NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

MEETING OF THE FACULTY SENATE
Tuesday, February 2, 2010
4:00 PM
Workman 101
MINUTES

1. Call to order. Dr. Stone called the meeting to order at 4:03 p.m.

2. Approval of the minutes of November 3, 2009. A motion was made by Dr. Cormack and seconded by Dr. Borchers to approve the minutes of December 1, 2009. There was no discussion and the motion passed.

3. Announcements.

   Dr. Zeman recognized the new Student Association President, Robert Blakney as a new member of the Faculty Senate.

   After speaking to Dr. Lopez, Dr. Zeman gave a brief update on the Legislative Session. He predicted that we will have a 4 to 5% budget cut for next fiscal year, and does not anticipate any further cuts from this year's budget. Dr. Lopez reported that this has been the hardest session that he has ever experienced.

   On enrollment, we are down by five students for undergraduates and down by 9 on graduate students. This is in comparison to last spring. Fall to spring, retention remains at 92%.

   Dr. Zeman announced deadlines for this semester:

   PARs were due on February 1st.

   DARs and FMFs are all due into Academic Affairs on March 1st.

   Annual Tenure Reviews are due on February 15th.

   Dr. Zeman encouraged all departments to work with Tom Engler in getting the ABET material on the core curriculum courses. If anyone has questions, please contact Dr. Engler.

   Dr. Dezember announced the name change for the Humanities Department to the Communications, Liberal Arts, Social Science (CLASS) Department which reflects their department better. She also invited everyone to stop by and see their new TC lab in Fitch Hall. She also invited everyone to the 2010 Rocky Mountain Modern Language Association (RMMLA) Convention, October 14-16, 2010 at the Hotel Albuquerque which UNM and New Mexico Tech are both hosting. For more information on the convention, please contact Dr. Dezember.

4. Committee Reports.

   Honorary Degree and Awards Committee –

   Dr. Reiss presented a nomination by Dr. Scott Teare for an honorary degree for Stanley Bryn, President of Intor, Inc., a local business. The nomination and resume was posted on the Academic Affairs website for review. Dr. Fuierer and Dr. Reinow also spoke on behalf of the nomination. The motion unanimously passed.

Space and Utilization Committee –

Dr. Hirschfeld reported that the committee's goal is to assist the administration on how space is assigned and used and they are scheduled to meet with Facilities Management.

5. New Business.

Dr. Zeman moved for adoption of the December 2009 graduation list as distributed. Dr. Cormack seconded the motion. A question was raised and answered on a Hydrology degree. A clarification was made on the naming of the specialization for a Mathematics Degree. The editorial change was made and the motion passed.

Dr. Stone brought up the discussion of NMT e-mail addresses needed for all current students. Many students do not use their Tech addresses and use yahoo, gmail, etc. Official Tech correspondence needs to be mailed to Tech addresses. Students can forward to their other address if they so desire. Recommendations were made from previous committees to maintain that all students use their Tech addresses but no official action has been taken. Dr. Stone proposed that the Computing on Campus Committee review the issue with Mike Topliff and Joe Franklin.

6. Adjournment.

The meeting adjourned at 4:40 p.m.

Respectfully submitted,

Debby Olguin

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

MEETING OF THE FACULTY SENATE
Tuesday, April 6, 2010
4:00 PM
Workman 101
MINUTES

4. Call to order. Dr. Stone called the meeting to order at 4:04 p.m.

5. Approval of the minutes of February 2, 2010. Dr. Johnson moved to approve the minutes, followed by a second from Dr. Borchers. There was no discussion and the motion passed.

3. Announcements.

- Dr. Gerity reported that academic contracts will be sent out on April 15th. Promotions will receive the normal increase this year, as he was able to find the money to cover it. Dr. Gerity also reported that the summer course offering selection was completed today, and that departments would be notified. He will be meeting with each department chair regarding fall part-time requests. It looks as if we will not need to make any additional budget cuts this year, but we will need to maintain this same level of spending until we know the projections for next year.

-Dr. Gerity announced that because of all the construction around Brown Hall, commencement this year will be moved to the golf course, behind Macey Center. It will begin at 9:00 a.m. instead of 10:00 a.m. Please get this information to your faculty and students. Dr. Lara-Martinez has been chosen to do the Proem this year.

-President López gave a brief report on our budget. He reported that out of a cut of $26M for higher education, $24M was cut from the four-year schools and only $2M from the two-year schools. He is hoping to avoid cutting any positions but worries about 2011 and 2012. There is one bright spot in that we are getting 1.2M in stimulus dollars. Despite the bleak forecast, we are in better shape than a number of universities where programs are being cut. Dr. López did mention that he was able to come up with wish list funds but warned everyone not to confuse it with operational funds. He is predicting an approximate 8% tuition increase for next year.

-Dr. Samuels announced that the MST Program is seeking advisors. Advisors will be paid $150/per credit hour for directed studies. Anyone interested is encouraged to contact George Becker.

-Ms. Stoddard announced that there is a Behavior Intervention Team that students or faculty can contact during this stressful time of preparing for finals and such. Members of the committee are Elaine DeBrine-Howell, Lorie Borden, and Billy Romero.

-Dr. Stavely gave a report on a new venture called New Mexico Tech Press. The goal is to publish textbooks as cheaply as possible. They are asking for volunteers of faculty and staff. They want to run this as a non-profit organization similar to Club Macey. For additional information or if you'd like to volunteer, please contact Dr. Stavely at al@nmt.edu, and other organizers: Drs. Bonnekessen, Hirschfeld, Holson, Stone and Stuteville.

-Dr. Zeman made an announcement on behalf of the Registrar reporting that alternate pins were sent out yesterday to all faculty.

-Dr. Dezember invited everyone to meet poet and author Willis Barnstone who is making a special appearance at New Mexico Tech on Monday, April 12 at 7:00 p.m. in the Tripp Room at the Skeen Library to celebrate National Poetry Month.

