Graduate Program in Transportation Management

MTM 226C – Transportation Safety & Compliance Management – Section 1 Fall-B 2021

Course and Contact Information

Instructor(s):	Louis J Brown, Jr. PE WSO CSSD
Office Location:	Virtual
Telephone:	TBD
Email:	louis.brown@sjsu.edu
Office Hours:	2:00 - 5:00 pm, M-F
Class Days/Time:	[Wednesday], 5:30 – 9:30 pm, for 10 weeks thru 12/15
Classroom:	Canvas/Zoom

Course Description

Examines contemporary challenges to transportation safety and regulatory compliance. Topics to be covered include the history and evolution of safety principles, developing and managing a safety culture, hazard identification and management, along with federal and state regulatory compliance and safety certification processes. Students will also be introduced to the federal rulemaking process and the role of the National Transportation Safety Board.

Course Format: Online

Students must have regular access to email and the internet in order to attend classes via Zoom, access the course Canvas site, communicate with the instructor, submit assignments, and engage in other class activities.

During Zoom class sessions, students should:

- Be in a quiet room without distractions (e.g., no family members or colleagues walking through or asking questions)
- Have stable internet access
- **Use a video camera and good quality microphone** so that you are seen as well as heard
- Follow good "meeting etiquette" principles (one such list: https://blog.gotomeeting.com/7-rules-virtual-meeting-etiquette-every-professional-know/)

Plan to join at least ten minutes before 5:30 pm, to make sure you are ready when class begins. (The very first time you join from a computer or device, allow extra time for set-up.)

The university has many useful tutorials on how to use Zoom here: http://www.sjsu.edu/ecampus/teaching-tools/zoom/index.html

Faculty Web Page and MYSJSU Messaging
Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas Leaning Management System at http://sjsu.instructure.com. You are responsible for regularly checking with the messaging system through MySJSU at http://my.sjsu.edu to learn of any updates.

MSTM Program Learning Outcomes
Program goals were initially developed in Fall 2005 and subsequently revised in Spring 2013 by core MSTM faculty. The current version of the PLOs was approved by the MSTSM Curriculum Committee on 11/20/2020.

Mission: The MSTM program seeks to educate "mobility managers," the next generation of multimodal transportation system leaders and executives.

1. **Transportation Systems and Society**: Craft management decisions that integrate knowlege of multi-modal transportation, social, and environmental systems.
   a. Evaluate transportation proposals to identify impacts on transportation system performance objectives (e.g., accessibility and safety)
   b. Evaluate transportation proposals to identify impacts on broad policy goals (e.g., equity, economic competitetivess, and environmental sustainability)
   c. Analyze transportation management proposals to identify the relevant legislative and administrative structures that guide the decision

2. Innovation: Develop innovative solutions to transportation management challenges
   a. Develop solutions to transportation management challenges that are informed by global best practices and emergency transportation technologies

3. Leadership: Develop high-impact leadership stytles and competencies (traits, skills, behaviors)
   a. Identify effective strategies to improve leadership competencies

4. Communications: Communicate effectively with a diverse workforce and citizenry
   a. Prepare written materials that are clear, technically proficient, and tailored to diverse audiences' needs and level of expertise
   b. Deliver oral presentations that are clear, engaging, and tailored to diverse audiences' needs and level of expertise

5. Analytics: Identify and evaluate transportation management issues using appropriate data and methods
   a. Collect, analyze, and synthesize information from multiple sources using appropriate data and methods

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

1. Identify the relevant federal regulations that apply to a safety situation
2. Identify safety management best practices appropriate to a specific safety concern
3. Assess whether a Transportation Safety Plan complies with federal regulations and incorporates best practices
4. Advocate within an organization for upholding the highest safety principles
5. Manage interactions with stakeholders, including internal personnel, police, and media

Required Texts/Readings

Textbook

Sidney Dekker, *Foundations of Safety Science: A Century of Understanding Accidents and Disasters* (Routledge, 2019). ISBN 9781138481787. The book, which costs $45.56 (paperback), can be purchased from Routledge.

Other Readings

Students will read selections from these online resources:

- Department of Defense Military Standard 882E "Systems Safety"
- Federal Register
- Code of Federal Regulations (CFR)
- NTSB incident investigations

Library Liaison

The Library Liaison for the Lucas Graduate School of Business is Christa Bailey (christa.bailey@sjsu.edu).

