San José State University
Lucas Graduate School of Business
Master of Science in Transportation Management
Contemporary Issues in Transportation Management
MTM 236
Spring-A 2020

Course and Instructor Contact Information

Class Day/Time: Monday, 5:30 – 9:30 pm

Classroom: Zoom (https://sjsu.zoom.us/j/998866577
Or iPhone one-tap :
Dial(for higher quality, dial a number based on your current location) :
US: +1 669 900 6833 or +1 646 876 9923
Meeting ID: 998 866 577

Course website: Canvas (http://sjsu.instructure.com)

Instructor: Andrea Broaddus

Office Location: Contact instructor

Telephone: 510-314-1065

Email: Andrea.Broaddus@sjsu.edu

Office Hours: By appointment

Instructor: Gurmeet Naroola

Office Location: BT 563

Telephone: 408 931-0944

Email: Gurmeet.Naroola@sjsu.edu

Office Hours: By appointment

Course Format

This class will meet via live video conferencing using Zoom (https://sjsu.zoom.us/). 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 going in person to one of the MTM program videoconferencing sites *or* by joining online using Zoom, SJSU's online meeting application. Details on each option are as follows.

MTM Class Videoconferencing Sites:

Videoconference sites are located at the Lucas Business Complex (Santa Clara, CA), Caltrans district offices, and other participating agencies. For information about these options, contact the Program Coordinator, Michelle Waldron, at michelle.waldron@sjsu.edu.

Online Access via Zoom:
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 (Link)

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: (link)

Course Materials

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas Leaning Management System course login website at http://sjsu.instructure.com. Students are responsible for regularly checking with the messaging system through MySJSU at http://my.sjsu.edu (or other communication system as indicated by the instructor) to learn of any updates.

Course Description

Management challenges are posed by five technological trends: electrification, vehicle automation, connected vehicles and infrastructure, car sharing and ride sharing, and mobility as a service. Topics include: impacts on infrastructure, financing, and labor; managing technologies to support environmental, equity, and economic efficiency policy goals; and supporting collaboration between public agencies and private sector firms.

In this course we will consider emerging transportation technologies and services and the management challenges they pose to public agencies. Students will explore changes in travel behavior and system operations expected as a result of five current technological trends: electrification, vehicle automation, connected vehicles

and infrastructure, car sharing and ride sharing, and mobility as a service. How can transportation agencies identify and prepare for changing infrastructure, financing, and labor needs? How can new technologies contribute toward environmental, equity, and economic efficiency policy goals? The course emphasizes the role of start-up companies in transportation innovation, and students will be expected to propose their own start-up idea. The course will include significant content via guest speakers from start-ups, the traditional transportation industry, and government.

Lucas College and Graduate School of Business Program Learning Goals

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

Goal 1: **Business Knowledge:** Understand basic business principles and demonstrate discipline-specific competencies as applied to local and global environments.

Goal 2: **Communication:** Communicate ideas clearly, logically, and persuasively in oral and written format, using technology appropriately.

Goal 3: **Ethical Awareness:** Recognize, analyze, and articulate solutions to ethical issues that arise in business.

Goal 4: **Leadership, Teams and Diversity:** Comprehend the challenges and opportunities of leading and working in diverse teams and environments.

Goal 5: **Critical Thinking:** Comprehend, analyze, and critically evaluate complex and unstructured qualitative and quantitative business problems, using appropriate tools and technology.

Goal 6: **Innovation:** Recognize, analyze, and articulate strategies for promoting creativity and innovation.

MSTM Program Learning Goals:

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

Goal 1: **Transportation Systems and Society:** Develop a systems-savvy and global perspective on solving transportation management challenges

Goal 2: **Transportation Policy:** Develop solutions to transportation management challenges that integrate knowledge of the transportation policy environment

Goal 3: **Leadership:** Identify and analyze leadership styles and traits

Goal 4: **Communications:** Communicate effectively with a diverse workforce and citizenry

Goal 5: **Analytical skills:** Identify and evaluate transportation management issues using appropriate data and methods

Course Learning Outcomes

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

1. Describe the characteristics and drivers of five technological trends which are impacting the transportation system: electrification, automation, connected vehicles and infrastructure, car and ride sharing, and mobility as a service.

2. Understand the business perspective of emerging transportation companies and identify the key technology application, revenue model, and target customers of a start-up.
3. Describe the changes in travel behavior and systems operations which are expected as a result of these technology trends and start-up companies.
4. Identify potential positive and negative impacts on infrastructure, labor, and system performance resulting from technological change and new private sector transport services.
5. Describe potential policy approaches for public transportation agencies to manage the impacts of new technologies and services, including strategies for engaging the private sector and the public in addressing system management challenges.