4. New Business.

GRADUATE COUNCIL:

Graduate Degrees for Faculty and Staff
Dr. Johnson moved to remove the following statement from the catalog:

Employees who wish to pursue a degree program should apply for admission to the department desired by using standard forms available online or from the Graduate Office. ~~A candidate for the Ph.D. degree must be registered as a regular full-time graduate student for at least two semesters. During this time the individual will be on leave from the regular position at Tech, but may apply for an assistantship or other form of financial aid.~~ Time limits for degree programs apply.

The motion was seconded by Dr. Samuels and passed.

Engineering Management

Dr. Johnson moved for approval of the following changes. The motion was seconded by Dr. Anselmo and passed.
EMGT 590, Final Project, ~~3 cr, 3 cl hrs~~ cr to be arranged; at least 3 hours required
Prerequisites: EMGT 507
Corequisite: At least one elective sequence course

Each program participant will be required to complete a project to complete the MS MEM degree. This project, which will be supervised by at least two New Mexico Tech faculty members, is open-ended with regard to context and scope. Workplace applications are preferred, but any effort that is formally designed, carried out, and analyzed will be considered. Each project will be accompanied by a formal report that will be presented to a diverse audience in a formal setting.

Dr. Johnson requested approval on the following Mechanical Engineering curriculum changes.
Mechanical Engineering
Elimination of Specialization in Advanced Mechanics
Adoption of Specializations in:
Fluid and Thermal Sciences (see following pages)
Solid Mechanics (see following pages)

Adoption of:
Specialization in Fluid and Thermal Sciences

The Master of Science in Mechanical Engineering with Specialization in Fluid and Thermal Sciences may be earned with or without thesis. The student must have a B.S. degree in an engineering or science discipline as a prerequisite for this program. The synergy of this program suggests the accommodation of a wide variety of students (from computer science, mechanical

engineering, petroleum engineering, chemical engineering, etc.) to this specialization; hence, the study program may be designed to accommodate each student's academic background.

Requirements

A minimum of 30 credit hours is required for the Master of Science in Mechanical Engineering with Specialization in Fluid and Thermal Sciences.

• Core Classes—at least 12 credit hours from the following:

MENG 575, Advanced Engineering Mathematics; MENG 577, Advanced Fluid Mechanics; MENG 578, Advanced Thermodynamics; MENG 579, Advanced Heat Transfer.

5. Elective Courses — at least 6 credit hours from the following: MENG 541, Vibrations in Elastic Continuum; MENG 556, Compressible Fluid Flow; MENG 557, Two Phase Flow; MENG 558, Non Newtonian Fluid Mechanics; MENG 559, Theory and Design of Internal Combustion Engines; MENG 560, Principles of Combustion; MENG 580, Computational Fluid Dynamics and Reactive Flow; MENG 504, Advanced Mechanics of Materials; MENG 515, Theory of Elasticity; MENG 517, Advanced Finite Element Analysis; MENG 589, Impact Dynamics.

6. Courses Outside of the Department — at least 6 credit hours of approved upper division or graduate course work from another department. The advisory committee may determine that a student's previous academic experience has provided breadth and may recommend modification of this requirement.

7. MENG 591, Thesis (6 credit hours) or MENG 590, Independent Study (3 credit hours)— A student must prepare and submit a thesis to his/her advisory committee for approval in accordance with the general requirements of the graduate school, or complete an independent study with accompanying report.

And

Specialization in Solid Mechanics

The Master of Science in Mechanical Engineering with Specialization in Solid Mechanics may be earned with or without thesis. The student must have a B.S. degree in an engineering or science discipline as a prerequisite for this program. The synergy of this program suggests the accommodation of a wide variety of students (from computer science, mechanical engineering, civil engineering, industrial engineering, etc.) to this specialization; hence, the study program may be designed to accommodate each student's academic background.

Requirements

A minimum of 30 credit hours is required for the Master of Science in Mechanical Engineering with Specialization in Structural Mechanics.

Core Classes—at least 12 credit hours from the following:

MENG 515, Theory of Elasticity; MENG 516, Plates and Shells; MENG 517/ME 517, Advanced Finite Element Method; MENG 541 Vibration in a Elastic Continuum; MENG 521, Elastic Stability; MENG 504, Advanced Mechanics of Materials; MENG 520, Fracture Mechanics.

Elective Courses — at least 6 credit hours from the following:

MENG 583, Engineering Mechanics of Composite Structures; MATE 516, Biomimetic Materials; MATE 548, Advanced Composite Materials; MENG 549, Wave Propagation; MATE 568, Material Behavior at High Strain Rates; MENG 519, Adaptive Structures; MENG 522, Mechanics of Inelastic Continuum; MATE 530, Design and Analysis of Experiments; MENG 523, Engineering Mechanics of Cellular Structure; MENG 524, Continuum Mechanics.

Courses Outside of the Department — at least 6 credit hours of approved upper division or graduate course work from another department. The advisory committee may determine that a

student's previous academic experience has provided breadth and may recommend modification of this requirement.

MENG 591, Thesis (6 credit hours) or MENG 590, Independent Study (3 credit hours)— A student must prepare and submit a thesis to his/her advisory committee for approval in accordance with the general requirements of the graduate school, or complete an independent study with accompanying report.

The motion was seconded and passed.

COUNCIL OF CHAIRS:

Dr. Gerity thanked Dr. Bonnekessen and the Search Committee for the successful search for the Library Director. They brought three great candidates to campus, and they have hired Dr. Lisa Beinoff.. She will start on June 1, 2010.

Academic Standards and Admissions Committee
Proposed Catalog Changes

The following are four proposed catalog changes, recommended by the Academic Standards and Admissions committee: Michael Pullin – Chemistry, Brian Borchers – Mathematics, William Chavez – Mineral Engineering, Paul Arendt – Physics, Scott Zeman – Humanities and Academic Affairs, Elaine DeBrine Howell – Center for Student Success, Annette Kaus – Financial Aid, Sara Grijalva – Registrar, and Mike Kloeppel – Admissions

On behalf of the Academic Standards and Admissions Committee, Dr. Borchers presented the following changes:
Deletions are ~~strikethrough~~, Additions are <u>underlined.</u> All page numbers refer to the 2009-2011 catalog.

Change #1 From Page 82:

Honor Roll An Honor Roll of all students who successfully complete at least ~~13~~ <u>12</u> credit hours with a grade-point average of 3.0 or better is released at the end of the each semester. At least 6 of those credit hours must have received letter grades.

