

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

FACULTY SENATE MEETING

Tuesday, November 1, 2011

Workman 101 4:00 p.m.

Minutes

1. Dr. Borchers called the meeting to order at approximately 4:04.
2. Dr. Axen moved for approval of the minutes of the October 4, 2011 meeting. Dr. Phillips seconded the motion. There was no discussion and the motion was approved.
3. **Announcements.**
 - a. Academic Affairs – Dr. Gerity announced the site visits on the two Title V efforts just concluded and the preliminary draft reports are very positive. We just concluded the second year of the PPOHA grant and the first year of the SES grant. The feedback from the evaluator is very positive in both cases.
 - b. SRS – Dr. M. Dezember announced the Student Research Symposium is on schedule for April 13th. The committee is working with both the GSA and SA to reach out to students. The Public Information Office, (PIO) will be getting information out. Please identify students for this resource. For more information go to the Student Research Symposium website on Academic Affairs' website.
 - c. Dr. Dezember reported on Academic Dishonesty for the year, Fall 2010 – 2011. She reminded faculty the procedure for reporting incidents must be in writing to Dr. Dezember.
 - d. Dr. López reported on two points; the current state of the economy an next fiscal year as it looks today, and the proposed changes to the funding formula and the impact to NM Tech if adopted.

The new formula for funding moved away from the paradigm of “inputs to outputs” or outcomes. This method was based on how many students or FTE equivalents can be shown. The proposed method identifies attributes that qualify as an outcome. For instance, progress toward degree, graduation rates, and the closing of achievement gaps would be reported as outcomes for state funding. The intent is to identify marginal groups and bring them into the medium range. Degree attainment is the noble goal, but fraught with problems. NM Tech has quality not size. If pushing too hard to get degrees in order to get funding, will we compromise our quality? A draft of the proposal will go to the LFC this month. The University Presidents will support the proposal to the LFC with caveats. And finally, the legislature must support the paradigm. Based on the current anticipated amount of funding available for funding higher education, NMT will come out slightly better as the draft stands because of our stem focus. UNM and NMSU will take big hits and therefore will not support the proposed change. However, degree attainment is not going away any time soon.

Dr. López pointed out that the Governor is asking for a flat budget, however, LFC feels higher education has been too severely hurt from the last three years of difficult budget cuts.

The three Department of Education grants should be moving the institution forward to help achieve the goals of degree attainment. We must balance the focus of the funding formula with the need for quality education.

Dr. López addressed the economic outlooks saying he believes there will be more funds budgeted going into the next fiscal year. Gas prices are in the range to support the increase of budgeted monies available. Other economic indicators are edging positive.

Addressing questions from the Senate, Dr. López explained:

1. The new formula funding will recognize institutions with Graduate level programs. That was one of the problems with the old formula, two-year schools were benefiting through disproportionate funding. The new formula should include a variable to allow for adjustments.

2. It is a good idea to engage our local representatives. Still, representatives will vote according to political pressure more than public pressure. The committee is made up of a variety of interests. The House side has some support for 4-year schools. It wouldn't hurt to let them know how we stand. Dr. Lopez will look into inviting our local representative to address the Senate and Administration.

3. The formula is being set to address the number of degrees attained. Any other criteria such as tracking graduates quality of job or general employability will "fall to deaf ears".

In conclusion, departments could give more remedial courses or we could change admission standard. The factor that most affect student success rates is the investment the student makes to achieve the success, however it is measured.

- e. Committees Responsibilities – Dr. B. Borchers asked committees to meet if only to name a chair. Two committees are still lacking an assigned chair. Further he pointed out that he is asking for a report from each committee to the Faculty Senate during the current academic year.
- f. Ms. M. Jaramillo Fleming introduced Lillian Armijo, Director of Student Services.
- g. She went on to introduce Mr. M. Tappen, Director of Residential Life and chair of the Non-Academic Discipline Committee. Mr. Tappen asked for a faculty member to serve on this committee. Contact Mr. Tappen directly if you are interested in serving.
- h. In order to electronically archive thesis or dissertation and comply with FERPA, the Center for Graduate Studies developed a policy with copyright forms for graduate students to use. This is standard in research universities who routinely post these publications online.
- i. Dr. S. Simpson reminded the Faculty Senate of the survey for non-native English speaking students and faculty members. Sponsored through the PPOHA office, Dr. Simpson is looking for more faculty surveys to contribute to the results.
- j. Dr. Simpson also announced Boot Camp registration is now available.

