

MINUTES OF THE GRADUATE COUNCIL MEETING

November 23, 1999

The Graduate Council Meeting was called to order at 3:32 pm. on November 23, 1999, in Weir Hall Conference Room. Members present: Dave Johnson, Chair; Curtis Barefoot, Diedre Hirschfeld, Alan Miller, Vannetta Perry, Larry Teufel, Jim Weatherall, Larry Werbelow, John Wilson, Victor Yodaiken, and the GSA representative, Roseanna Neupauer.

1) Call for Approval of Minutes:

The Chairman called for approval of the minutes of the October 1, 1999 meeting. Yodaiken moved approval of the minutes as presented, Miller seconded, and the minutes were approved.

2) Announcements:

Johnson made the following announcements to the Council.

- a) **Digital abstract of theses and independent studies.** This is requirement recommended by the Council and adopted last year is now required for completion of graduate degrees. The abstract must be submitted before a student will be signed off on their degree.
- b) **Webmaster request to administration.** This was brought to and passed by the faculty council, however, no action has been taken by the administration.
- c) **Minority Scholarships.** In the past awarding of minority fellowships has required a matching 1/4-time assistantship from the department. A review of the rules governing these fellowships indicates that the matching assistantship is not a requirement of the State of New Mexico. If you wish to nominate a student for a minority fellowship, you may do so without the matching assistantship, however, the minority fellowship does impart New Mexico residency and nonresident recipients will be required to pay nonresident tuition.
- d) **Web page.** If you need a research assistant and would like to advertise your need on the web page, you may do so, and if you need assistance, Dave Johnson will be available to help or post your requirement.
- e) **TA Reallocation.** No action has been taken. If decision will made this year it will have to be made before March.
- f) **GRE Search.** The Graduate Office has purchased names again this year. Please submit your revised letter and description to be included in the mail out.
- g) **RA Stipends.** A meeting of the V.P. R&ED and the Dean was to be held to discuss the matter of minimum RA stipends. The meeting had been postponed. Johnson recommended to the faculty who will be writing grants to increase their stipends by 5%. Tuition and fee's running \$2,400.00 at Tech, comparable schools are running \$800.00. Discussion followed.

4) Old Business:

- a) **Electronic copies of Thesis/Dissertation.** The consensus was that students should submit all thesis/dissertation on digital format as well as a hard copy. John Wilson, and Subhasish Mazumdar to meet and work out an acceptable method to present to the Graduate Council.
- b) **Electronic Dissertations and Theses.** At the request of Wilson, the council briefly discussed submission of theses, dissertations and independent studies in digital format. Wilson will chair a subcommittee on ETDs. Johnson will find additional resources for the committee. The council will revisit this issue at another date.

5) New Business:

The following course changes were submitted to the council for approval.

a) **Materials:** Hirschfeld presented catalog changes as follows:

Materials 502 Physical Ceramics 3 cl hrs. Review of ceramic microstructures. Atomistic, microstructural, and thermodynamic origins of ceramic properties, with emphasis on the effects of atomic and structural defects and interpretation of phase diagrams. Taught by Diedre Hirschfeld spring semester and alternate years with Material 520 Ceramic Processing.

Mate 430/530 Design and Analysis of Experiments, 3 cr, 3 cl Hrs.

The course covers the important methods of statistics and modeling to many problems in materials science and engineering. Examples are chosen from a number of actual experiences, including mechanical testing of brittle materials and optimizing friction weld parameters. Safety considerations and experiment design include an analysis of risk, how risks may be integrated, and how formal procedures should be established. The use of information sources, such as materials safety data sheets (MSDS), are introduced. Curtis Barefoot moved to accept this new course, Alan Miller seconded, question was called, and motion passed.

Hydrology: Wilson presented to the following changes to the council

Following are a new course name and a revised course description for HYD 513, plus descriptions for two new courses (Hyd. 512 and 512L)

Under the five-year and graduate program descriptions in the catalog, Hyd. 512 should replace Hyd. 513 as a required course. Also, undergraduate program, Hyd. 533 should replace Hyd. 529 as a required course.

These catalog changes were approved by the Hydrology faculty at their September meeting.

New course title and revised course description:

Hyd. 513 Hydroclimatology, 3 cr, 3 cl hrs.

Prerequisites: Hyd. 508, Hyd. 512

Hydrology of the land surface and atmosphere. Water and energy balance, radiation and clouds, precipitation and evapotranspiration, boundary-layer processes, land-atmosphere interactions, climate change.

Add these new courses:

Hydr. 512, Surface Water Hydrology, 4 cr, 3 cl hrs, 3 lab hours

Prerequisites: Phys 121; Math 132; upper-class standing

The hydrologic cycle, with emphasis on atmospheric, land surface, and shallow subsurface processes. Water and energy balance, global climate and the energy budget of the Earth, precipitation mechanisms, infiltration and the vadose zone, evapotranspiration, open channel hydraulics, catchment hydrology. Shares lectures with Hyd 412, but is graded separately and includes laboratory/recitation section. (Laboratory section may be taken separately as Hyd. 512L)

Hydr 512L, Surface Water Hydrology, 1 cr, 3 lab hours

Pre or co-requisite: Hyd 412/512 or consent of instructor

A series of experiments and problems illustrating water flow and energy balance on the Earth's surface and in the atmosphere.

Wilson made the motion to accept these changes, Larry Teufel seconded, motion passed.

Petroleum: Teufel presented the following changes:

The faculty of Petroleum Engineering propose the following new graduate courses:

Petr 537, Petroleum-Related Rock Mechanics, 3 cr, 3 cl hrs.

Study of theories and applications of rock mechanics to petroleum engineering. Topics include laboratory measurements of porosity, permeability, and deformation behavior as a function stress state, in situ stress measurements, wellbore stability, sand control, and reservoir compaction/subsidence.

Petr 547, Naturally Fractured Reservoirs, 3 cr, 3 cl hrs

Geological characterization and reservoir simulation of naturally fractured reservoirs. Description of natural fractures and fracture systems from surface outcrops, core analysis, log interpretation, and well testing. Fluid-flow simulation of fractured reservoirs using numerical models.

Petr 548, Reservoir Geomechanics, 3 cr, 3 cl hrs.

Prerequisites: Petr 445 or consent of instructor

Fundamentals and issues of coupled fluid-flow/thermal/geomechanics associated with hydrocarbon production. Topics include elasticity, poro-elasticity, thermo-poro-elasticity, reservoir stress depletion/rebound, productivity of stress-sensitive reservoirs, and waterflood induced fracturing.

Teufel moved to accept these changes/additions, Miller seconded, motion passed.

There being no further business, the meeting was adjourned at 4:29 p.m.