

### Schedules for Transportation Engineering and Traffic Analysis ACE 050, Fall 2021

Week	Date		Session	Topic	Contents	Assignment	Due
1	2021-11-1	13:15-15:00	1	Transportation planning	Introduction to transportation engineering		
		15:15 - 17:00	2		Transport planning – 4 step procedure: Trip generations		
	2021-11-4	8:00-9:45	3		4 step procedure: Trip distributions	In-class exercise 1	
		10:00-11:45	4		Trip generation and distribution - tutorial		
	2021-11-5	15:15 - 17:00	5		<b>Public Holiday (half day)</b>		
2	2021-11-8	13:15-15:00	1		4 step procedure: Travel mode choice and discrete choice model – lecture		
		15:15 - 17:00	2		Travel mode choice and discrete choice model – tutorial	In-class exercise 2	
	2021-11-11	8:00-9:45	3		Traffic assignment – lecture	Homework 1: Transport planning	
		10:00-11:45	4		Traffic assignment – tutorial		
	2021-11-12	14:00 - 15:00			Consultancy time for homework1/questions	Not required	
		15:15-17:00	5		Invited lecture about advanced travel choice modelling		
3	2021-11-15	13:15-15:00	1	Geometric and intersection design	Vertical Alignment Fundamentals and design		
		15:15-17:00	2		Horizontal Alignment Fundamentals and design		

	2021-11-18	8:00-9:45	3		Intersection design	In-class exercise 3	
		10:00-11:45	4		Geometric design - tutorial		
	2021-11-19	14:00 - 15:00			Consultancy time for homework1/questions	Not required	
		15:15-17:00	5		Intersection design - tutorial		
4	2021-11-22	13:15-15:00	1	Macroscopic traffic characteristics and flow theory	Traffic flow characteristics - lecture		
		15:15-17:00	2		Traffic Flow Characteristics - tutorial		
	2021-11-25	8:00-9:45	3		Fundamental diagram - lecture	In-class exercise 4	
		10:00-11:45	4		Fundamental diagram – tutorial	Homework 2: Macroscopic traffic characteristics and flow theory	Homework 1 due
	2021-11-26	15:15 - 17:00	5		Applications of traffic flow models		
5	2021-11-29	13:15-15:00	1		Road capacity and Level of service concepts		
		15:15-17:00	2		Capacity and level of services for highways and freeways		
	2021-12-2	8:00-9:45	3		Capacity and level of services for urban roads and intersections		
		10:00 - 11:45	4		Capacity and level of service – Tutorial		
	2021-12-3	14:00 - 15:00			Consultancy time for homework2/questions	Not required	
		15:15 - 17:00	5		Travel characteristic surveys and analysis	In-class exercise 5	
	2021-12-6	13:15-15:00	1		Shock wave theory – lecture		

		15:15-17:00	2		Invited lecture about CAV on capacities		
	2021-12-9	8:00-9:45	3		Shock wave theory – tutorials	Homework 3: road capacity and shock wave	Homework 2 due
		10:00-11:45	4		Microscopic driving behavior – Part 1: vehicle dynamics and speed characteristics		
	2021-12-10	14:00 - 15:00			Consultancy time for homework 3/questions	Not required	
		15:15-17:00	5	Microscopic driving behavior	Microscopic driving behavior – Part 2: car-following and lane-change models		
7	2021-12-13	13:15-15:00	1		Microscopic driving behavior – Tutorial		
		15:15-17:00	2		Invited lecture about advanced driving behavior modelling		
	2021-12-16	8:00-9:45	3		Self-study		
		10:00-11:45	4		Office hour for all questions		
	2021-12-17	15:15-17:00	5		Office hour for all questions		
	2021-12-24						Homework 3 Due
	2022-1-12	13:30 - 17:00			Consultancy time for homework/questions	Not required	
	2022-1-15				Final exam		