- k. Final Exam Schedule –Ms. Grijalva announced the campus has out grown our methods for scheduling finals. The Computer Science department has been impacted but other departments are probably also being impacted. Action items will be presented at the December Faculty Senate meeting. Some possible solutions include adding more than just Math finals on Saturday, especially for graduating seniors. Also, open a Thursday afternoon, Friday morning or even Friday afternoon time slot for finals, if no graduating seniors would be impacted. The Registrar would be happy to work with these changes if so directed by the Senate.

Ms. Grijalva went on to announce that classroom scheduling for the Spring Semester is resulting in overbooking in premium time slots. The Monday Wednesday Friday morning time is over booked by ten classes. The Tuesday Thursday morning slot is over booked by 4 classes. Faculty are asked to work with the Registrar to change times or move locations. If necessary, a lottery will have to be held to assign classrooms. It was suggested that certain courses could be assigned a time and location and not move each semester according to the instructor.

4. **Committee Reports.**

- a. Budget & Research Committee Chair, Dr. F. Philips presented information explaining why the Overhead rate is so volatile. The range over the last decade has fluctuated from a low of about twenty three percent to a high of fifty-seven percent over the last decade. Dr. Philips thanked Mr. Steven Hicks for his help in understanding how overhead rates are calculated in accordance with the OMB Circular A-21. Please talk with Mr. Hicks for a more in depth explanation of what goes into the formula. Most fluctuation is caused by changes in the research dollars coming in to the university. Gain or loss of a big contract in a small institution can result in a lot of volatility. Audit decision can also impact the final percentage. Most PI's would prefer to maintain a constant level on the income.

Dr. Sonnenfeld talked to the effort of leveling the rate by averaging the formula calculated over multiple years. Any method to achieve a leveling through averaging would need to be approved by ONR. Dr. Lopez pointed out the danger of leveling the overhead by averaging over too many years. The potential risk could come from an event that causes a spike in expenses like energy costs.

The PDF presentation showing both the pros and cons is available on line at www.ees.nmt.edu/~phillips/indirectcost.pdf.

5. **Old Business.**

- a. The motion to disband the Financial Aid and Scholarship committee continued from the October meeting. Dr. Borchers reminded the Senate the need for this motion, (see September minutes). Dr. Stone was asked to clarify the motion pending. In his explanation he offered an amendment to move the function of policy review from the disbanded committee to the Academic Standards and Admissions committee. The discussion focused on clarification of the original motion and the amendment. Dr. Borchers called for a vote on the amendment and it passed. There was no further discussion regarding the motion. Dr. Borchers called for a vote on the motion to disband the Financial Aid and Scholarship committee. The motion passed. The Faculty Senate bylaws governing committees will reflect this change.

6. New Business.

a. Curriculum Changes – Council of Chairs

Math department has been piloting a course for the engineering departments. Dr. Hossain moved to make the course a regular offering under MATH 337. There was no discussion and the motion was approved.

Math 337: Engineering Mathematics, 3 cr, 3 cl hrs
Pre-requisite: Math 231 and co-requisite Math 335

Course Description:

SHORT DESCRIPTION

Selected topics from linear algebra are discussed, including vectors, matrices, determinants, Gaussian elimination, vector spaces and basis as well as Eigenvalues, eigenvectors and diagonalization of matrices. Of particular interest will be linear algebra techniques which are utilized for solving systems of (linear) algebraic equations and solving systems of coupled ordinary differential equations using Laplace transforms and linear algebra tools.

Mechanical Engineering changes presented by Dr. Ostergren include the new math course MATH 337 and additional changes to pre and co requisites to make course sequences easier for students. Dr. Ostergren moved for the following changes. There was no discussion and the motion was approved.

Mechanical Engineering Courses:

In addition to the General Education Core Curriculum (page 87), the following courses are required:

Old MATH 283(3) or MATH 332 (3)

MATH 337 (3)

EXPL 412, Wave Propagation, 3 cr, 3 cl hrs

Old Prerequisites: MATH 335, ES303, ES305 or consent of instructor

Prerequisites: EXPL 311 and MATH 335; or consent of instructor

EXPL 415 Computer Modeling of Detonations, 3 cr, 3 cl hrs

Old Prerequisites: MENG 545; MATH 335; or consent of instructor

Prerequisites: EXPL 412; or EXPL 311 and MENG 421; or consent of instructor

EXPL 418 Shock Physics and Structural Response to Blast, 3 cr, 3 cl hrs

Old Prerequisites: EXPL 412

Prerequisites: EXPL 412; or consent of instructor

MENG 441, Dynamics and Vibrations in Structural Design, 3 cr, 3 cl hrs

Old Prerequisites: MATH 335

Prerequisites: MATH 335 and MENG 305. ES 332 is recommended.

