

Day 1 Agenda

9:00	15		Class opening comments	
9:15	20	Lecture	Elastomers as Engineered Materials	Lecture
9:35	40	Lecture	Stress-strain	Lecture
10:15	20	Lecture	Self-Heating	Lecture
10:35	15		Break	
10:50	35	Experiment	Stress-strain and self-heating	Experiment
11:25	35	Class Exercise	Stress-strain and self-heating	Class Exercise
12:00	30	Lecture	Physics of elastomer fatigue	Lecture
12:30	20	Lecture	Analysis Approaches for fatigue: nucleation, fracture mechanics	Lecture
12:50	20	Class Exercise	Tearing energy definition	Class Exercise
13:10	15	Experiment	Trousers tear	Experiment
13:25	60		Lunch	
14:25	20	Class Exercise	Trousers analysis	Class Exercise
14:45	30	Lecture	Factors that affect fatigue	Lecture
15:15	15		Break	
15:30	30	Lecture	Fatigue crack growth phenomenology	Lecture
16:00	30	Lecture	Material Characterization for fatigue analysis	Lecture
16:30	15		Break	
16:45	35	Experiment	R=0 FCG curve	Experiment
17:20	40	Class Exercise	R=0 FCG data analysis	Class Exercise
18:00				

Day 2 Agenda

9:00	45	Class Exercise	R>0 FCG data analysis	Class Exercise
9:45	20	Experiment	Crack nucleation	Experiment
10:05	30	Class Exercise	Nucleation data analysis	Class Exercise
10:35	15		break	
10:50	35	Lecture	Dealing with Multiaxial loading	Lecture
11:25	35	Lecture	Dealing with Variable Amplitude loading	Lecture
12:00	45	Lecture	FEA for Life Prediction	Lecture
12:45	45	Lecture	Computing rubber's Haigh diagram	Lecture
13:30	60		Lunch	
14:30	30	Lecture	Fatigue test acceleration with Endurica	Lecture
15:00	15			
15:15	45	Class exercise	Analysis of VA loading	Class exercise
16:00	30		Strain, stress and energy control in fatigue testing	Lecture
16:30	30		Open discussion	
17:00				