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3-5-1996

### Faculty Senate Meeting Minutes, 03/05/1996, p 348-377

UNM Faculty Senate

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**THE UNIVERSITY OF NEW MEXICO**

**FACULTY SENATE MINUTES  
1995-96  
VOLUME 20**

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**FACULTY SENATE MEETING**  
**MARCH 5, 1996**

*ALL FACULTY ARE INVITED TO ATTEND  
THE FACULTY SENATE MEETING*

*ON*

*TUESDAY, MARCH 5, 1996*

*3:30 P.M.*

*IN THE KIVA*

**CORE CURRICULUM ISSUES  
WILL BE DISCUSSED**

*(Core Curriculum Draft is Attached)*

**FACULTY ARE ENCOURAGED TO  
PARTICIPATE IN THIS DISCUSSION**

## REPORT OF THE CORE CURRICULUM TASK FORCE

### SUMMARY OF CORE CURRICULUM REQUIREMENTS

English: 101-102.

Communication: one course.

Mathematics: one course.

Physical/Natural Science: two courses, one with laboratory experience.

Social and Behavioral Sciences: two courses.

Humanities: two courses.

Language: one course. Basic exposure or an introduction to foreign literature.

Fine Arts: one course.

The Core Curriculum is designed to improve the character and quality of lower-division work at UNM by encouraging students to follow a program which will give them a sound general education before they begin the intense courses of study required in major and minor programs. It is hoped that they will develop and enhance the abilities gained from the high school courses now required for entry into the University. The entire Core is an extension of those requirements and has as its purpose bringing students up to a level of competency in those subjects generally regarded as basic for an educated person. For that reason, the Core should be completed before students become involved in upper-division requirements except where students are enrolled in a program which dictates otherwise. The wide diversity of programs in the University makes a uniform requirement difficult, but the Core Task Force wishes to promote a stronger sense of intellectual community within the ranks of beginning students and feels that a coherent basic program will assist in reaching that objective. This is also an effort to achieve some of the quality of a general liberal arts education, giving students a foundation in various intellectual methods, in dealing with facts and data, in perception and judgement and in writing. It is hoped that students will gain intellectual confidence along with knowledge and an appreciation of learning. To achieve this, the University must reaffirm its commitment to broad educational values and work to insure that they can be found in lower-division courses which are carefully and thoughtfully organized and presented, whenever possible, by regular faculty. All Core courses should reflect the standards and character of the University as a research institution. Intellectual values, while individual in development, may best be encouraged by a clear definition of the skills, attitudes and comprehension which are their foundation and by indicating the courses whose content and objectives will best serve to develop them. No new courses are proposed, for the existing course structure meets the needs of the Core. However, the list of courses is not comprehensive in terms of the University offerings, for not all entry level courses attempt to instruct students in the specific abilities which underlie the Core.

There is an increasing interest in outcomes or competency measurement in academic programs and the concern focuses on some of the same values and abilities. At this time, the Task Force recommends that competencies which are the object of the Core will be assessed by grades in the courses. The faculty might consider the use of general competency examinations which could be administered before students enter a degree granting college, but these have had

quite mixed results at other universities. A clear statement of competencies in each area of the Core is one of the objectives of the Task Force. The English requirement, which is the only universal part of the Core, is designed to provide all students with minimum writing ability. The obligation for greater writing proficiency then shifts to all other departments. The broadest educational goal of the university is to have graduates who are articulate in both written and oral presentation of ideas. Encouraging writing through the entire curriculum should be considered by all departments, for they alone will be able to match the development of ideas in each discipline with the ability to express them.

