

SusCritMat Summer School for Educators

July 10-12, 2019, Clare College, Cambridge

July 9: Get together

From 18:00 In the Loop game & dinner (optional)

July 10: Introduction to Criticality

8:30-9:00	Welcome coffee		
9:00-9:15	Introduction of the school & its tools		Alessandra Hool, ESM Foundation
9:15-9:30	Criticality concepts	Lecture	Dominique Guyonnet, BRGM
9:30-10:15	Criticality exercise	Group work	
10:15-10:20	Quiz on criticality	Live Quiz	All
10:20-10:40	Discussion of results	Discussion	
10:40-11:00	Break		
11:00-10:45	Global resource supply chains	Lecture	Gus Gunn, BGS
10:45-10:55	Quiz on resource supply chains	Live Quiz	All
10:55-11:20	Discussion of results	Discussion	
11:20-12:00	Geopolitical factors	Lecture	David Peck, TU Delft
12:00-12:10	Quiz on geopolitical factors	Live Quiz	All
12:10-12:30	Discussion of results	Discussion	All
12:30 – 13:30	Lunch		
13:30-14:15	Economics of rare metals	Lecture	Steven Young, University of Waterloo David Peck, TU Delft
14:15-14:25	Quiz on economics of rare metals	Exercise	All
14:25-14:45	Discussion of results	Discussion	
14:45-15:00	Break		
15:00-16:00	Keynote on sustainable resource management	Lecture	Invited guest
16:00-17:00	Discussion of the day's contents	Discussion	All
17:00-18:30	Historic tour	Group Activity	
From 18:30	Dinner		

July 11: Analysis

08:30 -09:00	Welcome coffee		
09:00-09:05	Short introduction of the day		Alessandra Hool, ESM Foundation
09:05- 09:50	Supply & demand scenarios	Lecture	Patrick Wäger, Empa
09:50 -10:30	Exercise on supply and demand scenarios	Group work	
10:30-10:40	Quiz on supply and demand scenarios	Live Quiz	All
10:40-11:00	Discussion of results	Discussion	
11:00-	Break		
10:45-11:00	Material flow analysis	Lecture	Layla van Ellen, TU Delft
11:00-11:45	Exercise on MFA	Group work	
11:45-11:55	Quiz on MFA	Live Quiz	All
11:55-12:15	Discussion of results	Discussion	
12:15-13:15	Lunch		
13:15-14:00	Life Cycle Analysis	Lecture	Steven Young, University of Waterloo
14:00-14:45	Exercise on LCA	Group Work	
14:45-14:55	Quiz on LCA	Live Quiz	All
14:55-15:15	Discussion of results	Discussion	
15:15-15:30	Break		
15:30-16:30	Keynote on teaching in materials	Lecture	Invited guest
16:30-17:00	Discussion of the day's contents		All
17:00 -18:30	Punting on the river	Group activity	
From 18:30	Dinner		

July 12: Solutions

08:30-09:00	Welcome coffee		
09:00-09:05	Short introduction of the day		Alessandra Hool, ESM Foundation
09:05-09:50	Responsible sourcing	Lecture	Steven Young, University of Waterloo
09:50-10:20	Exercise on responsible sourcing	Group Work	
10:20-10:30	Quiz on responsible sourcing	Quiz	All
10:30-10:50	Discussion of results	Discussion	
10:50-11:05	Break		
11:05-11:30	Introduction to circular economy	Lecture	David Peck, TU Delft Layla van Ellen, TU Delft
11:30-12:00	Circularity indicators	Exercise	James Goddin, Granta Design, David Peck, TU Delft
12:10-12:20	Quiz on CE and circularity indicators	Live Quiz	All
12:20-12:40	Discussion of results	Discussion	
12:40 – 13:40	Lunch		
13:40-14:40	Circular Product Design	Lecture	Ruud Balkenende, TU Delft
14:40-14:50	Quiz on Circular Product Design	Live Quiz	
14:50-15:10	Discussion of results	Discussion	All
14:30 – 14:45	Break		
15:00 – 16:00	Good practice examples: EIT Raw Materials projects, companies, start-ups	Mini-lectures	Invited guests
16:00-16:20	Survey on School	Survey	Andrea Gassmann, Fraunhofer
16:20-16:30	Closing remarks		Alessandra Hool, ESM Foundation
From 16:30	Apéritif and Farewell		