Rationale: A student taking 12 credits is classified as a "full-time regular student" (page 64). Students taking 13 credits of easy courses are eligible for the honor roll, while students taking 12 credits of hard classes are not. Why does a student have to take 13 credits to qualify for the honor roll?
The motion was seconded and approved unanimously.

Dr. Borchers moved for adoption on the following changes for Tech Scholars. The motion was seconded.

Change #2 From Page 82:

Tech Scholars
Any student having demonstrated superior scholastic competence and c<u>onduct may be</u> named a "Tech Scholar" upon the recommendation of the advisor <u>or major department chair</u> and the approval of the Vice President for Academic Affairs. The student must <u>normally</u> have completed ~~65~~ <u>30</u> or more <u>letter graded</u> credit hours at NM Tech and achieved a cumulative GPA of 3.5 or

better at Tech. A heavier than normal course load and employment hours will be taken into consideration. "Tech Scholar" status will remain in effect until the student graduates, but will be revoked if the student's cumulative GPA falls below 3.0. In recognition of scholarly competence, the NM Tech Scholar may: register early at preregistration. The designation of "Tech Scholar" will also be added to the student's transcript and he or she will be recognized at graduation.

~~7. register for courses without the required prerequisites when the student, the advisor, and the instructor agree that sufficient achievement is likely to be made;~~

~~8. obtain a passing grade of a higher course in a sequence and thus waive the lower course degree requirement (with departmental approval) where the lower course is a prerequisite for the higher course (no credit shall be given for the waived lower course);~~

~~9. request a grade of S (satisfactory) or U (unsatisfactory) in such a course, rather than the usual letter grade (this request must be received by the instructor in writing by the 12th week of the semester; the grades of S and U shall not be counted in the GPA)~~

~~10. register for graduate courses on the same basis as outlined above;~~

~~11. register early at preregistration.~~

Rationale: Transfer students may not accumulate 65 credits at NMT before they graduate. Additionally, the major advantage of being a Tech Scholar, the ability to preregister early, is most useful to students who have earned fewer credit hours. The current Tech Scholar designation does not specify if the honor expires each semester. The change above clarifies this issue. The current Tech Scholar designation only requires a high GPA, but not good conduct. Sometimes, students who are eligible are not nominated because their advisors are not aware of their eligibility. Allowing Department Chairs to nominate will elevate this duty to a departmental responsibility and allow for advisor sabbaticals and absences. Finally, most of the listed rewards for this achievement are those that are available to all NMT students. Thus, we have deleted all of them from the catalog, except early pre-registration. Instead, we will include the award on the student's transcript and recognize them at graduation.

The motion was approved.

Again, Dr. Borchers presented the following change which includes one minor change (corrected version shown below):

Change #3 From Page 67:

Withdrawing from a Course

(See also Withdrawal without Prejudice, page 69.)

You may withdraw and receive the grade of "W" from a course until the tenth week during the fall or spring semester (or the fifth week in the summer session). Talking with your instructor and advisor about your progress at midterm will help you make this decision. Other options include:

• Change to Satisfactory/Unsatisfactory (S/U), which will not affect your GPA. ~~(This option is only available for students who have successfully completed 30 or more credit hours.)~~ (See page ~~68~~ 68 for more information on S/U grading.)

• Change to Audit. (See page ~~70~~ 77 for information on ~~both S/U and~~ audit grades.) You are required to file the appropriate form with the Office of the Registrar in order to withdraw from a course or change to S/U or Audit.

From page 68:

Satisfactory/Unsatisfactory (S/U)

~~After completing 30 credit hours, a~~Any student in good standing may take up to a total of 18-credit hours on an S/U basis in undergraduate courses not normally graded S/U, with a limit of 7 credits in any one semester. (Transfer credits from other institutions are not included in the 18 hour maximum.) Courses may not be taken in this manner without consent of the course instructor, the student's academic advisor, and the student's major department and the department in which the course is taken. Approval for the S/U grade basis must be obtained within the first ten weeks of classes. Decisions made at that time for either letter grade or S/U grade evaluation

may not be subsequently changed. Students who receive a grade of S will receive credit for the course. Students who receive a grade of U will not receive credit for the course. ~~Special students must have successfully completed 30 or more credit hours to register for courses on S/U basis unless the course is offered S/U only.~~

Rationale – Since an S grade is currently defined as a C- in the catalog and approval to change to S/U is required, the ASAC sees no purpose to forbidding freshman to take a graded class on a S/U basis. The ability to change a graded class to S/U status may allow freshmen the ability to choose this status to avoid losing eligibility for scholarships. On the other hand, there is currently no limit to the number of S/U credits taken in graded classes per semester. The ASAC feels that a 7 credit per semester limit on this practice is reasonable. According to the catalog, instructor approval is not currently needed. However, the registrar's office requires it on their form. These changes fix this contradiction. The ASAC also feels it's important that the student's academic advisor and major department approve of S/U grading. The above changes also fix several page referencing errors.

The motion was seconded and after some discussion passed.

Discussion was held on the above three changes. The committee had done a thorough job on researching each of the possible issues and could answer all of the questions the Faculty Senate raised. Question was raised on what was known about retention and admission standards and it was noted that three different studies had been done in the past with no useful predictor ever achieved.

Dr. Borchers also briefly discussed the pre-requisites and co-requisites proposal change and asked that each department review them. It is the committee's wish to make them uniform across Tech. The committee asks for input and will bring this forward once all input has been reviewed.

Bachelor of General Studies Degree

Dr. Dezember moved for adoption of the following proposal:

The General Studies Degree Review Committee is bringing to the Council of Chairs the following changes to the Bachelor of General Studies and the Associate of General Studies degrees:

<u>Background Information:</u>

Academic Affairs created the General Studies Degree Review Committee with the purpose of reviewing and making recommendations concerning the Bachelor of General Studies degree and the Associate of General Studies degree.

