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SIO 160 - Intro to Global Tectonics - Fialko [SP23]

Jump to Today

Introduction to Global Tectonics - SIO 160

An introduction to geological and geophysical aspects of forces shaping our planet

Yuri Fialko

Munk 321; yfialko-at-ucsd.edu; Ph. 2-5028

Lecture course, 4-units, letter grade or S/U grade, homework (20%), midterm exam (30%), final exam (50%).Time: Mon Wed, 10:00-11:20 am, in person, Revelle 4301.

Office hours: Mon Wed 11:30 am - 12:30 pm.

SYLLABUS

Date	Topic	Reading/Homework	Lecturer
03 APR	<a href="#">Historical Perspective</a> ⇨	Read: KK&V, Ch. 1, 3; <a href="#">Lecture notes</a>	YF
05 APR	Deformation in the Crust and Mantle	Read: KK&V, Ch. 2.10 <a href="#">Lecture notes</a>	YF
10 APR	Magnetic Anomalies and Seafloor Spreading	Read: KK&V, Ch. 4.1 <a href="#">Pacific-Antarctic movies</a> ⇨ <a href="#">Lecture notes</a>	YF
12 APR	<a href="#">Earthquakes and focal mechanisms</a>	Homework 1 Read: KK&V, Ch. 2.1 <a href="#">Lecture notes</a>	YF
17 APR	Plate tectonics on a plane	Read: KK&V, Ch. 5.10-5.11; Cox and Hart, Chapter 2 (Electronic reserves) <a href="#">Tanya Atwater's movies</a> ⇨ <a href="#">Lecture notes</a>	YF
19 APR	Plate tectonics on a sphere	Homework 2 Read: KK&V, Ch. 5.1, 5.3, 5.9; Cox and Hart, Ch. 4 (Electronic reserves) <a href="#">Southwest Pacific Movie</a> <a href="#">Lecture notes</a>	YF
24 APR	Internal Structure of the Earth	Read: KK&V, Ch. 2.3, 2.4, 2.8, 2.9, 2.12 <a href="#">Lecture notes</a>	YF
26 APR	Seismo-Tectonics	Homework 3 Read: KK&V, Ch. 5.2 <a href="#">Lecture notes</a>	YF
01 MAY	Convergent margins	Read: KK&V, Ch. 9.1-9.7 <a href="#">Lecture notes</a>	YF
03 MAY	Transform faults	Read: KK&V, Ch. 4.2, 8 <a href="#">Lecture notes</a>	YF
08 MAY	Mid-term exam		YF
10 MAY	Tectonics in your backyard	local field trip	
15 MAY	Mid-Ocean Ridges	Homework 4 Read: KK&V, Ch. 6 <a href="#">Animation of a propagating ridge</a> <a href="#">Lecture notes</a>	YF
17 MAY	Orogeny	Read: KK&V, Ch. 10.1-10.4; Twiss and Moores, Ch. 20.12 <a href="#">Lecture notes</a>	YF
22 MAY	Appalachians	Read: KK&V, Ch. 10.6 <a href="#">Lecture notes</a>	YF
24 MAY	Mantle Convection and Plate Driving Forces	Homework 5 Read: KK&V, Ch. 2.13, 12 <a href="#">Lecture notes</a>	YF
29 MAY	No class	Memorial Day	
31 MAY	Volcanism	Read:KK&V, Ch. 5.5, 5.7 <a href="#">Lecture notes</a>	YF
05 JUN	Gravity, Isostasy, and Flexure	Read: KK&V, Ch. 2.11 <a href="#">Lecture notes</a>	YF
07 JUN	Tectonics and environmnet	Read: KK&V, Ch. 13.1-13.2 <a href="#">Lecture notes</a>	YF
12 JUN 8-11 am	Final exam		

SIO 160 SUGGESTED BOOKS (some on reserve at the Geisel Library):

**Textbook:**  
[Global tectonics : Kearey, Klepeis & Vine \(3rd Ed.\)](#), [Wiley-Blackwell](#), 2009 ⇨

**Reference Books:**  
*Plate Tectonics* Cox and Hart, Allen & Unwin, Boston, MA, 1986.

*Structural Geology, 2nd Ed.* Twiss and Moores, Freeman and Co., NY, 2007.



Course Summary:

Date	Details	Due
Thu Jun 3, 2021	<a href="#">homework 6</a>	due by 11:59pm
Wed Apr 19, 2023	<a href="#">homework 1</a>	due by 11:59pm
Wed Apr 26, 2023	<a href="#">homework 2</a>	due by 11:59pm
Wed May 3, 2023	<a href="#">homework 3</a>	due by 11:59pm
Mon May 8, 2023	<a href="#">midterm</a>	due by 3:25pm
Mon May 22, 2023	<a href="#">homework 4</a>	due by 11:59pm
Fri Jun 2, 2023	<a href="#">homework 5</a>	due by 11:59pm
	<a href="#">final exam</a>	

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New Analytics

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Course assignments are not weighted.