Required Texts/Readings

All assigned readings will be provided on the course Canvas site. Due to the rapidly changing nature of contemporary transportation issues, formal studies are quickly outdated. Therefore, in addition to the required course readings, students are encouraged to regularly follow the news on course topics.

Course Requirements and Assignments

There are five requirements for completion of the course: (1) Class participation during class and online, (2) Weekly reflections and comments on the course website in response to assigned readings and the news, (3) Developing a pitch for a transportation start-up, (4) Negotiating an agreement with a start-up in the role of a public agency, (5) Final presentation. All written assignments must be submitted by uploading them to Canvas (they will not be accepted by email).

Note: Instructors will provide further guidance on grading criteria and assignment examples.

1. Class participation
Students are expected to attend all classes and contribute at least two comments to the in-class discussion, as well as at least two comments to the weekly online discussion.

2. Weekly reflections and comments
Using the Discussion section of the course website, students will post a short weekly reflection in response to in-class discussions, assigned readings, and the news. These can be short (1-2 paragraphs), and should focus on key takeaway points and implications for the transportation system. Students are encouraged to include links to relevant news articles in their comments, and to pose questions inspired by the reading. You will not be able to see posts by your peers until you have submitted your reflections. After you have submitted your reflections, you should read and respond to at least two peer posts. *This assignment is due 48 hours before class* (Saturday at 5:30). Both your reflections and comments must be submitted by that time for full credit. Since others are dependent on your reflections to do their comments, and you upon theirs, it is advised that you upload your reflections earlier in the week, and then come back later to do your comments. Students who meet this requirement each week (after the first week) will receive 100 points for it. For each week missed, 10 points will be deducted. Reflections submitted late will receive 5 points.

3. Start-up pitch
For this assignment, students will develop an idea for a start-up company, develop a pitch deck, and present it to the class. You may be as creative as you like, but the start-up should include an application of one of the five key technology trends discussed in class. The pitch deck should communicate what problem is being solved, what is the key technology application, the revenue model, target customer,

and opportunities for partnerships with public agencies. Written instructions with more details will be given in class. This assignment is worth 100 points. Any part completed late will be deducted 10 points.

This assignment is due in stages as follows:

1) February 10. Draft pitch deck due on Canvas. Schedule a meeting with Professor Naroola for feedback and refinement. (40% grade weight)

2) February 24. Submit your final pitch deck to instructors on Canvas and email it to your assigned negotiation partner. (20% grade weight)

3) Week of March 9. Meet with your negotiation partner. Both parties will present their slides and questions for the other party. Negotiate a mutually beneficial partnership arrangement. During/after the meeting jointly prepare one or two slides describing the partnership that you have negotiated. The final presentation deck including all slides is due March 18 on Canvas. (40% grade weight)

4. Public agency response

Each student will serve in the role of a public transportation agency impacted by the start-up pitched by another student. You may decide what kind of agency you would like to represent (e.g. a regulator, a competitor, or a system manager), in consultation with the instructors. You will review the pitch deck from the agency perspective and prepare a few slides with questions and concerns in preparation for meeting with the start-up. This response deck should communicate how you anticipate the company will impact your operations and revenues, what regulatory and legal barriers you foresee, what benefits toward your policy goals you foresee, and identify opportunities for partnerships. This assignment is worth 100 points. Any part completed late will be deducted 10 points.

This assignment is due in stages as follows:

1) February 24. Your negotiation partner will email you their pitch deck. Schedule a meeting with them during the week of March 9. (20% grade weight)

2) March 2. Draft response deck is due on Canvas. Schedule a meeting with Professor Broaddus for feedback. (30% grade weight)

3) Week of March 9. Meet with your negotiation partner. Both parties will present their slides and questions for the other party. Negotiate a mutually beneficial arrangement. During/after the meeting jointly prepare one or two slides describing the arrangement that you have negotiated. The final presentation deck including all slides is due March 16 on Canvas. (50% grade weight)

5. Final presentation

During the final class on March 16, each student will present their pitch deck and response deck together with their partner, including what agreement was reached during the negotiation meeting. (30% grade weight)

Grading Information

The five course requirements will be weighted in the final grade as follows:

Task	Percent of Course Grade	Course Learning Objectives Covered
Class participation	10%	1,2,3,4,5
Weekly reflections	30%	1,2,3,4,5
Start-up pitch	25%	2,3
Public agency response	25%	4,5
Final presentation	10%	1,2,3,4,5
Total	100%	

Determination of Grades

Grades for each assignment, and for the course, will be assigned based upon the scores on the scale below. There are a potential of 500 points to be earned by meeting the five course requirements, which are weighted according to the policy above. A student may calculate their final grade by summing up the total points earned for each requirement, multiplying it by the weight, and summing the results. For example: (100*.10)+ (95*.30)+(100*.20)+(85*.20)+(90*.20)=94, which equates to an A.