Other Core courses contribute to an education in a liberal arts tradition, and competency is even harder to assess in general terms. The courses provide a blend of thoughts, practices, methods and experiences which should help to distinguish graduates in their lives and professions. They include training in analytical and logical skills in a variety of disciplines. In general, the goal inventory relating to these courses includes developing reading and the cognitive abilities associated with mathematics, scientific methods, analytical reasoning and critical thinking. Familiarity with a foreign language and culture and greater appreciation of creative facets of life are abilities with equally significant place in an educated person's development. Achieving a measure of such understanding at the freshman and sophomore level should prepare students for achievement in theoretical studies, in considering world and human affairs and in problem identification, assessment and solution. In addition, students will gain basic knowledge relating to several areas of particular expertise and be able to communicate their ideas and findings. All of these Core courses provide preliminary competency levels with the hope that these will be sufficient to make upper-division studies more productive while also furnishing each student with the basic abilities and awareness necessary for an educated person.

Debate over the nature of competency levels is inevitable, for many course goals relate directly to professions and much training in critical thinking is subject-specific. However, at the beginning level the Task Force feels that there can be substantial agreement on basic educational aims and desired competencies. In specific, there is considerable agreement that writing skills must be enhanced. The position of English 101-102 is fundamental to the Core Curriculum. The Task Force recommends an effort to establish a uniform standard for what is expected from the courses, indicating a minimum competency for every student whether native or transfer. Every department in the University should discuss ways in which students in their lower division courses could be exposed to more writing challenges and improve upon the basic skills acquired in the freshman year. In addition, departments must give similar attention to general university intellectual expectations and educational goals, and the methods appropriate to achieve them. In its consideration of values and goals beyond concern over writing competency, the Task Force wished to encourage departments to define necessary abilities which lower division study should produce in their respective disciplines. The University should reach common agreement on standards in writing, reading, historical and social analysis, mathematical reasoning, scientific methodology, and an appropriate level for the broadening and creative understanding derived from the humanities, foreign languages and fine arts.

A firm statement of objectives and desired competencies in the Core courses will assist students in designing a program which conforms to their degree and career expectations. In most

areas of the Core, there is included in the foundation of general education requirements considerable latitude in the selection of courses to attain competency. Selection of courses in math and the sciences often need to be directed toward degree requirements, thus creating a wide range of programs within the Core, and course choices in the other areas of study will be equally broad, hoping to serve personal interests as well as degree objectives. Students will also be encouraged to take courses which complement each other during the same semester. Individual departments might consider greater levels of cooperation in scheduling and even in teaching. Models of various sorts are being tried at different universities where efforts to develop the curriculum have led to discussion of instruction in introductory courses and to interdepartmental approaches which pair core courses with complementary objectives. The Task Force is anxious to encourage similar developments at UNM and sees the Core as an opportunity for inventive and innovative teaching.

In the plan proposed by the Task Force, the first year of studies would be highly structured and each student would be required to obtain advisement twice during the year. During the second year, students would begin to select courses leading toward a major and the advising responsibility would shift to departments. Some disciplines have closely regulated steps toward the major and the task of evaluating students is simplified. Other department will have to institute mechanisms for assessment of student performance. Ultimately, competencies in general terms will be measured through an expansion of each department's management of student programs. The use of comprehensive and required advising is already the hallmark of some of the most successful programs at the University.

Advising is at the heart of making the Core Curriculum work for students and for the University. Each department should emphasize undergraduate advising, helping the Office of Undergraduate Studies with beginning students and better managing the programs of upper division students once they have selected a major. Only advising will assure that students are taking the courses at the proper time and in a manner suitable to their degree goals. Advisors will also have an idea of how well individual students are mastering subjects covered in the Core. The Core should not be an insurmountable barrier to students whose preparation for university has been inadequate. Many programs to help such students are in place, as are remedial courses at TVI, and proper advising and encouragement will assist such students in establishing themselves in a better academic and thus professional position. The Core courses encourage the very abilities necessary for personal and academic achievement and should be regarded as ladders and opportunities rather than as barriers.

