Assessment Plan

for the

Graduate Program

Department of Geological Sciences

California State University, Hayward

D. A. Warnke
Graduate Coordinator
and Chair

Winter 2004

eventual preparation of a manuscript and submission to a peer-reviewed journal (although this is not a requirement to obtain the degree). Once the thesis has been written, and a first draft is available, the student will present his/her work to our Geology Club, followed by a Q and A session. Subsequently, the faculty committee will meet with the candidate in closed session to assess the thesis work, and to advise the student on changes that may be necessary to improve the manuscript. This review is probably the most effective assessment tool we have to assay the overall achievement of the student and the overall effectiveness of our graduate program.

3. Evaluation of student dossier: Every admitted graduate student will be asked to compile a dossier consisting of written material prepared by the student in graduate geology classes. Compilation of this dossier is an on-going effort, but not an additional burden since the written materials will be prepared by the student while taking graduate classes. Such written materials will consist of term papers (required in all graduate classes) but can also consist of maps and stratigraphic columns (both paper or cyber versions), disks containing PowerPoint presentations, graphs showing the distribution of chemical/physical/micropaleontological properties against time or depth, etc.

Department faculty will monitor these products on an on-going basis to update and improve learning goals, and to adjust the program, where and when necessary, to reflect changes in the practice of geology. This may involve implementation of new courses, changing or eliminating existing courses, and other changes as deemed necessary.

Specific Learning Goals in Graduate Geology Courses

Student Learning Goals in: <u>Quaternary Geology (GEOL 6300)</u>
Students should know:

- evolution of climate and landforms during the Quaternary
- climate oscillations on decadal to millenial time scales
- natural climate variabilities and its impact on human populations

Students should be able to:

- identify landform associations developed under variable climate conditions during the Quaternary
- use techniques to determine age relationships of various landforms
- write a term paper on a Quaternary topic of their choice

Student Learning Goals in: <u>Groundwater (GEOL 6320)</u>
Students should know:

- methods of groundwater resource evaluation
- multi-dimensional flow evaluation
- computer models to predict groundwater yi-14y 1 12 T3Tj 1rnw (comp31tions) Tj -3.706 -13.5 T

G E O L 6 3 3 4 h o u l d 2 7 r n i n g 2 3 5 . 5 5 0 5 . 5 5 T c u l d

-80.0082 Tc -0.0082 Tw2 Tc -0.112 Tw129able to:

-

L 6 3 2 0 6 o T 2 3 7 g 2 3 5 . 5 5 0 5 . 5 4 7 2 6 3 2 0 9 5 T D

Students should be able to:

- use basic analytical techniques
- use the petrographic microscope in the analysis of sedimentary components and lectures
- use SEM and other techniques as appropriate
- write a term paper including maps and photomicrographs

Στοδεντσ σηουλδ βε αβλε το:

•

Student Learning Goals in: <u>Advanced Topics in Geology (GEOL 6620)</u>

Students should know:

- the topic of the course selected by the instructor

Students should be able to:9Sthe instructodod thoent Lear316 Tj 129ptrumod 0 .5 0 TD 0 Tbaschniqu TDsuc

Students should be able to:

- write a term paper on the topic selected by the instructor, including correct literature preferences, and references to appropriate internet resources
- give class presentations

Student Learning Goals in: <u>Advanced Topics in Geology with Laboratory (GEOL 6621)</u>

Students should know:

- the topic selected by the instructor

Students should be able to:

- complete laboratory analyses as assigned by the instructor
- write a term paper or report based on materials assigned by the instructor and the results of the laboratory analyses.

Student Learning Outcomes in: <u>Graduate Seminar (GEOL 6811)</u>

Students should know:

- Literature pertaining to the topic selected by the instructor

Students should be able to:

Students should be able to:

- pick a research topic
- devise research plans and strategies based either on field work or laboratory analyses, or a combination of both
- write and defend a Thesis, using the university format
- if possible, convert the Thesis to a manuscript to be submitted to a peer-reviewed journal, or an organizational report.

Over-arching Assessment Tool:

The University Thesis is probably the most important assessment tool since it incorporates everything the student has learned during his/her stay at CSUH, including