
California State University, Hayward

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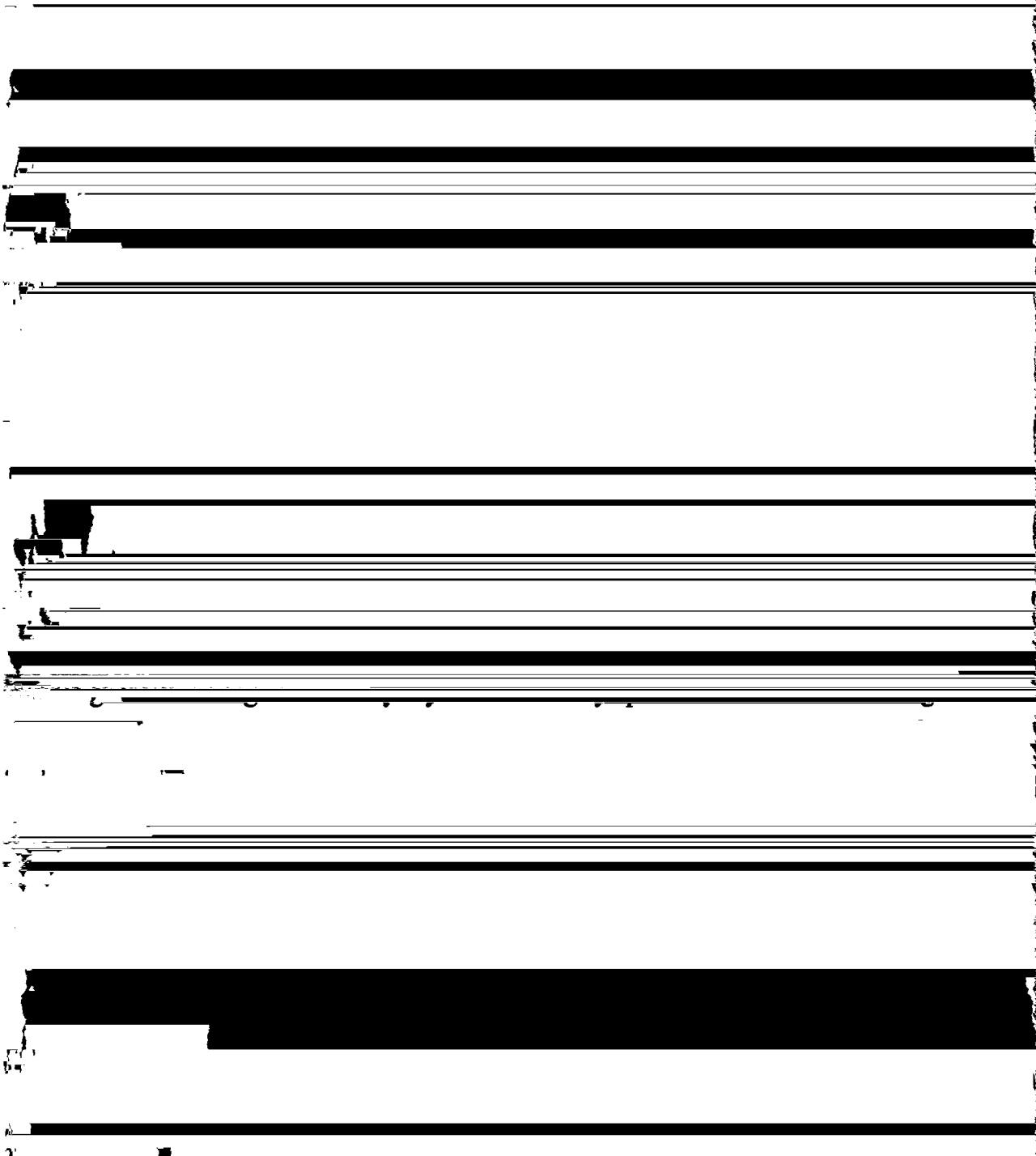
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included for professional and post-graduate success in the field of geology.

Department Faculty will set aside at least one faculty meeting per year to discuss the outcomes of each component of our assessment plan. Faculty will use information gained from such discussions to update and improve our Departmental Learning Outcomes, content requirements in our Capstone Courses, and questions asked of alumni and employers in our 5-year survey. The Department's overall goal in implementing this plan is to continually upgrade our undergraduate programs, and to update our Department Mission Statement as needed.

appear to be offering content that very much reflects what skills and knowledge are required by professional and post-graduate organizations.

university programs.

- supporting the Environmental Science BS through having a faculty

option in geology.

- providing in-service teacher training and continuing education opportunities for professional geologists.
- community outreach and education, especially in the field of geologic hazard and earthquake awareness.