**PRELIMINARY RATIONALE.**

The Core is a program of studies designed to encourage general liberal educational values while also assisting students in the speedy and successful completion of a University degree. It is designed to direct students toward desired educational goals in the first year of their program of studies and does not replace any college requirements. The Core hopes to foster abilities which are the hallmark of an educated individual and which the University is determined to pass on. Some of the issues arising from the Core are thus concerned with the definition of an educated person. Others are driven of necessity by the needs of professions and of existing academic programs. In the proposal of the Task Force, no new courses are proposed, but there are recommendations for change in the prevailing structure of offerings and the manner in which students take them. We feel that unless a student is enrolled in a program that dictates otherwise, he or she should complete the Core before beginning upper-division work. These recommendations thus have implications for teaching as well as for learning, and encourage change and development in lower-division offerings. The goal is to assure advanced levels of achievement in essential attributes of an educated person, especially writing, cultural understanding, reasoned analysis, critical thinking and comprehension of scientific and mathematical methods and practices. Core courses at the University should be carefully defined to assure that the requisite skills are being taught and that transfer students who take the courses at another institution will know what level of understanding they must have attained. Moreover, we feel that the University's Core should be taught by regular faculty members whose expertise and experience will assure that the courses are of the highest quality. Carefully prepared graduate students would be an acceptable substitute for regular faculty, but only those who are at an advanced stage of their graduate studies and who will reflect the values and objectives of the University intellectual community. The Core courses must become a coherent part of the undergraduate program and be offered in a spirit commensurate with the research and graduate interests of the University. It is the hope of the Task Force that Core courses could actually become a recruiting device for the University in efforts to attract the best high school students.

The development of the Core has been based on a broad understanding of essential goals, ideals and objectives for lower-division courses. The essential divisions follow.

**Writing.** The essential skill for communication of ideas and information, the Core only introduces students to the subject in the initial courses, English 101 and 102. Writing should demonstrate both understanding of a subject and the ability to express opinions in a clear and correct manner. The drafting of ideas should show a grasp of proper grammar and a vocabulary suitable to the subject and the student's level of education, while always allowing for creativity in expression. Writing should follow analysis of the subject and clarity of thinking about issues involved or the object of the exposition. Students should learn that careful reading and good research are an integral part of most writing tasks and knowledge of the subject should help to shape the text. Outlining or the use of some organizational plan to emphasize important items according to and within an appropriate structure of sentences and paragraphs is also important. The writing should be focused and illustrate a choice of voice with requisite wording, sentence structure and grammatical qualities. In general, students should consider what is best in word usage and cases,

inflection and syntax. Such basic subjects as the structure of paragraphs and essay form should also be covered. In short, they should become familiar with the rules and qualities of common English usage. The introductory courses cannot possibly achieve this goal and thus should be followed in each discipline by advanced courses which require enhancement of writing techniques. Likewise the task of encouraging reading comprehension must be spread through the entire university. An unstated, understood value without course structure specific to it, reading is basic to virtually every intellectual undertaking and the Task Force encourages every department involved in offering Core courses to include attention to reading comprehension.

**Communication.** The objectives of this course include teaching the organization and presentation of a reasoned, supported argument, the use of example in support of a central concept, and making the written word more forceful through oral presentation.

**Mathematical knowledge.** A basic level of mathematics is an obvious skill and method for many disciplines, but is also a vital part of all liberal education. To be innumerate is unthinkable in the context of modern life and learning. Qualitative and quantitative analysis and logic often join. Students entering from high school should be furnished with a fundamental understanding of mathematics and the Task Force would like to see all UNM students build on that foundation.

**Analytical thinking.** The object is to encourage development of the powers of logic and inference as applied to evaluation of data. Courses should prepare students to break down information, to consider ideas arising from it and to determine underlying purposes (implied and explicit). This involves exposure to problem identification and solving, examining the relationship between what is said/written and what should be done. The essence is the capacity to evaluate an argument.