MENG 483, Mechatronics, 2 cr hr, 2 cl hr

Old Prerequisites: ES 111; MATH 335; MENG 305

Old Corequisite: MENG 405, 451; EE 341 for EE majors or consent of instructor

Prerequisites: MENG 352L, MENG 405/MENG405L and MENG 441; or consent of instructor.

Corequisite: MENG 451; or consent of instructor.

Electrical Engineering chair, Dr. K. Wedeward moved for the following changes to pre and co-requisites. There was no discussion and the motion passed

Proposed changes to Department of Electrical Engineering's undergraduate courses/catalog

EE 212, 212L, Circuits and Signals II, 4 cr, 3 cl hrs, 3 lab hrs

Prerequisites: EE 211; EE 101 or junior standing

Corequisites: EE 212 and 212L are corequisites of each other.

Normally offered spring semester

Continuation of EE 211, Laplace transform techniques, transient response, steady-state sinusoidal response, and frequency response of RLC circuits.

EE 231, 231L, Digital Electronics, 4 cr, 3 cl hrs, 3 lab hrs

Prerequisites: EE 101 and 101L

Corequisites: CSE 113 or ES 111,; EE 231 and 231L are corequisites of each other.

Normally offered fall semester

Foundation of combinational digital system analysis and design; including Boolean algebra, logic gates, and truth tables. Sequential digital design via finite state machines. Lab provides exposure to computer-aided design software and programmable logic hardware.

EE 321, 321L, Analog Electronics, 4 cr, 3 cl hrs, 3 lab hrs

Prerequisites: EE 212 and 212L; PHYS 122

Corequisites: EE 321 and 321L are corequisites of each other.

Normally offered fall semester

Basic principles and use of operational amplifiers, diodes, field-effect transistors, and bipolar junction transistors in electronic circuits.

EE 322, 322L, Advanced Electronics, 4 cr, 3 cl hrs, 3 lab hrs

Prerequisites: EE 231 and 231L, EE 321 and 321L, and 341

Corequisites: EE 322 and 322L are corequisites of each other.

Applications in analog electronics. Topics include timing and switching circuits, power supply techniques, active filters, switched capacitor circuits, oscillators, and phase-locked loops.

EE 333, Electricity and Magnetism, 3 cr, 3 cl hrs

Prerequisites: MATH 332; PHYS 122

Corequisite: MATH 332

Electric and magnetic fields in free space and in matter. Energy storage as a function of field quantities and the relation of this to capacitance and inductance. Maxwell's equations applied to simple electrostatic and magnetostatic problems, plane waves, and transmission lines. Transient and sinusoidal steady state solutions of uniform transmission line problems modeled in terms of circuit parameters.

Dr. Gerity moved for the following changes to the **Engineering Science** curriculum. There was no discussion and the motion passed.

ES 405L, Instrumentation, Measurement, and Process Control Laboratory, 1 cr, 3 lab hrs

Old Prerequisites: ES111; MATH 335

Prerequisites: ES 111; PHYS 122

Biology department chair, Dr. S. Rogelj moved for the following changes. There was no discussion and the motion passed.

DELETED:

BIOL 102, Issues in Medical Practices, 1 cr, 1 cl hr Graded S/U

Discussion of social, political, legal, and economic issues encountered by individuals in health care professions.

WORDING CHANGED:

BIOL 311, 311L, Genetics, 3–4 cr, 3 cl hrs, 3 lab hrs

Prerequisites: BIOL 111 & 111L; concurrent enrollment in 311R highly recommended

An overview of the storage, transmission and expression of biological information. The lab emphasizes Mendelian analysis in model organisms and fluorescent analysis of human DNA.

BIOL 311R, Genetics Recitation, 1 cr, 1cl hrs

Corequisite: Biol 311

Emphases on problem solving skills in genetics. Highly recommended corequisite for the Genetics lecture course BIOL 311.

b. **Curriculum Changes – Graduate Council September 2011** –
Civil & Environmental Engineering Program Changes, Dr. Gerity moved for the following curriculum changes to the Graduate courses. There was no discussion and the motion passed.

