

BACHELOR OF SCIENCE IN GEOLOGY

Major Requirements Worksheet

2012-2013 Catalog

Name: _____

Student ID: _____

Note: This checklist is not intended to replace advising from the major department. Students should consult with the major advisor to determine the appropriate sequence of courses. This checklist is to inform students of major requirements and course prerequisites only. CSULB Enrollment Services prepares the Academic Requirements Report, which is the official graduation verification.

| Grade | Course # | Course Title | Need to take | Prerequisites (All prerequisite courses must have a "C" or better) |
|-------|----------|--------------|--------------|--|
|-------|----------|--------------|--------------|--|

Take ALL of the following courses:

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|--|-----------|---|--|--|
| | GEOL 102 | General Geology (3) | | Pre/Corequisite: A course that fulfills the A.1 GE Req., HS Math* |
| | GEOL 104 | Geology Laboratory (1) | | Pre/Corequisite: A course that fulfills the A.1 GE Req. HS math*, Concurrent or prior enrollment in GEOL 102 |
| | GEOL 240 | Historical Geology (4) | | GEOL 106 <i>or both</i> GEOL 102, 104 |
| | GEOL 250 | Introduction to Field Petrology and Geological Field Techniques (3) | | GEOL 102 with 104 or 105; or GEOL 106. Pre/Corequisite GEOL 240 |
| | GEOL 273 | Computer Statistical Methods in Geology (4) | | GEOL 240, MATH 117 or 122 |
| | BIOL 200 | General Biology (4) | | GE Foundation requirements |
| | CHEM 111A | General Chemistry (5) | | A passing score on the CPT; MATH 113, or 117 or 119A or 122 |
| | CHEM 111B | General Chemistry (5) | | CHEM 111A |
| | MATH 122 | Calculus I (4) | | Appropriate MDPT placement or MATH 111 and 113, or 117 |
| | MATH 123 | Calculus II (4) | | MATH 122 |
| | PHYS 151 | Mechanics and Heat (4) | | MATH 122 Pre/Corequisite |
| | PHYS 152 | Electricity and Magnetism (4) | | PHYS 151; Pre/Corequisite MATH 123 |

Upper Division (for upper division advising, see your faculty advisor)

Take ALL of the following courses:

| | | | | |
|--|----------|---|--|---|
| | GEOL 322 | Crystallography, Mineralogy and Optical Methods (5) | | GEOL 250; CHEM 101 or 111A |
| | GEOL 341 | Paleontology and Biostratigraphy (4) | | GEOL 240 and BIOL 200 |
| | GEOL 350 | Spring Field Geology (2) | | GEOL 250 <i>and</i> 443. Pre/Corequisite GEOL 433 |
| | GEOL 428 | Igneous and Metamorphic Petrology and Petrography (4) | | GEOL 322; CHEM 111A, 111B |
| | GEOL 433 | Structural Geology (4) | | GEOL 250, 322; PHYS 151 |
| | GEOL 443 | Stratigraphy/Sedimentology (4) | | GEOL 240, 322 |
| | GEOL 450 | Summer Field Geology (4) | | GEOL 350, 428, 433, <i>and</i> 443 |
| | GEOL 460 | Introduction to Geophysics (3) | | PHYS 151, 152; MATH 123; <i>and</i> GEOL 273 |
| | GEOL 461 | Introduction to Geochemistry (3) | | CHEM 111A, 111B and MATH 123 |

Additional Required Courses for the various emphases are listed below:

1. **Option in General Geology (120 units):** 6 units electives (normally at upper division), approved in *advance* by the undergraduate advisor

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2. Option in Petroleum Geology (123 units):

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|--|----------|---|--|--|
| | MATH 224 | Calculus III (4) | | MATH 123 or 222 |
| | GEOL 420 | Geowriting (3) | | Upper division; ENGL 100 or equivalent; a course in Geology; consent of the instructor |
| | GEOL 471 | Petroleum Geology and Well Log Analysis (4) | | GEOL 240, 443 |

*See catalog for more detail

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3. Option in Stratigraphy/Sedimentology (122 units)

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|--|----------|--|--|--|
| | GEOL 364 | Introduction to Geological Oceanography (2) | | GEOL 102 or 160; and CHEM 111A or MATH 122, or consent of the instructor |
| | GEOL 420 | Geowriting (3) | | Upper division; ENGL 100 or equivalent; a course in Geology; consent of the instructor |
| | GEOL 424 | Sedimentary Petrology (4) | | GEOL 322 and 443 |

4. Option in Geochemistry/Mineralogy-Petrology (126 units)

| | | | | |
|--|-----------|--|--|--|
| | MATH 224 | Calculus III (4) | | MATH 123 or 222 |
| | CHEM 371A | Physical Chemistry: Thermodynamics and Kinetics (3) | | CHEM 251, MATH 123, PHYS 152. MATH 224 (may be taken concurrently) |
| | CHEM 371B | Physical Chemistry: Quantum Mechanics and Spectroscopy (3) | | CHEM 251, MATH 123, PHYS 152. MATH 224 (may be taken concurrently) |

5. Option in Structural Geology/Tectonics (122 units):

| | | | | |
|--|-----------|---|--|--------------------------------|
| | GEOL 430 | Seminar in Structural Geology and Tectonics (3) | | GEOL 433 |
| | GEOL 462 | Physics and Chemistry of the Earth's Interior (3) | | GEOL 240, 428; PHYS 152 |
| | MATH 224 | Calculus III (4) | | MATH 123 or 122 |
| | MATH 370A | Applied Mathematics I (3) | | MATH 123. Not open to Freshman |