The committee met, and we concur that alignment with New Mexico Higher Education Department state requirements for a General Education Core Curriculum for the Bachelor degree and alignment within an academic department for both the Bachelor of General Studies and the Associate of General Studies are necessary. By making these changes, New Mexico Tech will be following requirements set by the New Mexico Higher Education Department and guidelines and stipulations from the Higher Learning Commission website and Handbook of Accreditation, and all degrees from our institution will then be following accreditation standards and state requirements.

<u>Recommendations:</u>

1. The Bachelor of General Studies degree have the following NMHED General Education Core Curriculum requirements. (See Recommendation #3 for how these requirements would appear in the catalog.)

Area I: Communications 9 cr hrs

Area II: Mathematics 3 cr hrs

Area III: Laboratory Sciences 8 cr hrs

Area IV: Social Sciences 6 - 9 cr hrs

Area V: Humanities 6 - 9 cr hrs

2. The Bachelor of General Studies degree and the Associate of General Studies degree be administered by the Department of Communication, Liberal Arts, Social Sciences (CLASS).

3. Wording to appear in the catalog:

GENERAL STUDIES

Department of Communication, Liberal Arts, Social Sciences (CLASS)
Degrees Offered: Associate of General Studies
Bachelor of General Studies

Associate of General Studies (AGS)

A two-year certificate, Associate of General Studies, may be awarded after completion of 65 credit hours of course work approved by the CLASS department chair and the student's AGS academic advisor with a grade-point average of 2.0 or above. Fulfillment of the Institution's residence credit requirement (30 credit hours) must also be met.

To be admitted into the program for this degree, the candidate must meet with the CLASS department chair and the AGS academic advisor, who will be assigned by the CLASS department chair, to create an AGS Academic Career Plan that will be on file with the Registrar. Any changes to this AGS Academic Career Plan must be approved by the CLASS department chair and the student's AGS academic advisor; these changes will be on file with the Registrar. The certificate will be awarded only after completion of the above requirements and completion of the AGS Academic Career Plan and after petition to the Vice President for Academic Affairs.

Bachelor of General Studies (BGS)

This degree allows a student to plan a program of courses according to individual educational goals and career plans. The Bachelor of General Studies degree will be awarded after completion of 130 credit hours with a grade-point average of 2.0 or more. Other requirements for this degree include the following:

*Completion of the General Education Core Curriculum listed below; *42 credit hours in courses numbered 300 or above;

*Completion of the BGS Academic Career Plan with a stated Emphasis area or areas;

*Fulfillment of the Institution's residence credit requirement (30 credit hours).

To be admitted into the program for this degree, the candidate must meet with the CLASS department chair and the BGS academic advisor, who will be assigned by the CLASS department chair, to create a BGS Academic Career Plan that will be on file with the Registrar. Any changes to the BGS Academic Career Plan must be approved by the CLASS department chair and the student's BGS academic advisor. These changes will be on file with the Registrar and must be met, along with above-stated requirements, before the degree will be awarded.

General Education Core Curriculum for a Bachelor of General Studies Degree

Area 1: Communications (9 credit hours)

ENGL 111 -- ENGL 111 is waived for students who have a high enough ACT or SAT Score; see page 34. These students must take both ENGL 242 and ENGL 341 to fulfill the required 9 credit hours in this area.
ENGL 112 – *Prerequisite*: ENGL 111 or equivalent course passed with a grade C or better.
ENGL 242 or
ENGL 341 – *Prerequisites*: ENGL 111 and 112 or the equivalent passed with a grade C or better and at least junior standing.

Area 2: Mathematics (3 credit hours)

MATH 101
MATH 103 – *Prerequisites:* ACT Math score of at least 21 or SAT Math score of at least 500 or MATH 101 passed with Grade C- or better.
MATH 104 – *Corequisite:* MATH 103 or ACT Math score of at least 26 or SAT Math score of at least 590 or a score of 20 or higher on the algebra portion of the math placement test.
MATH 105 – *Prerequisites:* Same as for MATH 103.
MATH 131—*Prerequisites*: MATH 103 and 104 or the equivalent passed with grade C- or better; or ACT Math score of at least 30 or SAT Math score of at least 670; or a combined score of at least 34 on the two components of the math placement tests; or MATH 104 and either ACT Math score of at least 26 or SAT Math score of at least 490.

Area 3: Laboratory Sciences (8 credit hours)

Any 100-Level ERTH Course and Lab
BIOL 111 & 111L – *Corequisite*: CHEM 121.
BIOL 112 & 112L – *Prerequisite*: BIOL 111.
CHEM 121 & 121L – *Prerequisite:* MATH 103 or equivalent, passed with grade C or better.
CHEM 122 & 122L – *Prerequisites*: CHEM 121 and 121L
Corequisite: MATH 131
PHYS 121 & 121L – *Corequisite*: MATH 131.

PHYS 122 & 122L – *Corequisite:* MATH 132.
ES 110 & 110L – *Corequisite*: MATH 103.
ES 111 & 111L – *Corequisite*: MATH 131.
CSE 113 – *Corequisite*: MATH 103 or equivalent.

Area 4: Social Sciences (6 credit hours)

Anthropology (ANTH)
Economics (ECON)
Political Science (PS)
Psychology (PSY)
Social Sciences (SS)
Women's and Gender Studies (WGS)

Area 5: Humanities (6 credit hours)

English (ENGL), except 103, 111, 112, 341. If ENGL 242 is used to fulfill credits in Area 1, it cannot also count in Area 5.
Art History (ART)
History (HIST)
Humanities (HUMA)
Music (MUS)
Philosophy (PHIL)
Technical Communication (TC), except TC 321, 420, 422 Theater (THEA)
Foreign Languages (SPAN, FREN, GERM)
Other languages may be counted only if they are listed or approved by the CLASS Department

Area 6: Additional Courses from Area 4 or Area 5 (6 credit hours)

NOTE: Students who plan to pursue a career or graduate studies that require a Bachelor of Science degree are advised to pursue another degree program at New Mexico Tech.

After a great deal of discussion, the motion passed. Dr. Gerity thanked Dr. Cormack for carrying these two programs for the past several years.