- **produce and interpret quantitative scientific data related to earth processes**
- **apply fundamentals of chemistry, physics, math and computer science to solving geologic problems**
- **effectively communicate scientific ideas and results verbally and in writing**
- **retrieve, assimilate and evaluate existing data**
- **use, formulate and test multiple working hypotheses based on the scientific method**
- **utilize keen observational skills in the laboratory and field**
- **visualize subsurface structures and processes in 3 dimensions**
- **demonstrate depth and breadth of knowledge in one or more advanced specialty fields (advanced electives)**
- **recognize, appreciate and communicate scientific uncertainty**
- **conduct independent field work**
- **understand geologic time, evolution and global processes such as plate tectonics and climate change**

Students should be able to:

- create, read and interpret geologic maps and cross-sections
- use, formulate and test multiple working hypotheses
- interpret spatial/temporal relationships in the field
- solve 3-point problems
- perform quantitative analysis
- quantify, synthesize and communicate observations and interpretations in oral and written format

Student Learning Goals in: Engineering / Environmental Geology (GEOL 4320)

In this area of geology, students should understand:

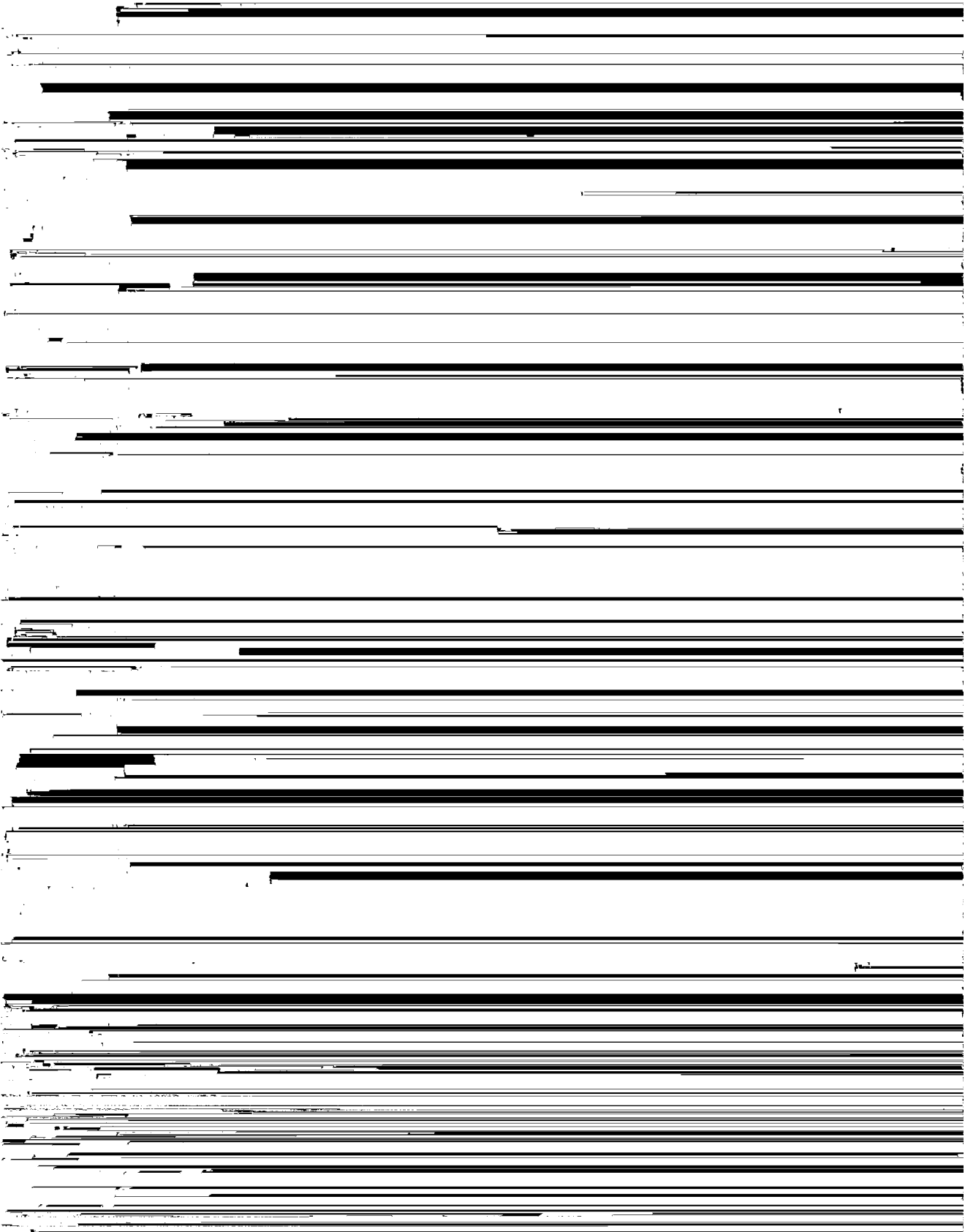
- identifying principles of the hydrologic cycle
- mechanical properties of earth materials
- the crustal processes that create landforms
- human interactions with the environment
- well mechanics and flow through porous media
- fundamental chemical principles of water and soil

Students should be able to:

- apply geologic knowledge to solve engineering or environmental problems
- determine physical properties of earth materials
- recognize potential geologic hazards in the field (flood, slides, faulting)
- interpret aerial photographs, topographic maps, flownets and geologic maps/cross-sections
- use and interpret data from field instruments

APPENDIX

list, please write your name and address below, or attach your business card.



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Essential Courses

Pertinent Electives

Optional Courses