

Geology and Geophysics (GG2202,15 hp)

Course leader: Matt O'Regan (matt.oregan@geo.su.se)

Contributors: HC - Helen Coxall, SG - Sarah Greenwood, RG - Richard Gyllencreutz, MJ - Martin Jakobsson, JM - Joakim Mansfeld, IP - Ian Pitcairn, AS - Alasdair Skelton, MS - Margret Steinhorsdottir

Course literature:

Mandatory: Marshak, S., 2015. Earth Portrait of a Planet 5E International Student Edition, W.W. Norton & Co Inc. ISBN 9780393938173

Optional: Andreåsson, Per-Gunnar (Ed.), 2015. Geobiosfären - en introduktion. Studentlitteratur. ISBN: 9789144096391

A Introduction and Plate Tectonics					Chapters 1, 2, 3, 4		Lecturer	
Week 36	Mon	03-Sep-18	09:00	10:45	Course introduction/Excursion info/photos	Nordenskiöldsalen	MO	
					Free			
	Tues	04-Sep-18	09:00	10:45	Earths Structure	Nordenskiöldsalen	MO	
					<i>Independent study time</i>			
					13:00 14:45	Map systems and positioning	Nordenskiöldsalen	MJ
			15:00	16:45	<i>Independent study time</i>			
	Wed	05-Sep-18	09:00	10:45	Plate Tectonics	Nordenskiöldsalen	MO	
					12:00 13:00	<i>Independent study time</i>		
					13:00 14:45	GROUP 1 - PRACTICAL	U29	MO
			15:00	16:45	GROUP 2 - PRACTICAL	U29	MO	
	Thurs	06-Sep-18	09:00	10:45	Plate Tectonics	Nordenskiöldsalen	MO	
					12:00 13:00	<i>Independent study time</i>		
					13:00 14:45	GROUP 2 - PRACTICAL	U29	MO
			15:00	16:45	GROUP 1 - PRACTICAL	U29	MO	
	Fri	07-Sep-18	09:00	10:45	Plate Tectonics	William-Olssonsalen	MO	
				12:00 13:00	<i>Independent study time</i>			
				13:00 14:45	GROUP 1 - PRACTICAL	U27	MO	
		15:00	16:45	GROUP 2 - PRACTICAL	U27	MO		
B Geologic Time and Mineralogy					Interlude E, Chapter 12, Chapter 13 / Chapter 5, Interlude A			
Week 37	Mon	10-Sep-18	09:00	10:45	Geologic Time	Nordenskiöldsalen	HC	
					13:00 17:00	<i>Independent study time</i>		
	Tues	11-Sep-18	09:00	10:45	The Fossil Record	William-Olssonsalen	HC	
					12:00 13:00	<i>Independent study time</i>		
					13:00 14:45	GROUP 1 - PRACTICAL	U29	HC
			15:00	16:45	GROUP 2 - PRACTICAL	U29	HC	
	Wed	12-Sep-18	09:00	10:45	Mineral Chemistry	Nordenskiöldsalen	JM	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GROUP 1 - Mineral chemistry / Group 2 - Mineral chemistry	U29	RG
	Thurs	13-Sep-18	09:00	10:45	Crystallography	Nordenskiöldsalen	JM	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GROUP 1 - Crystallography / Group 2 - Crystallography	U29	RG
	Fri	14-Sep-18	09:00	10:45	Mineralogy I	William-Olssonsalen	JM	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GRUPP 1 - Mineralogy	U29	RG
