

San José State University
Lucas Graduate School of Business
Master of Science in Transportation Management
MTM 250: Sustainable and Resilient Transportation
Fall-A 2021

Course and Instructor Contact Information

Instructor:	Serena Alexander, PhD
Office Location:	Washington Square Hall 218B
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Email:	serena.alexander@sjsu.edu (preferred method of contact)
Office Hours:	Mondays 3:30-5:00 PM or by appointment
Class Day/Time:	Mondays 5:30-9:30 PM
Classroom:	
Grading rules	Normal grade rules apply
Course website:	Canvas (http://sjsu.instructure.com)

Course Format

Students must have regular access to email and the internet in order to communicate with the instructor, submit assignments, and engage in other class activities.

Students attend class sessions by joining online using Zoom, SJSU's online meeting application. Details on how to access the class via Zoom are as follows:

You can join class using SJSU Zoom from any location, as long as you:

- Are 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/>)

To access class sessions by Zoom, click on the following link from your computer or tablet:

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>

For more information, contact the MSTM Program Coordinator, Michelle Waldron, at michelle.waldron@sjsu.edu.

Course Description

Students will contribute their own ideas in class discussions and a term paper on innovation in transportation policy to address environmental concerns.

MSTM Program Goals:

(*Note:* Not all program learning goals are covered in every course)

Goal One: Management of Transportation Organizations: Develop a systems-savvy and global perspective on solving transportation management challenges

Goal Two: Transportation Policy: Develop solutions to transportation management challenges that integrate knowledge of the transportation policy environment

Goal Three: Leadership: Develop potential for leadership in transportation organizations

Goal Four: Communication Skills: Communicate effectively with a diverse workforce and citizenry

Goal Five: Analytical Skills: Identify and evaluate transportation management issues using appropriate methodological approaches

Course Learning Outcomes

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

1. Discuss the multi-dimensional relationships between transportation, energy and the environment.
2. Explain the environmental impacts of transportation modes, their energy supply systems and the infrastructure over which they operate.
3. Describe the interplay between technological, political, economic and societal factors impacting the environmental dimensions of transportation.
4. Analyze and/or develop policy and programmatic interventions to address negative impacts of transportation activities (e.g. air pollution, greenhouse gas emissions, noise, diminished water and soil quality, decreased biodiversity, land take, etc.) on the environment.
5. Collect, analyze and synthesize data from various sources to develop and assess sustainable transportation solutions.
6. Utilize commonly-used frameworks, tools and techniques to evaluate the feasibility, effectiveness, efficiency and equity of transportation management alternatives.
7. Describe cutting-edge sustainable transportation management solutions with evidence of success from across the globe.

8. Develop a context-sensitive plan for implementation, monitoring and evaluation of sustainable transportation management solutions.
9. Communicate the developed sustainable transportation management plan to the general public with the help of clear, accurate and compelling text and graphics in documents and oral presentations.
10. Develop and utilize leadership and teamwork skills by effective participation in group assignments and activities.

Required Texts/Readings

Textbooks

Course readings include several chapters from the following four books:

- 1) Rodrigue, Jean-Paul, Claude Comtois, and Brian Slack. *The Geography of Transport Systems*. New York: Routledge, 2020. (ISBN 978-0-367-36463-2. The book is open-access and interactive, and you can access the text by clicking on this link: <https://transportgeography.org>).
- 2) Gudmundsson, Henrik., Ralph P. Hall, Greg Marsden, and Josias Zietsman. *Sustainable Transportation: Indicators, Frameworks, and Performance Management*. Springer Texts in Business and Economics. 2016. (ISBN 3-662-46924-3. You can download the PDF of this book from SJSU Library for free).
- 3) Black, William R. *Sustainable Transportation: Problems and Solutions*. New York: Guilford Press, 2010. (ISBN 978-1606234853. SJSU Library offers online access to this book for free).
- 4) Tumlin, Jeffrey. 2012. *Sustainable Transportation Planning: Tools for Creating Vibrant, Healthy, and Resilient Communities*. New York: John Wiley & Sons, Incorporated. (ISBN 1-118-12762-5. SJSU Library offers online access to this book for free).

Additional readings from academic journals, agency reports and other sources may also be used to supplement the course books. Further details will be communicated with the students through e-mail and/or Canvas.