Percentage	Grade
94% and above	A
93% - 90%	A-
89% - 87%	B+
86% - 84%	B
83% - 80%	B-
79% - 77%	C+
76% - 73%	C
72% - 70%	C-
69% - 67%	D+
66% - 63%	D
62% - 60%	D-
below 60%	**F**

Classroom Protocol for the Lucas College Graduate School of Business

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

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/"

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Course Schedule

Note: This schedule is subject to change with fair notice. Students will be informed of any changes via an email announcement on the course website.

Class Session	Class Topics	Readings Students will be advised on specific areas to read in the following links:	Assignments Due
1 January 6 (Both)	Review the syllabus. Student introductions, interests and expectations. Overview technology trend topics. Introduction to Blue Ocean framework and entrepreneurship in transportation. GenZe case study	Sign up for email updates from: • Innovative Mobility Research, http://innovativemobility.org/ • Citylab Transportation, https://www.citylab.com/transportation/ • Shared Use Mobility Center, http://sharedusemobilitycenter.org/	
2 January 13 (GN lead)	Emerging Market Segments and Opportunities Case Studies: Jump/Uber & Lyft/Motivate	*Future of Mobility White Paper*, Caltrans (2018) Link *Critical Issues in Transportation 2019*, Transportation Research Board (2018) Link https://jump.com https://www.motivateco.com	Weekly reflections
January 20	No class due to federal holiday		
3 January 27 (AB lead)	Mobility as a service (MaaS)	*Shared Mobility Definitions, Industry Developments and Early Understanding*, Caltrans (2015) Link *The New Automobility: Lyft, Uber and the Future of American Cities*, Shaller Consulting (2018) Link http://www.cpuc.ca.gov/tncinfo/ https://www.sfcta.org/emerging-mobility/tncs-today (click on map)	Weekly reflections

Class Session	Class Topics	Readings Students will be advised on specific areas to read in the following links:	Assignments Due
		https://hyrecar.com	
4 February 3 (GN lead)	Last Mile Services Case Studies/Examples: Bird, Scoot, Lime, Floatility Last Mile 2.0	*Private Transit: Existing Services and Emerging Directions*, TCRP Report 196 (2018), Link https://www.e-floater.com https://www.bird.co/ https://www.li.me/ https://scoot.co/	Weekly reflections
5 February 10 (Both)	Shared mobility	*Shared Mobility and the Transformation of Public Transit*, TCRP Report 188 (2017) Link https://nacto.org/bike-share-statistics-2017/ https://www.populus.ai/micro-mobility-2018-july	Weekly reflections Draft pitch deck
February 17	No class due to federal holiday		
6 February 24 (AB lead)	Autonomous vehicles Apps, Software, Components, Supply-chain, global players, AI, BI	*Beyond Speculation: Automated Vehicles and Public Policy*, Eno Center for Transportation (2017) Link *The Employment Impact of Autonomous Vehicles*, US Department of Commerce (2018), Link *World Report on Metro Automation*, UTIP (2016) Link https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety	Weekly reflections Final pitch deck

Class Session	Class Topics	Readings Students will be advised on specific areas to read in the following links:	Assignments Due
7 March 2 (GN lead)	Vehicle electrification Case Studies: ChargeIt, ChargePoint, Bloom, DC Solar	*Electric Vehicle Sales Forecast and Charging Infrastructure Required Through 2030*, Edison Foundation (2018) Link https://www.arb.ca.gov/msprog/zevprog/factsheets/technology_guide.pdf http://www.cpuc.ca.gov/zev/#Infrastructure https://www.chargepoint.com/	Weekly reflections Draft response deck
8 March 9 (AB lead)	E-commerce and freight Case studies: Postmates, Doordash, Flexport	*Managing the Transition to Driverless Road Freight Transport*, International Transport Forum (2017) Link https://postmates.com/ https://www.doordash.com/ https://www.flexport.com/	Weekly reflections Final response deck
9 March 16 (Both)	Student presentations		Final presentation deck