		13:00	14:45	GRUPP 2a - Microscopy I	U27	JM		
		13:00	16:45	GRUPP 2b - Microscopy I	U27	JM		
C Igneous and Sedimentary Rocks					Chapter 6, 9 / Interlude B, Chapter 7			
Week 38	Mon	17-Sep-18	09:00	10:45	Mineralogy II	Nordenskiöldsalen	JM	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GRUPP 2 - Mineralogy	U29	RG
			13:00	14:45	GRUPP 1a - Microscopy I	U27	JM	
			15:00	16:45	GRUPP 1b - Microscopy I	U27	JM	
	Tues	18-Sep-18	09:00	10:45	Magmatic Rocks	Nordenskiöldsalen	RG	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GRUPP 1 - Magmatic rocks	U29	RG
			13:00	14:45	GRUPP 2a - Microscopy II	U27	JM	
			15:00	16:45	GRUPP 2b - Microscopy II	U27	JM	
	Wed	19-Sep-18	09:00	10:45	Volcanism	Nordenskiöldsalen	RG	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GRUPP 2 - Magmatic rocks	U29	RG
			13:00	14:45	GRUPP 1a - Microscopy II	U27	JM	
			15:00	16:45	GRUPP 1b - Microscopy II	U27	JM	
Thurs	20-Sep-18	09:00	10:45	Sediments and Sedimentary Rocks (Weathering and transport)	Nordenskiöldsalen	HC		
				12:00 13:00	<i>Independent study time</i>			
				13:00 14:45	GROUP 1 - PRACTICAL	U29	HC	
		15:00	16:45	GROUP 2 - PRACTICAL	U29	HC		
Fri	21-Sep-18	09:00	10:45	Sediments and Sedimentary Rocks (Types of sedimentary rocks)	Nordenskiöldsalen	HC		
				11:00 12:00	Gotland Preparation and Planning	Nordenskiöldsalen	HC/MS	
				13:00 17:00	<i>Independent study time</i>			
D Sedimentary Rocks					Chapter 7, Interlude C			
Week 39	Mon	24-Sep-18	09:00	10:45	Sediments and Sedimentary Rocks (Marine sediments 1)	Nordenskiöldsalen	RG	
					12:00 13:00	<i>Independent study time</i>		
					13:00 14:45	GROUP 1 - PRACTICAL	U26	RG
			15:00	16:45	GROUP 2 - PRACTICAL	U26	RG	
	Tues	25-Sep-18	09:00	10:45	Sediments and Sedimentary Rocks (Rock building fossils)	Nordenskiöldsalen	HC	
					12:00 13:00	<i>Independent study time</i>		
					13:00 14:45	GROUP 2 - PRACTICAL	U26 & U27	HC
			15:00	16:45	GROUP 1 - PRACTICAL	U26 & U27	HC	
	Wed	26-Sep-18	09:00	17:00	Fieldtrip - Both groups to Gotland		HC/MS	
					Fieldtrip - Both groups to Gotland		HC/MS	
	Thurs	27-Sep-18	09:00	17:00	Fieldtrip - Both groups to Gotland		HC/MS	
					Fieldtrip - Both groups to Gotland		HC/MS	
	Fri	28-Sep-18	09:00	17:00	Fieldtrip - Both groups to Gotland		HC/MS	
					Fieldtrip - Both groups to Gotland		HC/MS	
	E Metamorphic Rocks / Swedish Geology					Chapter 8		
Week 40	Mon	01-Oct-18	09:00	10:45	Metamorphic Rocks	Nordenskiöldsalen	RG	
					12:00 13:00	<i>Independent study time</i>		
					13:00 16:45	GRUPP 1 - Metamorphic rocks	U29	RG