Citation Style

It is important to properly cite any references you use in your assignments. For this class, use Kate Turabian's *A Manual for Writers of Research Papers, Theses, and Dissertations*, 9th edition. Turabian's book describes two systems for referencing materials: (1) "notes" (footnotes or endnotes), plus a corresponding bibliography, and (2) in-text parenthetical references, plus a corresponding reference list. In this class, students must use endnotes and a bibliography.

Library Liaison

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

Course Requirements and Assignments

This course involves three major types of graded activities: A) the group term paper that is developed through several steps during the semester (including project proposal, peer feedback and evaluation, exploring and analyzing relevant data, and developing a sustainable transportation management plan); B) the global case

studies that involve selection of one or more city/region(s) with innovative sustainable transportation programs or policies, writing a summary report, and presenting findings in class; and C) online class and discussion participation and engagement that requires you to respond to questions about reading materials and/or ask thoughtful questions. Your grade for the course will be based on the following assignments and other graded activities:

Assignments and Other Graded Activities	Due Date(s)	Percent of Course Grade	Course Learning Objectives Covered
Online Class and Discussion Participation and Engagement	August 02 August 16 August 30 September 13	10%	1, 2, 3, 6, 7, 9
Assignment 1a: Project Proposal	August 9	10%	2, 3, 9, 10
Assignment 1b: Peer Feedback and Reflection	August 16	5%	9, 10
Assignment 2: Exploring and Analyzing Relevant Information	September 20	20%	4, 5, 6, 9
Assignment 3: Global Case Studies (20% total)			
Assignment 3a: Global Case Studies Presentation	TBD (varies for individual students)	15%	4, 5, 7, 9, 10
Assignment 3b: Summary Report	September 27	5%	7, 9, 10
Assignment 4: Sustainable Transportation Management Plan (Report Submission and Presentation)	October 4	35%	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Additional details on each assignment will be communicated with the students through Canvas, and/or e-mail.

Grading Information

The course grade consists of seven items (i.e. assignments and graded activities) as listed in the table above. For example, “Assignment 2” is 20% of the final grade, and “Online Class and Discussion Participation and Engagement” is 10% of the final grade. This means that “Assignment 2” is worth 20 points toward your final grade, and “Online Class and Discussion Participation and Engagement” is worth 10 points. I add the points for each assignment or graded activity to arrive at the final score for the course. Then, I use the following grading scheme to convert the final score into a letter grade:

A+ (96 and above); A (93 to 95); A- (90 to 92); B+ (87 to 89); B (84 to 86); B- (81 to 83); C+ (78 to 80); C (75 to 77); C- (72 to 74); D+ (69 to 71); D (66 to 68); D- (63 to 65); F (below 63)

Other Grading and Assignment Issues

Students are expected to submit all assignments on the specified due dates on Canvas. Please do not e-mail your assignments to me. Late assignments will be accepted but the score will be reduced 15% for missing the due date, and 5% for each day delayed afterwards. Missed assignments will result in a score of zero. Students who turn assignments in on time will normally receive comments from me and (if applicable) their peers within 7-10 days. For late papers, the turnaround time may well take fourteen or more business days, and these students may lose the opportunity to receive feedback from their peers. Canvas assigns peer-reviewers automatically on the

due date. Students that do not submit their assignment on time on Canvas will only have a chance to receive peer-feedback if someone volunteers to review their work. This could significantly impede a student's ability to pass the course because these assignments are the building blocks for writing the policy prescription paper.

Classroom Protocol for the Lucas College Graduate School of Business

<http://www.sjsu.edu/cob/Students/policies/index.html>

Other Classroom Rules

Students are expected to attend every Zoom meeting with their cameras turned on at all times. Attendance will be recorded regularly. Moreover, class participation points can only be earned by attending class sessions. An official documented excuse from an authorized person (e.g. doctor, supervisor, etc.) is required to justify absence. Missing more than two classes for any reason (whether excused or unexcused) will seriously impact your ability to pass this course. If you anticipate missing more than two classes, you should consider taking this course later.

Students have a responsibility to show respect to fellow classmates during the Zoom meetings and group assignments. To do so, please:

- Avoid interrupting other speakers and listen to the ideas of others with respect during class and group activities.
- Do not use electronic devices for purposes not relevant to the class and/or when it is distracting to others or keeps you from being engaged in class.
- Balance the workload among team members equitably in a way that allows the team to effectively utilize the strengths of each team member.
- Develop a common understanding of goals and steps required to achieve those goals for group activities.
- Develop effective communication and time management strategies suitable for your group assignments.

