

EASC 204 - Structural Geology I - Spring 2020

[Textbook - "Structural Geology of Rocks and Regions" by Davis, Reynolds & Kluth; 3rd Edition]

Descriptive Analysis (assigned reading from assigned textbook in brackets)	
Week 1 [Jan 7 & 9]	Introduction & Primary Structures and Contacts (Chapter 1; 697 – 711)
Week 2 [Jan 14 & 16]	Intro to Fractures (p.21-23; 193-204) & Faults (p.23-24; 249-251); Slip vs. Separation (p.272-281)
Week 3 [Jan 21 & 23]	Recognition of Faults (p.251-253; 271-300; 703-705); Nature of Fault Surfaces (p.253-260); More Fault Info (p.260-267; 305-343) & Joints and Joint Analysis (p.193-220; 769-779)
Week 4 [Jan 28 & 30]	Folds: Introduction (p.344-368); Classification and Specification (p.375-383); Superposed Folding (p.353-354)
Kinematic Analysis	
Week 5 [Feb 4]	Classes cancelled due to snow
Week 5 [Feb 6]	EXAM I - during Thursday lecture (TASC1 - 7005)
Week 6 [Feb 11 & 13]	Strain Analysis – Measures of Strain (p.59-75); Strain Ellipse & Ellipsoid (p.84-86)
Week 7 [Feb 18 & 20]	Reading week - no classes or labs
Week 8 [Feb 25 & 27]	Strain States & Flinn Diagrams (p.516-520); Finite & Incremental Strain (p.82-84;); Pure Shear and Simple Shear (p.78-83; 554-555; 586-598); Strain Equations (p.75-77)
Week 9 [Mar 3 & 5]	Folds – Kinematic Analysis & Mechanisms (Ch. 7 - p.383-404)
Week 10 [Mar 10]	Cleavage, Foliation, Lineation (Ch. 9 - p.463-529)
Week 10 [Mar 12]	EXAM II - during Thursday lecture
Dynamic Analysis	
Week 11 [Mar 17 & 19]	Deformation Mechanisms - Crystal Defects (Ch 4 - p.148-181)
Week 12 [Mar 24 & 25]	Forces, Traction, Stress on a Plane and at a Point, Stress ellipse & ellipsoid (Ch 3 - p.90-117); Stress Equations & Mohr's Circle for Stress (p.117-120); Pore Fluid Pressure (p.139-140; 230-239; 293)
Week 13 [Mar 31 & Apr 2]	Mohr's Circle for Stress II - Byerlee's Law, von Mises Criterion (p.291-305), Griffith's Law (p. 226-230); Fault Analysis & Anderson's Theory (p. 291-296);
Week 14 [Apr 7 & 9]	Brittle-Ductile Behavior , Shear Zones & Shear Sense Indicators (p. 188-190; 530-580); Mylonites (p.499-504); Rheology & Material Properties (p.120-147)
Apr 21	FINAL EXAM 12:00 – 15:00