New Cross-Listed Course Descriptions

ENVE 513, Fundamentals of Air Pollution Engineering, 4 cr, 3 cl, 3 lab hrs

Prerequisites: ES 216 and 350; or consent of instructor

Sources, behavior, and fate of gaseous and particulate air pollutants. Principles of meteorology and atmospheric diffusion in relation to modeling pollutant transport and dispersion. Design of air pollution control equipment for removal of gases and particles from air streams. Unit operations examined include cyclones, electrostatic precipitators, fabric filters, wet scrubbers, incinerators, biofiltration, adsorbers, and absorbers. In the laboratory section, students will develop an air permit, and complete projects using dispersion modeling and air pollution engineering software. Graduate students complete an additional project and a classroom presentation. Graduate work is graded separately. Lectures are shared with ENVE 413.

CE 518, Structural Dynamics, 3 cr, 3 cl hrs Prerequisites: Math 335 and CE 302 or consent of instructor

Fundamentals of structural dynamics. Analysis of single and multidegree-of-freedom structures subjected to various types of vibrations. Topics covered will include structural responses to free, harmonic and periodic excitations, step and pulse excitations, and earthquake loads. Graduate students complete an additional project and a classroom presentation. Graduate work is graded separately.

Lectures are shared with CE 418. ENVE 523, Open Channel Hydraulics, 3 cr, 3 cl hrs Prerequisites: ES 216; or consent of instructor

Conservation laws for transient flow in open channels. Analysis of simple waves, hydraulic jumps, non-reflective boundary conditions, dam-breaks, overland flows. Prediction and mitigation of flood waves. Graduate students complete an additional project and a classroom presentation. Graduate work is graded separately. Lectures are shared with CE 423.

Mechanical Engineering Program Changes, Dr. Ostergren made the motion to make program changes on Graduate/Faculty Seminars to better align pre-requisites and also added two elective courses to the program. There was no discussion and the motion passed.

Mechanical Engineering Courses:

Old MENG 585, Graduate Seminar—Mechatronics, 2 cr

MENG 585, Graduate-Faculty Seminar, 1 cr

Students must take MENG 585 each semester offered if the student is in residence. Distance education students are required to take two semesters of MENG 585. Only one credit of MENG 585 may be used to fulfill degree requirements.

Specialization in Explosives Engineering MENG 545, Introduction to Explosives Engineering, 3 cr, 3 cl hrs

Old Prerequisites: CHEM 122 and 122L; PHYS 122 and 122L; ES 111 or CS111; ES347

or ES350; or consent of instructor

Prerequisites: ES 216, ES 302 and ES 347; or consent of instructor

MENG 546, Detonation Theory, 3 cr, 3 cl hrs

Old Prerequisites: MENG 545; MATH 335; or consent of instructor

Prerequisites: MENG 549; or consent of instructor. MENG 556 is recommended.

MENG 549, Wave Propagation, 3 cr, 3 cl hrs

Old Prerequisites: MATH 335 or consent of instructor

Prerequisites: MENG 545 and MATH 335; or consent of instructor

MENG 550, Advanced Explosives Engineering, 3 cr, 3cl hrs

Old Prerequisites: EM 545; MATH 335; or consent of instructor

Prerequisites: MENG 549; or consent of instructor

MENG 553, Computer Modeling of Detonations, 3 cr, 3 cl hrs

Old Prerequisites: MENG 545 or consent of instructor

Prerequisites: MENG 549; or consent of instructor. MENG 517 is recommended.

MENG 586, Advanced Topics in Engineering Science, 2 - 3 cr each semester

Old Prerequisites: MENG 545; or consent of instructor

Prerequisites: MENG 549; or consent of instructor

Specialization in Solid Mechanics

Add as Elective Courses - MATE 531, Fundamentals in Manufacturing Processes of

Materials and MATE 560, Failure Analysis

Petroleum Engineering – The item from the Graduate Council will be tabled.

The department proposes to offer a Graduate Certificate in Petroleum Engineering that is intended to supplement a course of study for the student who possesses an engineering degree other than petroleum engineering, but who desires to broaden their knowledge in the petroleum engineering field, or to a practicing engineer who desires to enhance their depth in petroleum engineering. The successful student will complete a minimum of 18 hours of coursework. The course requirements are:

Six credit hours of senior-level petroleum engineering coursework excluding PET 471, 472

Three credit hours of senior or graduate-level course work outside of petroleum engineering.

Nine credit hours of graduate-level petroleum engineering coursework.

Materials Science and Engineering, BS/MS Program, Dr. Majumdar moved for the following changes to the BS to MS in Materials Engineering. There was no discussion and the motion passed.

