Earth & Space Sciences 345: Economic Geology
Syllabus: Autumn 2013

Website: http://faculty.washington.edu/stn/ess_345

Instructor:
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Topics: **Geological and economic perspectives**
Ore genesis in igneous systems
Sedimentary exhalative (Sedex) ore deposits
Hydrothermal processes
Porphyry copper deposits
Ore genesis in sedimentary basins
Placer deposits
Weathering and supergene deposits
Organic geochemistry and hydrocarbon deposits
Formation of coal, oil and gas resources
Exploration: Geophysics, geochemistry and remote sensing
The carbon cycle, recycling, alternative energy, sustainable resource use

Lectures:			
	Intro, perspectives, overview	(1-2 lectures)	25-27 Sept
	Igneous, volcanogenic systems	(3 lectures)	30 Sept - 4 Oct
	Hydrothermal ores, porphyry Cu	(3 lectures)	7 – 11 Oct
	Sedimentary, stratabound deposits	(3 lectures)	14 - 18 Oct
	Placers, supergene Al, Fe, U, etc	(3 lectures)	21 - 25 Oct
	Exploration	(3 lectures)	28 Oct - 1 Nov
	Energy (oil / gas / coal)	(5 lectures)	4 - 15 Nov
	Mining/energy impacts, alternatives	(3 lectures)	18 – 22 Nov

Take-home exam **Wednesday, 20 Nov**

Reading: Weekly reading assignments will be indicated on the website (http://faculty.washington.edu/stn/ess_345/reading.shtml)

Textbook: *Either* of:

Introduction to Ore Forming Processes by Laurence Robb, (Wiley-Blackwell, 2004)

Economic Geology: Principles and Practice by Walter L. Pohl (Wiley-Blackwell, 2011)

The first is more technical, the second less process-focused, but more comprehensive.

Assessment:				
	Commodity research project (1)	10%	due ...	Friday 4 Oct
	Commodity research project (2)	20%		15Nov
	Deposit research project	20%		1 Nov
	Glossary terms	20%		throughout
	Take-home exam	30%		22 Nov