**Critical Reasoning.** Reasoning is associated with every aspect of education, and especially relies on enhancing reading comprehension and the use of logic as a way of organizing material and thought. Training students to evaluate information and to determine the importance and credibility of a document or communication is essential. They should have practice in assessing the validity and place of an argument and judging the reliability and accuracy of sources, uncovering fallacies and biases. Part of this will include training in the use of statistical information, in evaluating the appropriateness of an argument or document in a given context, and in following a logical line of reasoning through the problem to a resolution. Such practice should furnish them with the ability to validate or discount causal reasoning and analogy if offered as proof. Of necessity, students will develop better inference skills, drawing upon what is known to add to knowledge on a subject in an effort to arrive at more precise conclusions, predict behavior and solve problems. The process involves students in collecting and evaluating evidence, determining the significance of a problem, identifying the sources that reveal its nature and formulating a plan for research. Students should see alternative paths for resolution of problems, accepting relativity and openness in testing material before a hypothesis gives way to causal claims. They should also become aware that reasoning takes place in the midst of divergent points of view and through a variety of methods, giving them the ability to develop proper criteria for making mature



judgements.

**Scientific method.** While directly related to all other reasoning abilities, it is above all the methodology appropriate to scientific and objective acquisition and evaluation of data. Analysis of material is often accomplished through experimentation, and students should have an introduction to laboratory methods. Scientific reasoning should also develop an appreciation of the natural environment in all its forms.

**Foreign language and civilization.** The Core should encourage appreciation of foreign civilization languages among all students. Only a single course is required, but with the hope that students will continue to pursue language study, building on the introduction to the roots of another language and culture. They will at least have a mature awareness of other modes of expression and the cultures which produced them. Languages are a strength in the University's curriculum and the Core should help to build upon it.

**Humanities.** In addition to encouraging an appreciation of the creative element in human affairs, the humanities offer students an awareness of different forms of expression in a multitude of forms. Depending on their individual choices, students will have an introduction to the thoughts, writings, painting, music, sculpting, architecture and images available from the entirety of the human experience. Consideration of the imagined or the created environment, joined with the analysis of the historic past, offers a broad range of experiences which expand and condition thought and heighten awareness of the aspects of life which continually provoke thought and reflection.

**Social Sciences.** Students will select from courses which study human society and analyze the behavior and structures pertinent to both individuals and groups. The courses instruct students in various methods for the study of the human environment, both natural and created, and encourage strict analysis of documents and data arising from the behavior of individuals and entire societies.

#### Conclusion.

The establishment of a Core Curriculum would reflect changes in high school courses required by UNM for admission; UNM's Core would be a logical progression, providing intermediary development of some subjects and introducing students to new ones. The Core would provide a cornerstone for successful pursuit of a degree objective, aiding in the acquisition of abilities necessary for the timely completion of the degree programs. The courses represent educational values pertinent to all who seek a college education. Study in the humanities, the fine arts and the social sciences offers an experience which broadens students, giving depth and awareness to thinking. Some core courses have a directly practical value, teaching methods and techniques which are appropriate to all fields of study and which will make upper-division work easier. The courses should be approached in a systematic manner, with students taking them in clusters, searching for compatibility and for skills and methods which support each other. This is not far from current programs, but it advocates making the college career an orderly series of stages. Students who come to UNM with the Core skills would move quickly on to courses appropriate

to their abilities, but only a rare student would have the requisite abilities in all areas. Advising is of cardinal importance in assuring proper placement and encouragement of students, making the Core a series of ladders rather than an obstacle course. All of the goals must be realistic and in conformity with present UNM programs and objectives.

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- 2. ...
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- 9. ...
- 10. ...

RECOMMENDED READING

- 1. ...
- 2. ...
- 3. ...
- 4. ...
- 5. ...
- 6. ...
- 7. ...
- 8. ...
- 9. ...
- 10. ...