			13:00	14:45	GRUPP 2a - Microscopy III	U27	JM
			15:00	16:45	GRUPP 2b - Microscopy III	U27	JM
Tues	02-Oct-18	09:00	10:45	12:00	Metamorphic Rocks	Nordenskiöldsalen	RG
					<i>Independent study time</i>		
			13:00	16:45	GRUPP 2 - Metamorphic rocks	U29	RG
			13:00	14:45	GRUPP 1a - Microscopy III	U27	JM
			15:00	16:45	GRUPP 1b - Microscopy III	U27	JM
Wed	03-Oct-18	09:00	10:45	11:00	GRUPP 2a - Microscopy IV	U27	JM
					GRUPP 2b - Microscopy IV	U27	JM
			13:00	14:45	GRUPP 1a - Microscopy IV	U27	JM
			15:00	16:45	GRUPP 1b - Microscopy IV	U27	JM
Thurs	04-Oct-18	09:00	10:45	12:00	Swedish Geology- I - Bedrock	DeGeer Salen	JM
					<i>Independent study time</i>		
			13:00	14:45	Swedish Geology-II -Quaternary sediments	William-Olssonsalen	SG
Fri	05-Oct-18				Group 1 Leaves for Scotland/Group 2 Reading day		
F-G Scotland Excursion (Group 1)							
Week 41 & 42							
Fri	05-Oct-18				Morning Flight + Siccar Point		AS and SG
Sat	06-Oct-18				Edinburgh		AS and SG
Sun	07-Oct-18				Glen Esk		AS and SG
Mon	08-Oct-18				Cairngorm		AS and SG
Tue	09-Oct-18				Glen Roy		AS and SG
Wed	10-Oct-18				Loch Ness		AS and SG
Thu	11-Oct-18				Loch Ness to Edinburgh, Afternoon Flight		AS and SG
Fri	12-Oct-18				Free day		
Group 2 - Stockholm							
Mon	08-Oct-18	09:00	10:45	13:00	Sediment core description	U36	MO
					<i>Independent study time</i>		
Tue	09-Oct-18	09:00	10:45	13:00	Sediment core description	U37	MO
					<i>Independent study time</i>		
Wed	10-Oct-18	09:00	17:00		<i>Study day with specimens available in the laboratory</i>	U26	
Thu	11-Oct-18	09:00	17:00		<i>Study day with specimens available in the laboratory</i>	U26	
Scotland Excursion (Group 2)							
Fri	12-Oct-18				Morning Flight + Siccar Point		AS and SG
Sat	13-Oct-18				Edinburgh		AS and SG
Sun	14-Oct-18				Glen Esk		AS and SG
Mon	15-Oct-18				Cairngorm		AS and SG
Tue	16-Oct-18				Glen Roy		AS and SG
Wed	17-Oct-18				Loch Ness		AS and SG
Thu	18-Oct-18				Loch Ness to Edinburgh, Afternoon Flight		AS and SG
Fri	19-Oct-18				Free day		
Group 1 - Stockholm							
Mon	15-Oct-18	09:00	10:45	13:00	Sediment core description	U26	MO
					<i>Independent study time</i>		
Tue	16-Oct-18	09:00	10:45	13:00	Sediment core description	U26	MO
					<i>Independent study time</i>		
Wed	17-Oct-18	09:00	17:00		<i>Study day with specimens available in the laboratory</i>	U26	
Thu	18-Oct-18	09:00	17:00		<i>Study day with specimens available in the laboratory</i>	U26	
Fri	19-Oct-18				Group 1 - Independent study day		
H Dynamic Planet Chapter 10, 11, 14, 15							
Week 43							
Mon	22-Oct-18	09:00	10:45	13:00	Mountain Building	Nordenskiöldsalen	MO
					<i>Independent study time</i>		
Tues	23-Oct-18	09:00	10:45	12:00	Earthquakes and Tsunamis	Nordenskiöldsalen	MO
					<i>Independent study time</i>		
			13:00	14:45	GROUP 1 - Earthquakes and Tsunamis	U36	MO
			15:00	16:45	GROUP 2 - Earthquakes and Tsunamis	U36	MO
Wed	24-Oct-18	09:00	10:45	12:00	Geologic Resources - Ores	Nordenskiöldsalen	IP
					<i>Independent study time</i>		
			13:00	14:45	GROUP 1 - PRACTICAL	U26	IP
			15:00	16:45	GROUP 2 - PRACTICAL	U26	IP
Thurs	25-Oct-18	09:00	10:45	12:00	Geologic Resources - Hydrocarbons	Nordenskiöldsalen	MO
					<i>Independent study time</i>		
			13:00	14:45	GROUP 2 - PRACTICAL	U26	MO
			15:00	16:45	GROUP 1 - PRACTICAL	U26	MO
Fri	26-Oct-18	09:00	10:45	13:00	Development of the World's Oceans	Nordenskiöldsalen	RG
					<i>Independent study time</i>		
I Biography of the Earth Chapter 13							
Week 44							
Mon	29-Oct-18	09:00	10:45	11:00	Development of the World's Oceans	Nordenskiöldsalen	RG
					Question/Answer session before exam	Nordenskiöldsalen	MO and others
			13:00	17:00	<i>Independent study time</i>		
Tues	30-Oct-18				<i>Study day</i>		
Wed	31-Oct-18				<i>Study day</i>		
Thurs	01-Nov-18				<i>Study day</i>		
Friday	02-Nov-18	13:00	17:00		Exam	U11,U13,Y21-22, U27	
Re-exam							
Week 48	Saturday	01-Dec-18	09:00	13:00	Re-Exam	U27, U28	