Dr. Mazumdar presented the curriculum changes for Computer Science and Information Technology as shown below:

Computer Science - *modify (changes shown in red – CSE 101 ->2 credits and CSE 382 has prereq of CSE 326)*

CSE 101, Introduction to Computer Science and Information Technology, 2 cr, 2 cl hrs
Brief overview of the discipline of computer science and information technology topics including computer architecture, operating systems and networks, automata and models of computation, programming languages and compilers, algorithms, databases, security and information assurance, artificial intelligence, graphics, and social/ethical issues of computing. (Same as IT 101)

CSE 122, Algorithms and Data Structures, 3 cr, 3 cl hrs
Prerequisite: CSE 113

Fundamental data structures including linked lists, trees, hash tables, and graphs. Algorithms for sorting, searching, and other fundamental operations. Introduction to mathematical foundations for analysis of iterative and recursive algorithms and for basic correctness proofs. Analysis of algorithms. Implementation of selected algorithms using sound programming methodologies. (Same as IT 122)

Undergraduate Program
Bachelor of Science in Computer Science
Minimum credit hours required—130

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

- CSE 101 (2), 113 (4), 122 (3), 213 (3), 221 (3), 222 (3), 324 (3), 325 (4), 326 (3), 331 (3), 342 (3), 344 (3), 353 (3), 382 (3), 423 (4)
- MATH 221 (3), 382 (3), 382L (1)
- Breadth Requirement: 3 hours of electives to broaden background from Education, Fine Arts, Humanities, Management, Philosophy, Social Science, or Technical Communication.
- Technical Electives: A sequence of 12 hours of Computer Science and Engineering courses numbered 300 or higher, pre•approved by the student's advisor and the CSE Department Undergraduate Advisor. Students are encouraged to select a coherent set of courses as technical electives that will prepare them for a specific focus in their career.
- Each of the above courses must be completed with a grade of C or better.
- Electives to complete 130 credit hours.

CSE 382, Legal, Ethical,& Social Issues of IT, 3 cr, 3 cl hrs
Prerequisite: CSE 326; or consent ofinstructor

A survey of current legal IT (and general business and management) issues is presented in this course. Also, social and ethical issues associated with IT and management of secure information systems are surveyed and discussed. (Same as IT 382)

Information Technology - *modify (changes shown in red – IT101 ->2 credits and IT382 has prereq of IT326)*

IT 101, Introduction to Computer Science and Information Technology, 2 cr, 2 cl hrs

Brief overview of the discipline of computer science and information technology topics including computer architecture, operating systems and networks, automata and models of computation, programming languages and compilers, algorithms, databases, security and information assurance, artificial intelligence, graphics, and social/ethical issues of computing. (Same as CSE 101)

IT 122, Algorithms and Data Structures, 3 cr, 3 cl hrs
Prerequisite: IT 113

Fundamental data structures including linked lists, trees, hash tables, and graphs. Algorithms for sorting, searching, and other fundamental operations. Introduction to mathematical foundations for analysis of iterative and recursive algorithms and for basic correctness proofs. Analysis of algorithms. Implementation of selected algorithms using sound programming methodologies. (Same as CSE 122)

Undergraduate Program

Bachelor of Science in Information Technology
Minimum credit hours required—130

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

- CSE 222 (3)
- IT 101(2), 113 (4), 122 (3), 213 (3), 221 (3), 263 (3), 311 (3), 321 (3), 326 (3), 351 (3), 373 (3), 382 (3), 481 (3), 482 (3)
- MATH 221 (3), 283 (3)
- PSY 121 (3) (can be applied as a social science course in the general education core curriculum)
- Technical Electives: a sequence of 12 hours of computer science, information technology, or management courses numbered 300 or higher must be *pre-approved* by the student's advisor and an IT Program Coordinator. Students are encouraged to select a coherent set of courses as technical electives that will prepare them for a specific focus in their career.
- Each of the above courses must be completed with a grade of C or better.
- Electives to complete 130 credit hours.

IT 382, Legal, Ethical,& Social Issues of IT, 3 cr, 3 cl hrs
Prerequisite: IT326; or consent ofinstructor

A survey of current legal IT (and general business and management) issues is presented in this course. Also, social and ethical issues associated with IT and management of secure information systems are surveyed and discussed. (Same as CSE 382)

The motion was seconded. Question was asked if this requirement added an additional credit, and Dr. Mazumdar answered yes. The motion passed.

Management Changes
Dr. Anselmo moved for adoption of the following curriculum changes:

NOW:
ECON 251. Principles of Macroeconomics.
Macroeconomic theory and public policy. National income concepts, unemployment, inflation, balance of international trade problems and problems related to economic growth.

CHANGE TO:
ECON 251. Principles of Macroeconomics.
Macroeconomic theory and policy analysis. Economic aggregates; fiscal and monetary policy; productivity and economic growth; banking system; national debt. Policy innovation: crisis and response; Keynesian, monetarist and supply-side models. Free trade, protectionist and mercantilist strategies. Exchange rate systems and macroeconomic management.

NOW:
ECON 252. Principles of Microeconomics.
Microeconomic theory and public policy. Supply and demand, theory of the firm, market allocation of resources, income distribution, competition and monopoly, government regulation and unions.

CHANGE TO:
ECON 252. Principles of Microeconomics.

Microeconomic theory and applications. Market allocation of resources; supply and demand; theory of marginal analysis; market types; market failure; regulation and antitrust; economic growth and innovation; business finance; economic globalization; and cultures of capitalism.

The motion was seconded and passed unanimously.

Dr. Gerity briefly reported that Dr. Cal had made a proposal to the Council of Chairs to streamline course adoptions as described in the Council of Chair Minutes of March 24, 2010. Those changes were tabled but Dr. Gerity suggests that faculty review his proposal and send comments directly to Dr. Cal.

A motion was made and seconded to adjourn. The meeting adjourned at 5:05 p.m.

Respectfully submitted,

Debby Olguin

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

MEETING OF THE FACULTY SENATE
Friday, May 14, 2010
10:00 AM
Workman 101
MINUTES

6. Call to order. Dr. Stone called the meeting to order at 10:00 a.m. It was moved and seconded that the order of agenda items be changed.

7. Approval of May 2010 graduates was move to the first item. There was no discussion and motion passed.

   The final May 2010 graduates list, as provided by the Registrar, was approved without discussion.

