

Lecture Day	Time	Lecture hall	MatPerf (C2420) Spring 2016	Subject	Teacher		EXERCISE& LABS	Lab / Exercise groups
Wed 16.3.	13-16	Ke4 (C301)	LC-1117 Integrated English	Starting lecture	Jaana Suviniitty			All Wednesdays 13-16 till 27.4. (23.3. at hall U9!)
Tue 22.3.	10-12	U119	General intro	What is performance? Why is it important?; Product/structure life time/life cycle.; Comparative performance of materials.	Eero Hiltunen		1; Assignment: Materials performance (groups, no lab)	
Wed. 23.3.	10-12	U119	Thermoplastics	From the structural perspective/performance: The most important thermoplastics	Pirjo Pietikäinen	Callister 14	2: Polymer project in groups - Start of the project/ Integrated with LC-1117	Wed 23.3. at 13-16 U9
Tue 29.3.	10-12	U119	Thermosets	From the structural perspective/performance: he most important thermosets	Pirjo Pietikäinen	Callister 14		
Wed 30.3.	8:30-10	U119	Elastomers	From the structural perspective/performance: Rubbers, thermoplastic elastomers	Pirjo Pietikäinen	Callister 14		
Fri 1.4.	8:30-10	U119	Additives in polymeric materials	Why additives?; Function of different additives	Pirjo Pietikäinen	Callister 14	2: Polymer project in groups -Presentations /LC-1117	Wed 27.4. at 13-16 hall to be announced
Fri 1.4.	10-12	U119	Failure	Fracture modes: ductile and brittle fracture, fracture toughness; Fracture mechanics and testing; Fatigue; effecting factors, i.e. environment, stress, surface; Creep; stress and temperature effect	Ilkka Penttinen	Callister 8	3: Exercise (IP) Calculation exercise on brittle fracture, creep and fatigue (not mandatory but similar question will be in exam)	ma 11.4. klo 13-16 V1
Tue 12.4.	10-12	U119	Corr. & degradation	Electrochemical consideration; Corrosion rate and it's prediction, effect of passivity; Different forms of corrosion, e.g. galvanic and selective corrosion, pitting, erosion and stress corrosion, hydrogen	Jari Aromaa	Callister 17	4: Laboratory exercises related to corrosion electrochemistry, in groups	12.4, 14.4., 15.4., 18.4., 19.4., 21.4, 22.4., 25.4. and 26.4 – at 13-16 (one student - one time slot, registration will open in MC)
Wed. 13.4.	10-12	U119	Appli. & processing	Different types of metal alloys; ferrous (steel, iron) and nonferrous alloys (Cu, Al, Mg, Ti, refractory metals, superalloys, etc.); Fabrication: forming, casting, PM, welding; Thermal processing of metals	Ilkka Penttinen	Callister 11		
Fri 15.4.	8:30-10	U119	Appli. & processing	Types of ceramics (glasses, glass-ceramics, clay products, refractories, abrasives, cements, advanced ceramics; Powder pressing & sintering techniques	Ilkka Penttinen	Callister (11), 13		
Tue 19.4.	10-12	U119	Environmental performance	Weathering (uv), biological attack (fungi, bacteria), polymers	Elina Kähkönen			
Wed. 20.4.	10-12	U119	Long term performance	The long term performance of wood and natural fibre materials	Eero Hiltunen		5; Assignment: Summarizing article - Weathering of wood - Individual	
Fri 22.4.	8:30-10	U119	Environmental performance, Summary	Life-cycle assessment (LCA) approach. Embodied energy; recyclability; environmental performance; resource efficiency Importance of material performance and how it can be measured	Elina Kähkönen Eero Hiltunen			