New Version

Combined Five Year Bachelor of Science /Master of Science Degree Program

The combined degrees of a MS in Materials Engineering (either Thesis or Independent Study Option) along with a BS in Materials Engineering or affiliated field may be achieved in five years. For students in MATE or METE BS programs, a minimum of 158 credit hours are required to complete the combined (BS+MS) degree. For students in affiliated BS programs, there are commensurate requirements. To be considered for this program, students typically apply at the end of their sophomore year. Admission is contingent upon their having a 3.0 GPA and the acceptance of their proposed course of study. Students with upper division standing may apply, but admittance into the program will be conditional. Students in the 5-year program must apply for graduate standing, normally in their 6th semester. Graduate admission will be contingent upon adherence to the approved program of study and a 3.0 minimum overall cumulative GPA. Graduate status will be granted upon fulfillment of the requirements for the BS degree.

Older Version

Five Year Bachelor/Master Degree Program

The degrees of MS and BS in Materials Engineering may be achieved in five years by fulfilling the requirements for a BS degree and a MS degree in the following year upon satisfying the requirements for either the Thesis or Independent Study Option. A minimum of 161 credit hours are required to complete both degrees. To be considered for this program students typically apply at the end of their sophomore year. Admission is contingent upon their having a 3.0 GPA and the acceptability of their proposed course of study. Students with upper division standing may apply but acceptance will be conditional. Students in the 5-year program must apply for graduate standing, normally in their 6th semester. Graduate admission will be contingent upon adherence to the approved program of study and a 3.0 minimum overall cumulative GPA. Graduate status will be granted upon fulfillment of the requirements for the BS degree.

NOTE: Other 5 year degree programs:

Degree BS hours Combined hours

Biology 130 160

Earth Science 130 158

Env. Eng. 135 161

Hydrology 130 158

Mathematics 130 158

Elec. Eng. 130 158

Mineral Engineering Course Changes, Dr. Gerity moved for the following changes to the Mineral Engineering graduate program to be consistent with the MENG Courses. Dr. Axen seconded the motion. There was no discussion and the motion passed.

Mineral Engineering Course Changes

ME 546, Detonation Theory, 3 cr, 3 cl hrs

Old Prerequisites: MENG 545; MATH 335; or consent of instructor

Prerequisites: MENG 549 or ME 549; or consent of instructor.

MENG is recommended

ME 549, Wave Propagation, 3 cr, 3 cl hrs

Old Prerequisites: MATH 335 or consent of instructor

Prerequisites: MENG 545 or ME 549 and MATH 335; or consent of instructor
ME 550, Advanced Explosives Engineering, 3 cr, 3 cl hrs
Old Prerequisites: EM 545; MATH 335; or consent of instructor
Prerequisites: MENG 549 or ME 549; or consent of instructor
ME 553, Computer Modeling of Detonations, 3 cr, 3 cl hrs
Old Prerequisites: MENG 545 or consent of instructor
Prerequisites: MENG 549 or ME 549; or consent of instructor.
MENG or ME 517 is recommended.

Master of Science in Hydrology Seminar, Dr. G. Axen moved for the following changes. The discussion was for clarification. The motion was approved.

Catalog changes related to HYD 593 (additions are underlined):

Master of Science in Hydrology

The Master of Science degree in Hydrology requires completion of a thesis according to the general requirements of the Graduate Program.

The student's course of study must be approved by the advisory committee and must fulfill the general requirement for the master's degree and must include:

ERTH 440, HYD 507, 508, 510, 547

Six credits from the following:

ERTH 441, EARTH 442, EARTH 443, HYD 531, HYD 532, HYD 533, HYD 541, HYD 542, HYD 543, HYD 544 HYD 591 (at least six credit hours)

HYD 592 (two credit hours) and HYD 593 (four credit hours).

ERTH 202 or equivalent

MATH 283 or 382 or equivalent

At least three additional graduate – level course credits approved by the advisory committee Note that credits earned in HYD 592 and 593 may not be applied toward the 30 credits required for the M.S. degree.