8. Honorary Degrees and Awards Committee - Chair, R. Reiss moved to address the awards as the next agenda item. It was seconded and approved.

   a. LANGMUIR Award nominee

   Dr. Reiss presented the name of Premchendar Nandhikonda for co-author of the paper, Discovery of dual fluorescent 1,8-naphthalimide dyes based on balanced seesaw photophysical model, advisor, M. Heagy. Reiss moved to award the Langmuir Award. It was 2nd. The motion was approved.

   b. BROWN Award – A call was made for the reading of the criteria. Dr. Reiss addressed this and called for nominations. Six under graduate names were nominated and 2nded. Strong support for all six students was presented.

   Kaoutar "CoCo" Abbou Oucheruf was selected by majority vote. In addition to her academic achievements, she served as president of the AICHE NMT Chapter, she won a prestigious internship at the Swiss Federal Institute of Technology in Zurich and received the Macey Scholarship. She is pursuing her doctorate at Purdue University.

   c. FOUNDERS Award – Outstanding contribution to NMT- three names were presented for consideration. All three had strong support.

   Premchendar Nandhikonda was selected by majority vote for his contribution as a representative to the American Chemical Society conferences, volunteered and ran fundraising effort for the Socorro Cooperative Nursery, supported other students in the Chemistry department.

   d. CRAMER Award – Dr. Inal presented the names selected by the Engineering Faculty: Catlin Allen, and Clay Beevers, both Chemical Engineering majors.

8. Approval of the minutes of April 6, 2010. Dr. Johnson moved to approve the minutes. It was seconded. There was no discussion and the motion passed.

6. Announcements.

   a. Dr. Sonnenfeld – AAUP is lowering their rates – He sited a trend where tenure status is under attack. Dr. Sonnenfeld recommends younger faculty join, noting the fee rate is sliding based on income.

B. Dr. Gerity –

Grades – Final grades for graduating seniors were received at the 11th hour on May 13, 2010. He thanked everyone for getting the grades in. Reminder that grades are due for non-graduates on Monday, May 17, 2010 at 5pm.

ABET – reminder to meet deadline in June. Please work with Tom Engler.

Thank you to Dave Johnson for his diligent watch over the graduate program these past 13 years. We welcome aboard the interim Dean of Graduate Studies, Dave Westpfahl

Thank you to Dr Westpfahl and Dr. Teare for serving as department chairs. We welcome Dr. Eack as chair of Physics and Dr. Wedeward as chair of Electrical Engineering.

Thank you to Debby Olguin for her years of support and friendship. She is going to be sorely missed in the Academic Affairs office, the Faculty Sentate and across campus. We welcome Cathi VanFleet.

Christy Neill, has been hired under the Title V project as Coordinator of Grad Studies – work with Christy and Dave Westpfahl on matters pertaining to our graduate students.

Please remember that Commencement is taking place at MACEY Center, north side and it is moved to 9am.

12. Committee Reports.

Space Utilization committee – Chair, Dr. Hirchfeld – reported the committee is working on all factors of space utilization. They are at the point of data analysis. She would like to remind the senate that the committee is looking for members for next year.

NOTE: Honorary Degrees & Awards Committee report was moved to item 3 on the agenda.

6. New Business.

Council of Chairs:

Dr. Gerity explained the Council of Chairs did not meet due to time constraints but the following changes to the Mineral Engineering Curriculum was voted on favorably electronically. Navid Mojtabai moved the following changes to the Mineral Engineering Curriculum be approved. The motion was 2nd. It was approved without discussion.

Mineral engineering Catalogue Changes

Curriculum Changes

Add New course:

ME 4XX, Foundation Engineering, 3 cr, 3 cl hrs
Prerequisite: ME 420

Principles of soil mechanics and foundation engineering. Immediate and time dependent settlements, service loads, lateral loads, loading, approximate analysis methods, performance requirements, shallow foundations, lateral earth pressure, design of retaining walls, deep

foundations, special footings, slope stability, and computer modeling of foundations. *Same as CE 413.*

Drop:

ES 332, Electric Circuits

Changes:

ME 220, Surveying and Map Preparation, 3 cr, 2 cl hrs, 3 lab hrs
Prerequisites: ~~MATH 131, ES 111~~ MATH 103, 104
Surveying instruments and measurement techniques. Data acquisition by means of advanced surveying methods for map production. Layout design and measurements. Correlations of surface and underground surveys.

ME 420, Soil Mechanics, 3 cr, 2 cl hrs, 3 lab hrs
Corerequisites: ES 302
Phase relationships, soil classification, clay mineralogy, compaction, flow of water in soils, seepage, effective stress, Mohr circle, stress-strain relationships and failure criteria, Mohr-Coulomb failure criterion, shear strength, consolidation, and consolidation settlement.

ME 422, Rock Mechanics, 3 cr, 2 cl hrs, 3 lab hrs
Prerequisites: ME 420
Mechanical properties of intact rock and rock masses, classification of rock masses for engineering purposes, rock failure criteria, in situ stress measurement techniques, rock deformability. Labs consists of sample preparation, point load test, Brazilian test, Uniaxial test, and Triaxial test.

ME 410, Environmental Issues, 3 cr, 3 cl hrs
Prerequisites: ME 380
Corerequisite: ME 4XX
Mine waste characteristics; regulations affecting mine operations; site selection, design and stability analysis of tailings impoundments. Water quality issues and control in mining. Mine waste management. Mine permitting requirements and reclamation. Design projects.

ME 442, Applied Geomechanics, 4 cr, 3 cl hrs, 3 lab hrs
Prerequisite: ME 422
Analysis and design of structures and excavations in geological media on surface and underground. Geologic and geotechnical data collection and analysis. Rock slope stability, modes of failure, and stabilization. Application of rock mass classification systems, stress analysis, structural geology to design of underground excavations and tunneling. Support and reinforcement design. Geological hazards and remedial measures. Design projects.

