

Upper Division Electives 2019-2020

Fall 2019

Course	Course Title	Units	Instructor
GEL 131	Risks and Natural Hazards	3	Rundle
GEL 142	Basin Analysis	3	Sumner
GEL 148	Isotopes and Tracers	3	Yin
GEL 160	Geological Data Analysis	3	Rudolph
GEL 190	Seminar	1	TBD

Winter 2020

Course	Course Title	Units	Instructor
GEL 141	Evolutionary History of Vertebrates	3	Motani
GEL 150B	Geological Oceanography	3	Kellogg
GEL 156	Hydrogeology and Contaminant Transport	5	Fogg
GEL 163	Planetary Geology and Geophysics	3	Stewart
GEL 190	Seminar	1	TBD

Please note: GEL 108 will only be offered in Winter this year

Spring 2020

Course	Course Title	Units	Instructor
GEL 120	Big Bang to Today	3	Osleger
GEL 133	Environmental Geochemistry	3	Mukhopadhyay
GEL 144	Historical Ecology	3	Vermeij
GEL 150A	Physical and Chemical Oceanography	4	Gaylord
GEL 190	Seminar	1	TBD

CalTeach/MAST Courses

Only one course may be applied toward elective credit

Course	Course Title	Quarters	Units	Instructor
GEL 181	Math and Science Teaching – Middle School	F, W, Sp	2	Horn
GEL 183	Math and Science Teaching – High School	F, W, Sp	3	Pinter, Susann
GEL 185A	Integrated Science I	SS1	2	Pinter, Susann
GEL 186	Learning Assistant Seminar	F, W, Sp	1	Stevenson

Upper Division Electives:

- Upper division electives chosen from GEL 130–194 courses
- Only one of GEL/EDU 181, 183, GEL 185A, 185B, or 186 may be applied toward elective credit
- No more than 3 units upper division elective credit for GEL 115–120 courses
- Maximum of 6 units upper division elective credit for GEL 192 or 194A-B or 194HA-HB
- Preapproved electives outside of Geology:
 - ECI 171+171L – Soil Mechanics (5 units)
 - ECI 175 – Geotechnical Earthquake Engineering (4 units)
 - ESM 100 – Principles of Hydrologic Science (4 units)
 - ESM 186 – Environmental Remote Sensing (5 units)
 - ESP 152 – Coastal Oceanography (3 units)
 - HYD 144 – Groundwater Hydrology (4 units)
 - HYD 146/GEL 156 – Hydrogeology and Contaminant Transport (5 units)
 - LDA 150/ABT 150 – Introduction to Geographic Information Systems (4 units)
 - SSC 100 – Principles of Soil Science (5 units)
 - WFC 102+102L – Ecgeomorphology (1 unit) / Lab (6 units)

- Cross-enrollment online class at UCLA: Geography 168 – Intermediate GIS (4 units)
<https://crossenrollcourses.universityofcalifornia.edu/catalog/view/119?title=GEOG+168+Intermediate+Geographic+Information+Systems> (this course counts as UC Davis' LDA/ABT 150, so students cannot take both)
 - And related fields approved *in advance* by faculty advisor
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Geology 62 announcement

GEL 62 (Optical Mineralogy) will no longer be offered as of Fall Quarter 2018. We are transitioning to a modified curriculum and the content of 62 is now folded into a modified and updated GEL 60 (Earth Materials), which will prepare you for GEL 105, 106, and 110. GEL 62 will not be enforced as a prerequisite for future GEL classes.

All students who have not yet taken GEL 62 will need to satisfy this 2 unit requirement for the Geology major in a different way. Your options are:

- 1) Take GEL 53: Intro to Geobiology taught by Professor Dawn Sumner in Fall Quarters. This course will be listed under the placeholder GEL 98, section 016.
 - 2) Take GEL 55: Intro to Geochemistry taught by Professor Sujoy Mukhopadhyay in Winter Quarters. This course will be listed under the placeholder GEL 98, section 007.
 - 3) Take GEL 56: Intro to Geophysics taught by Professor Magali Billen in Spring Quarters.
 - 4) Talk with your major advisor (Mandy) or your faculty advisor (Professor Jim McClain or Professor Ryosuke Motani) to find a different course that can be substituted for GEL 62.
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Geology 53: Intro to Geobiology

Professor Dawn Sumner

Fall 2019 – *GEL 98 section 016* – CRN: 45023

Tuesdays & Thursdays 1:40–3:00 pm in EPS 1309

3 units

Introduction to interactions between Earth and life with an emphasis on how metabolism, cellular processes, evolution and ecology emerged within natural environments and have changed Earth's surface.

Geology 55: Intro to Geochemistry

Professor Sujoy Mukhopadhyay

Winter 2020 – *GEL 98 section 007* – CRN: TBD

3 units

Introduction to key geochemical principles in Earth and Planetary Sciences; chemical bonding, geochemical affinity of elements, redox and acid base equilibria in geological systems, radioactive decay, isotopic fractionation and paleoclimate records.

Geology 56: Intro to Geophysics

Professor Magali Billen

Spring 2019

Lecture: Mondays, Wednesdays, and Fridays 11am–11:50am in EPS 1316

Lab: Tuesdays 1:10–3pm in EPS 2231 (Mac Lab)

4 units

Introduction to geophysical topics essential to all aspects of Earth and planetary sciences: theory of plate tectonics, gravitational field of planets, diffusion, rheology, seismology, and earthquakes.