Class and Online Discussion Participation Guidelines

You are expected to have carefully read and thoroughly thought about the assigned readings BEFORE each class session and/or BEFORE responding to relevant discussion board activities. Failure to read the assigned chapter(s) and/or article(s) will seriously hinder your ability to engage in class or online discussions and/or activities impacting your participation points and final grade. I encourage you to take notes while reading assigned materials. Participation in class and online discussions accounts for 10% of your final grade. Other than being physically present, I expect you to:

- Respond to questions raised in class or on the online discussion board
- Ask good questions
- Present alternative views to those offered by class readings, other students or the instructor
- Raise comments that encourage other students to get engaged in the discussion
- Discuss connections between materials covered in this class and other experiences or materials covered in other classes
- Be alert and attentive and listen carefully to others
- Participate in online discussions effectively

Please note that you may be randomly selected to answer a question about the readings or apply your

knowledge gained through readings to a group activity or an in-class exercise. Your presence means that you are ready to engage in these class activities. If you have not been able to do the readings for reasons beyond your control, such as an illness or a family emergency, you are required to notify me at least 30 minutes before the class. This will allow you to avoid losing participation points the first time you come to class unprepared. If this happens more than once, an official documented excuse from an authorized person will be required.

University Policies

Per [University Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), information relevant to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>". Make sure to visit this page, review, and be familiar with these university policies and resources.

Lucas College and Graduate School of Business Mission

We are the institution of opportunity in Silicon Valley, educating future leaders through experiential learning and character development in a global business community and by conducting research that contributes to business theory, practice and education.

Course Schedule

Note: This schedule is subject to change with fair notice. Check your email and Canvas frequently for any changes to this schedule.

Week	Date	Subject	Readings	Assignments
Part I: Understanding the Nexus of Transportation, Land-use, Energy and the Environment				
1	July. 26	Introduction The relationships between transport, energy and the environment	Course Syllabus Rodrigue, Ch. 4	
2	Aug. 02	The environmental, economic and social challenges of urban transportation Guest lecture by Cris B. Liban: Sustainable transportation opportunities and challenges	Rodrigue, Ch. 8 Rodrigue, Ch. 10.3-Social and environmental responsibility	Online Discussion Board Activity #1
3	Aug. 09	Climate change impacts, disasters, pandemics, and transportation	Rodrigue, Ch. 9.4- Transportation disruptions & resilience; Appendix B.18- Climate change and the adaptation of transport infrastructure	Assignment 1a: Project Proposal
Part II: Utilizing Relevant Frameworks and Appropriate Tools and Techniques				
4	Aug. 16	Indicators for sustainable transportation Guest lecture by Ann Calnan: CEQA/NEPA; stormwater management; & sustainability planning	Gudmundsson, Ch. 6- Indicators	Online Discussion Board Activity #2 Assignment 1b: Peer Feedback and Reflection
5	Aug. 23	Sustainable transportation frameworks Guest lecture by Alva Carrasco: Zero emission buses	Gudmundsson, Ch. 7- Frameworks	
6	Aug. 30	Identifying alternatives Guest lecture by Tom Pyle: “Green” pavements	Black, Ch. 10- Pricing and taxation; Ch. 12- Indicator based planning; Ch. 13- A continuum of policies	Online Discussion Board Activity #3

Part III: Developing and Implementing Sustainable Transportation Solutions

7	Sep. 06	Labor Day (No Class)	No Readings	
8	Sep. 13	Sustainable travel demand management Guest lecture by Yves Zsutty & Liz Sewell: Urban trail network in SJ	Black, Ch. 16- Sustainable travel demand management; Tumlin, Ch. 13- Transportation demand management	Online Discussion Board Activity #4 Articles for Discussion: Nixon and Saphores (2007). "Impacts of Motor Vehicle Operation on Water Quality in the United States - Clean-up Costs and Policies." Vo et al. (2015). "Stormwater Quality Management in Rail Transportation — Past, Present and Future."
9	Sep. 20	Case studies (Part I)	Gudmundsson, Ch. 8- European union transport white paper; Ch. 9- High-speed rail in England	Assignment 2: Exploring and Analyzing Relevant Information
10	Sep. 27	Case studies (Part II) Guest lecture by Emma Reed: Emergency management	Gudmundsson, Ch. 10- New York's GreenLITES Rating Systems; Ch. 11- Japan's "Eco-Model City" Program	Assignment 3b: Global Case Studies Report
11	Oct. 04	Moving forward & student presentations	Tumlin, Ch. 4- The city of the future; Ch. 14- Measuring success	Assignment 4 (Report Submission and Presentations)