Undergraduate Program

Bachelor of Science in Mineral Engineering
Minimum Credit Hours Required – 132
In addition to the General Degree Requirements, the following courses are required:
- MATH 231 (4), 335 (3)
- ES 110 (20), 111 (3), 201 (3), 216 (3), ~~332 (3),~~ 302 (3), ES 303 or 347

4. ERTH 101 & 103L, 203 (4)
5. ME 101 (1), 220 (3), 320 (2), 340 (3), 360 (3), 380 (6), 410 (3), 419 (2), 420 (3), ME 422 (3), 4XX (3), 440 (2), 442 (4), 462 (3), 470 (1), 471 (2)
6. Technical Elective (3),

Bachelor of Science in Mineral Engineering with Emphasis in Explosive Engineering

Minimum Credit Hours Required – 141
In addition to the General Degree Requirements, the following courses are required:

- MATH 231 (4), 335 (3)
- ES 110 (20), 111 (3), 201 (3), 216 (3), 302 (3), ~~332 (3),~~ ES 303 or 347
- ERTH 101 & 103L, 203 (4)
- ME 101 (1), 220 (3), 320 (2), 340 (3), 360 (3), 380 (6), 410 (3), 419 (2), 420 (3), ME 422 (3), 4XX (3), 440 (2), 442 (4), 462 (3), 470 (1), 471 (2)
- Technical Elective (3),
- Three courses from: ChE 475 (3), ME 434 or ME 534 (3), MENG 441 (3), ME 545 (3), MENG 545 (3)

Students are strongly encouraged to do their senior design project in the area of Explosive Engineering or related projects.

Minor in Mineral Engineering

Minimum credit hours required – 19
Chosen from the following courses:

ME 220 (3), ME 320 (2) or ES 316 (3), ME 340 (3), ME 360 (3), ME 380 (6), ME 410 (3), ME 419 (2), ME 420 (3), ME 422(3), ME 4XX, ME 435 (3), ME 440 (2), ME 442 (4), ME 462 (3).

Graduate Council:

Dave Johnson, Dean of Graduate Studies moved to adopt the following changes:

General Requirements (p. 55 of the 2009-11 NMT Catalog)

It is required that a student preparing for the M.S. degree:

1) Have competence in the subject matter of the standard introductory college courses in chemistry,
and physics, and one natural science;

2) Have a working knowledge of calculus and the content of one additional course in mathematics beyond calculus;

3) Have a minimum of six credit hours of approved Upper-division or graduate course work from

another department. The advisory committee may determine that a student's previous academic
experience has provided breadth and may recommend modification of this requirement; and

4) Complete a research project culminating in a thesis or independent study paper.

General GRE Requirements (p. 47 of the 2009-11 NMT Catalog)

4) Official Graduate Record Examination (GRE) scores. Applicants to Master of Science and Doctor of Philosophy programs at New Mexico Tech must submit GRE general test scores. GRE General Exam scores are not required for the Master of Science for Teachers program, but required for many other Master of Science, Master of Engineering

Management and Doctor of Philosophy programs. Please refer the listings at http://infohost.nmt.edu/~grad/Departments.html for the GRE General Examination requirements for each program. If GRE scores are required by the program to which you are applying, but they are no longer available because you took the examination too long ago, you must retake the General GRE examination.

Earth and Environmental Science 1)

Change in credits:

HYD 571, 572, Advanced Topics in Hydrology, 2–3 1 3 cr each semester

Offered on demand

Study of special topics in hydrology.

2) *Change in credits, prerequisite, timing and description: GEOC 516 40Ar/39Ar Geochronology, 4 3 cr, 3 cl hrs, 3 lab hrs

Prerequisite: ERTH 444 or consent of instructor
Offered spring fall semester, alternate years

Principles and applications of 40Ar/39Ar geochronology and thermochronology, including field and laboratory methods with applications to geologic systems.

3) New Course (formerly taught as GEOC 589):

GEOC567 Practical Aspects of Argon Mass Spectrometry, 2 cr, 2 cl hrs

Prerequisite: GEOC516; consent of instructor
Offered spring semester

Theory and application of noble gas mass spectrometry. Through lectures, problem sets, and laboratory exercises students obtain hands-on experience for analysis of geologic samples to determine sample age and/or thermal history. Each student conducts a research project and presents the results in written and oral reports.

*GEOC 516 "Argon Geochronology" was taught as a 4 credit class that involved 3 hours of lecture and 1 hour of lab/project. This was too much to ask in a single semester 4 credits course. In Fall, 2006 we offered GEOC516 as a 3 credit class that features the lecture part only. This was followed in Spring 2007 by a dedicated 2 credit lab course GEOC589 "Practical Aspects of Argon Geochronology".

Master of Science for Teachers (MST)

Interdepartmental Program within the Department of Psychology and Education

Transfer Credit Policy

Credits used for another degree are not available for use in the MST degree program. Up to 12 credit hours of approved upper-division undergraduate or graduate (300–500 level) science, mathematics, engineering, and/or technology courses taken at New Mexico Tech with a grade of "B' or better, may be applied to the total required for the MST degree.

[Justification: This is a correction; NMT credits are NOT transfer credits.*]*

Program Requirements

All incoming MST students must demonstrate competence in science and mathematics by either:

1. Completing the introductory courses:
- ST 523, Survey of Biology
- ST 524, Survey of Chemistry
- ST 525, Survey of Geology
- ST 526, Survey of Physics
- ST 550, Mathematics for Teachers

2. Passing the appropriate placement exams (see above)

These courses or the appropriate placement exams are prerequisites for most other ST courses.

Master of Science for Teacher students must take the following core of 16 credit hours that will give breadth and depth to the program:

1. All incoming students must take a technical communication course and a computer literacy course.

- ST 530, Technical Communication for Teachers (2)
- ST 556, Computers and Science Teaching (1)

[Justification: This change is a result of how ST 556 is now offered. With previous offerings of ST

556, students used broken computers and spare parts to assemble a working computer. Our source for broken computers went out of business, so students now start with a "kit". This eliminated a lot of time in assembling a computer. All other aspects of the course (i.e. installing an operating system, developing a web page, etc.) remains the same.]