Course Requirements and Assignments

SJSU policy states the following:"Success in this 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 three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus."

The following table outlines all required and graded course work. Additional details will be provided during class and in Canvas.

Activity	Due Date	Points	CLO Addressed
1. Hazard assessment paper A paper of 1,500 to 2,000 words that identifies and assesses hazards using current Military Standards	10/27	20	1, 2
2. Federal register commentary A memo of 1,500 to 2,000 words, prepared in the format required for submission to the Federal Register to participate in the rule-making process	11/17	20	1, 5
3. Case presentation Create and give a 15-minute presentation on an incident or accident significant enough to result in the development of new regulations or changes in policies or recommendations set forth by the National Transportation Safety Board (Submit slides thru Canvas)	11/3, 11/10, 12/1, 12/8	12	1, 2, 5
4. Safety plan critique Working in teams of 3 to 4, prepare a report that evaluates an organization's safety plan for compliance with federal regulations and identify opportunities to improve the plan	12/15	30	1, 3
5. Weekly discussion posts Write a 300 to 400 word reflection upon readings that will be discussed in the upcoming class. A specific prompt will be given for each week's post.	10/13 - 12/8	18	All

Final Examination or Evaluation

The culminating experience for the course takes place during the Week 10 class session. Students will prepare for and participate in a mock regulatory hearing of the National Transportation Standards Board.

Grading Information

Course activities will be worth the points listed above and graded as follows:

Assignments 1, 2, 3, and 4 will be graded according to evaluation rubrics provided in Canvas. For each three days (72 hours) an assignment is late, the grade will be lowered by one-third of a grade (i.e., from an A- to a B+). Work will be accepted up until 2 days after the last class meeting. Any work not submitted by that time will receive zero credit.

For Assignment 5, the discussion posts will be graded credit/no credit. Posts submitted on time and of reasonable quality will receive full credit (3 points). Posts received late or of very poor quality receive no credit. You must turn in at least 6 memos, with a maximum of 18 points allocated for the discussion posts.

The final course grade will be calculated by adding up all points earned on class activities and assigning a letter grade as shown in the table below. Extra credit is not available in this course.

Letter grade calculation

Points	Grade
100 – 94	A
93 – 90	A minus
89 – 87	B plus
86 – 84	B
83 – 80	B minus
79 – 77	C plus
76 - 74	C
73 – 70	C minus
69 - 67	D plus
66 – 64	D
63 – 60	D minus
below 60	**F**

University Policies

Per University Policy S16-9 *(http://www.sjsu.edu/senate/docs/S16-9.pdf)*, relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on Syllabus Information web page (http://www.sjsu.edu/gup/syllabusinfo), which is hosted by the Office of Undergraduate Education. Make sure to visit this page to review and be aware of these university policies and resources.

MTM 226C: Transportation Safety & Compliance Management
Fall-B 2021 | Course Schedule

Schedule subject to change with fair notice from the instructor by email or as a Canvas announcement.

Week	Topics, Readings, Assignments, Deadlines
10/6	Topics: Overview of the course; an introduction to safety concepts and terms in transportation Reading: Dekker, chapter 1
10/13	Topic: The evolution of federal safety principles and regulations in transportation Reading: Department of Defense Military Standard 882E "Systems Safety" Work due: Discussion post
10/20	Topic: Hazard identification and management Reading: Dekker, chapters 2 – 6 Work due: Discussion post
10/27	Topic: Federal and state regulatory compliance Reading: Selections from the Code of Federal Regulations Work due: Discussion post & hazard assessment paper
11/3	Topics: Safety certification processes; NTSB investigations Reading: Selected NTSB Investigations Work due: Discussion post; some students give case presentations
11/10	Topic: Managing interactions with stakeholders Reading: Selections TBD from the Federal Register Work due: Discussion post; some students give case presentations
11/17	Topic: Transportation safety plans Reading: Dekker, chapters 7 – 11 Work due: Discussion post & Federal Register commentary; some students give case presentations
12/1	Topic: Transportation safety plans, continued Reading: Transportation agency safety plans (exact agencies TBD) Work due: Discussion post; some students give case presentations
12/8	Topic: Topic TBD, based on student interest and ongoing NTSB investigations Reading: TBD Work due: Discussion post; some students give case presentations
12/15	Topic: Culminating activity - mock regulatory hearing of the National Transportation Safety Board; discussion of safety plan analysis assignment Work due: Safety plan critique