

32
6.4

Students
groups

Total time in term (hours)
Time left for revision

147
33

Expected Time involved in: (Hours)

	Date	Lec 08:00	Lec 12:00	Lab	Fossen: Structural Geology	Other Reading	Extra Reading: Abstract and pictures. 375: 10 papers. 275: 5 papers. At least one NZ, one experimental, one numerical modelling	Ice experiments: Monday to Monday	Other things	Assesment: Deadlines	Expected Time involved in: (Hours)			
											Lectures	Practical	Reading	Hand ins and Assessment
Week 1	Thursday, 13 July 2023	L1 Introduction: Geometry, Kinematics, Dynamics. Expectations and Literature.	L2 Stress: Mohr circle	P1 Stress and sliding	CH4 Stress. CH5 Stress in the Lithosphere	Hickman, 1991. Hubbert & Rubey, 1959	https://stevendutch.net/structure/labman.htm		Skills audit info Due		2	3	4	
Week 2	Thursday, 20 July 2023	L3 Fracture vs friction. Pore pressure effective stress.	L4 Experiments and ice	P2 Fault separations and displacement	CH7 Fracture and Brittle Defm. CH8 Faults.	Walsh & Watterson, 1989; Sibson, 1989; Ice refs.	1. Fault geometry and kinematics (due Mon 29/7/23)	Group 1: Lab-book in lab			2	3	4	
Week 3	Thursday, 27 July 2023													
Week 4	Thursday, 3 August 2023	L5 Griffith cracks. Stress trajectories. Andersonian Faulting.	L6 Longitudinal and shear strain. Strain Rate	P3 Fault displacement variation	CH3 Strain in Rocks. CH2 Deformation.	Bell & Rubenach, 1983; Toy et al 2012		Group 2: Lab-book in lab	List of papers for 1 due		2	3	4	1
Week 5	Thursday, 10 August 2023	L7 Deformation, Strain tensor, Strain Ellipsoid and Ellipse	L8 Practical strain measurement. Finite vs Infinitesimal. 3D- Flinn diagram	P4 Shear and Strain	CH12 Foliation and Cleavage. CH13 Lineations.	Ramsay 1980; Fossen & Cavalcante, 2017	2. Foliations and lineations (due Mon 21/8/23)	Group 3: Lab-book in lab			2	3	4	
Week 6	Thursday, 17 August 2023	L9 Brittle shear zones- tension gashes	L10 Data on stereonet. Conical distributions	P5 Regional fold data	CH11 Folds and folding.	Cobbold & Quinquis, 1980; Hudleston & Treagus 2010		Group 4: Lab-book in lab			2	3	4	
	Sat/Sun 19th/20th August	tides ~ 11pm			1/2 day Field Trip to Brighton or Camp trip up to Danseys Pass. Depends on conditions.					Field Assessment		12		4
Week 7	Thursday, 24 August 2023	L11 Explaining Sandboxes	L12 Deformation Mechanisms	P6 A fold and thrust analogue model	CH16 Contractional regimes. CH17. Extensional regimes. CH20 Balancing and restoration.	Knipe, 1989. Frost & Ashby, 1982.	3. Microstructure and rheology (due Mon 18/9/23)	Group 5: Lab-book in lab	List of papers for 2 due		2	3	4	1
	Thursday, 31 August 2023	Mid Semester Break			Mid Semester Break									
Week 8	Thursday, 7 September 2023	L13 Fold vergence	L14 Kinematics of faults and shear zones	P7 Fold Vergence	CH15 Shear Zones and Mylonites.	Gillam et al 2013; Fagerang & Biggs, 2019		Group 6: Lab-book in lab			2	3	4	
Week 9	Thursday, 14 September 2023	L15 Rheology	L16 Dislocations	P8 Ice mechanical data compilation.	CH6 Rheology	Hirth et al., 2001; Kidder et al 2019			Sandbox Interactive PPT 11/9/23 4PM		2	6	4	4
Week 10	Thursday, 21 September 2023	L17 Recovery	L18 Recrystallisation	P9 Ice Creep. Un wrap samples. Mechanical data reduction. Stress exponents.	CH10 Deformation at the microscale	Stipp et al 2002, Law et al 2014			List of papers for 3 due		2	3	4	1
Week 11	Thursday, 28 September 2023	L19 Crystallographic Preferred Orientation	L20 Crystallographic Preferred Orientation	P10 Ice Microstructures: more data reduction. Grain size effects		Toy et al., 2008; Law et al 1990;			Ice Deformation Poster 29/9/23 4PM		2	10	4	10
Week 12	Thursday, 5 October 2023	L21 Structure on the large scale	L22 Ice sheet rheology	P11 Finsishing up ice analysis		Shao et al, 2022; Lutz et al 2020.					2	3	4	0
Week 13	Thursday, 12 October 2023	L26 Revision Session	L26 Revision session	P11 Review of lab stuff							2	3	0	