2. For comprehensiveness, MST students must take one course in each of the following distribution areas, for a total of ten credit hours:

- Math (2)
- Physics (2)
- Chemistry (2)
- Geology (2)

  Biology (2)

[Justification: With the change in ST 556, this was an opportunity to split the Geology and Biology distribution area requirement. With this change, an MST candidate MUST take a course in every distribution area (i.e. math, chemistry, biology, physics, and geology).*]*

- Engineering/Computer Science/Economics (2)

3. For depth, MST students must take an additional two courses (four credit hours) within one of the above distribution areas of the student's choice. In addition to the core requirements above, MST students must complete:

- ST 590, Independent Study (3), or ST 591, Thesis (6)
- ST 592, Seminar (1)
- Additional courses to complete 30 credit hours. These courses may be chosen from MST courses or other Tech courses numbered 300 or above. Up to 12 transfer credit hours are allowed.

The motion was second and approved without discussion.

A motion was made and seconded to adjourn. The meeting adjourned at 11:20 a.m.

Respectfully submitted,

Cathi VanFleet

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

MEETING OF THE FACULTY SENATE
Tuesday, September 7, 2010
Workman 101
MINUTES

9. Call to order. Dr. Stone called the meeting to order at 4:05 p.m.

10. Approval of the minutes of May 14, 2010. A motion was made and seconded to approve the minutes. There was no discussion and the motion passed.

11. Announcements.

Introduction of New Faculty and Staff

Dr. Gerity introduced Lisa Beinhoff, Director for the Library and Christy Neill, Title V Coordinator.

Mary Dezember, Chair of the CLASS Department introduced Dr. Steve Simpson, Asst Prof. of Communications who will also be assisting Graduate Studies and Title V Initiative.

Melissa Jaramillo-Fleming introduced Joaquin Roibal, SA President, Mitch Tappen, Residential Life Director, and Colleen Guengerich, Advancement Director.

Dr. López welcomed the semester amidst difficult legislative and budget challenges. Although these are difficult times the potential for real change is possible. He spoke of the many school districts, Charter Schools, 2 and 4 year institutions within a 30 mile radius of Santa Fe. The state cannot support so many services under the current budget constraints. Dr. López is serving on a restructuring committee to try to address these overlaps. They are meeting 2 days a month through out the year and have flagged some areas for systemic improvements. Many of the changes that will be included in this report will address elimination of redundancy, but, because this is an election year, adoption of many of the changes are unlikely. The final report will be submitted by December 3. New Mexico's major schools will probably benefit, while others probably will not. Unless something catastrophic happens, we could absorb an additional cut from the state.

With regards to July 2011 and going forward there is no crystal ball to see what that fiscal year will look like. There are still many issues to face. We are trying to avoid drastic cuts. Even through 2011 we will be struggling.

On a less gloomy note:

- Construction projects are moving along.

- Bond issues in process can help if they pass in the November election.
- With over 100 new students, we are able to house them by doubling and tripling up on dorms.
- Finally, the Library's Elsevier subscription was saved through the use of overhead money.

d. Dr. Gerity announced enrollment is up about 3.6%. In credit hours, this number will probably go up a bit by end of the week. Dr. Gerity acknowledged the efforts of the Retention Committee. Retention is at 73.6%, up 1.7% from this time last year.

   The recent 3.2% budget cut has been accounted for. And again, we are grateful we are still employed.

   The fire in Speare on August 28 was contained to one room. Officer Sweeney is commended for sounding the first alert and taking action. Fireman Amara of Socorro Fire Station One grabbed the burning computer and ran it out of the building. The outstanding effort of the TCC staff and the rapid response of Lonnie's office and Facilities Management has been exemplary in keeping the other resources in Speare functional and getting the damaged room back on line.

e. Dr. Westpfahl announced the reorganization of the newly renamed Center for Graduate Studies. Part of this change includes construction of a new conference room. The various offices on campus working together have been instrumental in getting this process completed.

f. Dr. Susan Dunston announced the mentoring workshop and information session on the "how to" of going from Associate to Full Professor. This will be held Sept 21 at 1:30 in the Fidel Ballroom. The committee is looking to expand this service to include the process of achieving tenure.

g. L. Liebrock announced for the first time Super Computer Challenge Kick Off will be here on NM Tech's campus October 16-17. A call for volunteers for mentors in many disciplines has gone out. Thank you to Melissa for providing lunch for the students. Contact Andrea in the CS department to get involved.

h. Lillian Armijo announced the Community Education Department will be submitting courses for approval through the Council of Chairs, then on to the Faculty Senate. This gives academic over-site to an academic department for full approval for all credit classes offered through community education. Any future Community Education courses offered for credit will be approved through the same standardized procedure.

i. Sara Grijalva, Registrar, reported the Degree Conferral process is working well. Driven by employers that would not accept our letter of completion, graduates are expressing gratitude to the Registrar's office.

Sara gave a slide presentation in response to unhappy instructors who did not get their first choice of classroom this semester. When comparing the availability with the need at various times, the desired classrooms could be better met with flexibility in scheduling of classes.

Dr. Fred Philips spoke of maintaining the faculty student ratios of 11:1. He cited that 77% of classes have less than 25 students. Dr. Philips concluded with some suggestions for better use of room space including subdividing larger rooms.

Dr. Sonnenfeld asked Dr. López for 3 projectors for classroom to alleviate the immediate need and the president graciously agreed to provide these.

4. Committee Reports.

Dr. R. Reiss, Chair of the Honorary Degrees and Awards Committee, announced deadlines for nomination. Nominations for Honorary degree are due November 1 and nominations for the Langmuir Award are due March 15.

- Old Business. None

- New Business.

Regents 'vetting' proposal concerning the formation of a committee to recommend regents to the Governor would be made up of fifty percent faculty and fifty percent community members. The Governor would have the option to honor the recommendations or not. The committee would serve by appointment of the Governor. It is not known if the incoming Governor would honor this method of appointing regents. Both Dr. Romero and Dr. López commented on NM Tech's sitting Regents being an accessible and responsible governing body. Dr. Sonnenfeld commented on the value of inclusion at all levels of government. It was moved and seconded to adopt the proposal. A quorum count was requested, and having 34 members still on hand, a vote was taken and the motion carried.

7. A motion to Adjourn was moved and 2nd. By unanimous vote the meeting adjourned at 5:07p.m.