Science with Dissertation in Hydrology

Students of exceptional ability as demonstrated in previous courses or in a master's degree program may pursue a program leading to the doctoral degree. The prospective doctoral candidate in Earth and Environmental Science with Specialization in Hydrology should develop a good background in physics, mathematics, chemistry, and geology in addition to achieving a high level of competence in the field of specialization. With approval of the advisory committee, the student should select a program including a minimum of nine credits in graduate hydrology beyond the M.S. degree, three credits of HYD 592, six credits of HYD 593, plus additional courses in related fields. Some appropriate courses are given under the Master of Science degree requirements. Research fields appropriate for the doctoral candidate include regional hydrology, groundwater recharge, vadose zone hydrology, stochastic subsurface hydrology, hydrogeochemistry, isotope hydrology, hydroclimatology, pollutant transport, aquifer restoration, multi-phase flow of immiscible fluids, deterministic and stochastic numerical aquifer simulation, finite difference and finite element numerical methods, and field instrumentation. Interdisciplinary programs in the Earth science fields are encouraged.

HYD 593, Seminar, 1 cr, 1 cl hr

Prerequisite: Graduate standing

Offered fall and spring semesters

Seminar presentations by faculty, students, and outside speakers. Includes both Department and hydrology-specific seminars. Graded on S/U basis. Satisfactory performance consists of regular attendance at approved seminars. Credit earned may not be applied towards the 30 credits required for the M.S. degree.

c. **Curriculum Changes – Graduate Council October 2011 – Earth and Environmental Science** curriculum changes. Dr. Axen moved for the following curriculum changes. There was no discussion and the motion was approved.

GEOC 544, Principles of Isotope Geochemistry, 3 cr, 3 cl hrs

Prerequisites: CHEM 122; EARTH 200; EARTH 203

Offered spring semester

Principles of radiogenic isotope geochemistry and applications to geologic dating and to the petrogenesis of rock suites. Same as EARTH 444, but graded separately with additional graduate-level work.

OLD Version (Oct. 11, 2011)

Master of Science in Geochemistry

The Master of Science degree in Geochemistry may be earned either with thesis or without thesis in accordance with the general requirements of the Graduate Program. The master's candidate must demonstrate competence in chemistry, geology, mathematics, and physics comparable to the requirements for the Bachelor of Science degree in either chemistry, one of the engineering sciences, or one of the geological sciences. A program of study for the master's degree must be approved by the student's advisory committee and must satisfy the general requirements for the degree, including GEOC 590 (at least three credit hours) or GEOC 591 (at least six credit hours). Students must complete two credit hours of GEOC 592, at least four credit hours of GEOC 593 (unless the degree is completed in a shorter time), 12 credit hours in geochemistry, and six credit hours in upper-division or graduate chemistry courses. As part of the degree requirements, students must have completed CHEM 331; EARTH 444; EARTH 380; or their equivalents.

NEW Version (Oct. 20, 2011)

Master of Science in Geochemistry

The Master of Science degree in Geochemistry may be earned either with thesis or without thesis in accordance with the general requirements of the Graduate Program. The master's candidate must demonstrate competence in chemistry, geology, mathematics, and physics comparable to the requirements for the Bachelor of Science degree in either chemistry, one of the engineering sciences, or one of the geological sciences. A program of study for the master's degree must be approved by the student's advisory committee and must satisfy the general requirements for the degree, including GEOC 590 (at least three credit hours) or GEOC 591 (at least six credit hours). Students must complete two credit hours of GEOC 592, at least four credit hours of GEOC 593 (unless the degree is completed in a shorter time), 12 credit hours in geochemistry (which can also include EARTH 390), and six credit hours in upper-division or graduate chemistry courses. As part of the degree requirements, students must also have completed CHEM 331 and EARTH 200, or their equivalents.

Biology Dr. Rogelj moved for the following changes to the curriculum. There was no discussion and the motion was approved.

BIOL 542, Advanced Microbiology, 3 cr, 3 cl hrs

Prerequisite: BIOL 341 or consent of instructor A study of current topics in structure, function, genetics, and biochemistry of microorganisms, with emphasis on recent scientific literature. Medical and environmental topics will be covered.

Physics – change to minor terminology for course requirements. Dr. S. Sessions moved for the following catalogue changes. This minor is for both the MS and PhD level. There was no discussion and the motion was approved.

Graduate Minor in Physics:

A student seeking a graduate minor in physics must complete at least 6 hours from the following: PHYS 505, PHYS 508, PHYS 513, PHYS 514, PHYS 515, PHYS 516, or PHYS 526. The remaining physics courses must be graded, at least 300 level or above, and be approved by the minor advisor. A total of 12 credit hours in physics (minimum 6 hours at the 500 level) are required for a minor at the master's level, and 18 hours (minimum 12 hours at the 500 level) for the doctorate level minor.

6. At 5:17pm, the chair received multiple motions to adjourn.

Respectfully submitted,
Cathi VanFleet