the semester.

Student Emergency Fund (SEF)

The SEF is administered by the Division of Student Success to help ensure Missouri S&T students have access to the support and resources they need to successfully recover from an unforeseeable financial emergency. The goal of this fund is to prevent one small emergency or unexpected expense from derailing a student's progress toward degree completion.

Nondiscrimination, Equity, and Title IX

Missouri S&T is committed to the safety and well-being of our campus community, and to creating an environment free from discrimination and harassment.

The University prohibits discrimination and harassment on the basis of race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. As used in this policy, the word "sex" is also inclusive of the term "gender."

Additionally, US Federal Law Title IX states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any education program or activity. Sexual harassment violations of this law include quid pro quo, hostile environment, sexual assault, dating/domestic violence, and stalking. The U.S. Department of Education has stated the prohibition on discrimination on the basis of sex includes sexual orientation and gender identity.

Students who are experiencing pregnancy or pregnancy-related conditions, including the birthing parent and non-birthing parent, have rights protected under Title IX. Students should contact Student Accessibility and Testing or the Office of Equity and Title IX to learn more about their rights and pregnancy-related assistance/accommodations provided by the University to ensure equitable access to University educational programs and activities.

In accordance with the University of Missouri's Collected Rules and Regulations, all faculty and staff are required to report any information concerning discrimination disclosed through communication including, but

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

not limited to, direct conversation, email, social media, classroom papers and homework exercises to the Equity Officer/Title IX Coordinator.

For more information regarding support for those that have been impacted or to report an incident of discrimination or harassment as defined by [Chapter 600](#) of the University's Collected Rules and Regulations, visit the Office of Equity and Title IX or visit their website at equity.mst.edu.

Office of Equity and Title IX

Equity Officer and Title IX Coordinator: Dr. Paul Hirtz
Phone: (573) 341-7734
Location: 900 Innovation Drive, Suite 500
E-mail: equity@mst.edu

Classroom Egress Maps

For all in-person instruction, faculty should explain where the classroom emergency exits are located. Classroom egress maps are posted at <http://designconstruction.mst.edu/floorplan/>.

University Libraries

The Curtis Laws Wilson Library is the place to gather on campus, offering group meeting spaces, quiet study carrels and reservable conference rooms. The library provides students and faculty with physical and electronic books, journals, articles and databases as well as recreational reading, games and DVDs. We also have technology to check out, from laptops to chargers to calculators and everything in-between. Librarians create library and course guides to help navigate searching for resources. Talk to us one-on-one via chat, email, phone or in person for any assistance regarding library services or finding peer-reviewed, credible research materials for study and research needs. Find out more information and connect with the library here: library.mst.edu.

Writing and Communication Center

The Writing and Communication Center's mission is to assist all students in their efforts to become better writers, communicators, and critical thinkers. The Center's peer consultants and coaches provide free individualized one-on-one and small-group conversations to offer meaningful feedback and guidance to students across all disciplines. More information can be found on our website, through email: writing@mst.edu or stop by Curtis Laws Wilson Library 314-315.

Student Success Center

The Student Success Center (SSC) offers peer tutoring and success coaching to help students succeed in their academic goals. Additionally, we work as a resource hub and can connect you to the campus resources necessary to help you dig deeper

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

and finish the semester strong. Visit the SSC in Room 117 Innovation Lab and contact us at ssc@mst.edu or 573-341-7590. To learn more about the SSC, visit <https://ssc.mst.edu/>

S&T Tutoring Opportunities

The Student Success Center (SSC) helps you with your studies in three ways:

- **LEAD Drop-in:** Our LEAD Drop-in service provides convenient access to experienced peer learning assistants for a multitude of courses across campus. No appointments necessary. Simply check our tutoring schedule to discover when support for your specific course is available: <https://ssc.mst.edu/leaddrop-in/>
- **LEAD Group Sessions:** Our LEAD Group sessions offer after-hours group tutoring, facilitated by our dedicated peer learning assistants in partnership with faculty members. Explore the LEAD Group schedule to see if your course is featured and join us at the next session: <https://ssc.mst.edu/leadgroup/>
- **Knack Tutoring:** If your schedule clashes with our LEAD offerings, or if your course isn't covered, Knack is your solution. Request a tutor for either a virtual meeting or an in-person session on campus, ensuring you get the help you need, when you need it. To sign up for your FREE Knack account, visit: <https://ssc.mst.edu/knacktutoring/>

Student Veterans Resource Center

The Student Veterans Resource Center (SVRC) is the nexus of resources and support for student veterans at S&T. The SVRC provides student veterans with a "safe space" and a familiar atmosphere. The center's Veteran Consuls provide one-on-one consultations to guide students to various resources on campus, while its advisor provides students with VA health and benefits resources. Visit the SVRC at Harris Hall, Suite G10, and contact us at svrc@mst.edu.

Artificial Intelligence

Unauthorized use of artificially generated content violates University Student Academic Standards. You may not use ChatGPT and other AI systems to answer your homework assignments without consent of the instructor.



**No use of GAI is acceptable for use on any graded class activity.
Use of GAI may result in a zero for the assignment.**

Missouri University of Science & Technology
Department of Business and Information Technology
Fall 2024

COURSE OUTLINE (Tentative)

(Updated: 8/19/2024)

Week	Month	T R	Topic
1	Aug.	20, 22	Review of Syllabus. Introduction to Information Retrieval and Analysis
2	Aug.	27, 29	Unstructured Textual Data in the Organization Introduction to Data Mining: Clustering and Classification
3	Sept	3, 5	Textual Analytics Text mining in SAS, I
4		10, 12	Integration of Unstructured, semi-structured and structured data. Text mining in SAS, II
5		17, 19	Text mining in SAS, III Methodologies for Textual Analytics
6	Sept	24, 26	(Fall Career Fair: Sept. 24, 25) Text mining in SAS, IV
7	Oct	1, 3	Analyzing Textual data Other topics in Unstructured Data
8		8, 10	<i>Fall break, no class on Oct 10th.</i>
9		15, 17	<i>Semester project: Topic selection (Milestone 1)</i>
10		22, 24	<i>Semester project: Literature survey due (Milestone 2)</i>
11	Oct.	29, 31	<i>Semester project: Working Sections -- WIP report (Milestone 3 data collection)</i>
12	Nov.	5, 7	<i>Semester project: Working Sections -- WIP report (Milestone 4 lit review and data collection continued)</i>
13		12, 14	<i>Semester project: Working Sections -- WIP report (Milestone 5 publication venue)</i>
14		19, 21	<i>Semester project: Working Sections – (Milestone 6 Initial outcome and results)</i>
15	Nov.	25-29	Thanksgiving Holidays No Class
16	Dec	3, 5	<i>Semester project: Presentations (Milestone 7)</i>
17		9-13	Final Exam Week <i>Semester project: Final Reports and data file (Milestone 8 and 9)</i>

Notes:

The syllabus is tentative and subject to change. Any change will be announced in class and/or on the Canvas class website.

Students need to bring to my attention conflicts of scheduled exams/report due dates and any religious and other holidays they wish to observe prior to the 3rd week of the class