

The Coming Revolution in Transportation: Self-Driving Cars

In the future you will be able to quickly 'drive' from point A to point B directly without:

- Requiring a driver's license
- Owning a car
- Stopping at a traffic light
- Encountering congestion
- Looking for a parking space

And arrive on time!

Self-Driving Cars will not only change our modes of transportation but will have wide-reaching implications for our communities, our professions, and our life-styles. The advent will have technological, psychological, economic, societal, legal & ethical implications, potentially as dramatic as the Industrial Revolution. This course will examine these implications and will interest all students irrespective of their majors. Come along and be an early explorer of this socio-techno-eco-legal revolution!!

Professors Hal Miller-Jacobs & James Intriligator

Class Time: Wednesdays 5-7:30

Location: TBD

Objective:

- Gain an understanding of the elements involved in autonomous driving
- Examine the key elements in the complex period of transitioning to autonomous driving
- Recognize and understand the technological, psychological, sociological, legal & ethical issues
- Identify the key players and their roles, contributions and impediments

Requirements:

- Have a willingness to explore and examine the various complex issues in moving toward autonomous driving
- Join a group that will co-explore one specific aspect of autonomous driving (defined as a Focus Topic, see below) and make a presentation of:
 - Where we are *today*
 - Where we are *headed?*
- Co-create (with the rest of the class, the instructors, and our various guests) a website that will help others understand the key issues in autonomous driving. This website will be the major "artifact" of our time together -- and will represent the collective

views of the state-of-the-art in autonomous driving. Your contribution will be approximately eight short blogs.

- Attend class, go on field trips, find interesting stuff, and fully participate.

Format:

Class sessions will be informal and consist of lectures, discussions, guest lecturers, student-presentations, and class field trips

Potential Focus Topics (to get you started):

- Technologies
- Hardware
 - Sensors
 - Radar
 - Lidar
 - Cameras
- Software & AI
- Cybersecurity
- Blockchain technology
- Organizations & Key Players
 - Automobile companies
 - Technology organizations
- Key Human Factors Issues
- Displays & Controls?
- Transition Period
- Remote Monitoring
- Infrastructure
- Roads
- Real-estate sharing (bikes, pedestrians, buses, etc)
- Fuel/power stations
- Garages/mechanics
- Financial
- Car ownership
- Insurance
- Funding for Research
- Societal (e.g. handicapped populations)
- Ethical
- 'Trolley' Problem & variations

- Regulatory
- Local, statewide, federal, international
- And many others....

Sample Resources and Readings:

Web site of the course given in the Tufts Ex College in Fall 2017

[Self-Driving Course at Tufts](#)

self-driving.webflow.io/

[Tufts University Self-Driving Explorations 2017 | Just another sites.tufts ...](#)

<https://sites.tufts.edu/selfdrive2017/>

This site contains individual student blogs from Last Fall course.

[Self-Driving Cars – Just another sites.tufts.edu site - Tufts University](#)

<https://sites.tufts.edu/selfdrivingisaac/>

Self-Driving Cars: The Impact on People With Disabilities

<http://www.rudermanfoundation.org/blog/article/the-ruderman-white-paper-self-driving-cars-the-impact-on-people-with-disabilities>

The Numbers Don't Lie: Self Driving Cars are Getting Better

<https://www.wired.com/2017/02/california-dmv-autonomous-car-disengagement/>

Google-Parent Alphabet's Self-Driving Car Testing Far Ahead in California, Reports Show

<https://www.wsj.com/articles/google-parent-alphabets-self-driving-car-testing-far-ahead-in-california-reports-show-1485993092>

Self-Driving Car Tests in Boston

<http://www.bostonglobe.com/business/2017/02/06/the-biggest-challenge-for-self-driving-cars-boston-sea-gulls/N5UHSUlyXlar4r60TXupdN/story.html>

Autonomous vehicles could cost America 5 million jobs. What should we do about it?

<http://www.latimes.com/opinion/op-ed/la-oe-greenhouse-driverless-job-loss-20160922-snap-story.html>