**WRITING AND COMMUNICATION (Required: English 101-102 and an additional course)**

**ENGLISH 101 (3)**  
Composition I: Exposition

**ENGLISH 102 (3)**  
Composition II: Analysis and Argument

**ENGLISH 219 (3)**  
Technical Writing

**ENGLISH 220 (3)**  
Expository writing (intermediate)

**COMMUNICATION 130 AND 130L (1 and 2)**  
Public speaking

**LINGUISTICS 101 (3)**  
Introduction to the study of language

**PHILOSOPHY 156 (3)**  
Introduction to Logic and Critical Thinking

**FOREIGN LANGUAGE (Required: one or two courses)**

Any 100 or 200 language courses in the Departments of  
Linguistics, Spanish and Portuguese or Foreign Languages and  
Literature.

**CLASSICS 107 (3)**  
Greek Mythology

**CLASSICS 204 (3)**  
Greek Civilization

**CLASSICS 205 (3)**  
Roman Civilization

**COMPARATIVE LITERATURE 223 (3)**  
Literary Questions

**COMPARATIVE LITERATURE 224 (3)**  
Literary Questions

**COMPARATIVE LITERATURE 260 (3)**  
Introduction to Methodology

**HUMANITIES (Required: three courses, one of which must be from Fine Arts)**

**ART 101 (3)**  
Introduction to Art

**ART 201 (3)**  
History of Art to the Renaissance

**ART 202 (3)**  
History of Art since the Renaissance

**DANCE 105 (3)**  
Dance appreciation

**ENGLISH 150 (3)**  
Literature (topics)

**HISTORY 101 (3)**  
Western Civilization to 1648

**HISTORY 102 (3)**  
Western Civilization since 1648

**FILM/TV 210 (3)**  
Introduction to Film

**MUSIC 139 (3)**  
Music Appreciation

**MUSIC 140 (3)**  
Music Appreciation (discrete courses)

**PHILOSOPHY 101 (3)**  
Introduction to Philosophical Problems

**PHILOSOPHY 111 (3)**  
Humanities

**RELIGION 107 (3)**  
Living World Religions

**THEATER 122 (3)**  
Introduction to Theater

**PHYSICAL/NATURAL SCIENCES (Required: two courses)**

**ASTRONOMY 101 (3)**  
Introduction to Astronomy.

**BIOLOGY 110 AND 112L (4)**  
Biology for Non-Majors

**BIOLOGY 121L (4)**  
Principles of Biology

**BIOLOGY 122L (4)**  
Principles of Biology

**BIOLOGY 123L (4)**  
Biology for Health Related Sciences and Non-Majors

**CHEMISTRY 105 AND 107L (4)**  
Chemistry for Non-Technical Majors

**CHEMISTRY 111L (4)**  
Elements of General Chemistry.

**CHEMISTRY 121L (4) and 122L (4)**  
General Chemistry

**CHEMISTRY 131L (4)**  
Principles of Chemistry

**CHEMISTRY 132L (5)**  
Principles of Chemistry

**EPS 101 AND 105L (4)**  
Physical Geology and Lab

**GEOGRAPHY 101 AND 105L (4)**  
Physical Geography and Lab.

**PHYSICS 102 AND 112L (4)**  
Introduction to Physics and Lab

**PHYSICS 151 (3) AND 153L (1)**  
General Physics and Laboratory

**PHYSICS 152 (3) AND 154L (1)**  
General Physics and Laboratory

**PHYSICS 160 (3)**  
General Physics

**PHYSICS 161 (3)**  
General Physics

**SOCIAL AND BEHAVIORAL SCIENCES (Required: two courses)**

**ANTHROPOLOGY 101 (3)**  
Introduction to Anthropology

**ANTHROPOLOGY 108 (3)**  
Human ancestry

**ANTHROPOLOGY 120 AND 121L (3,1)**  
Digging up our past.

**ANTHROPOLOGY 130 (3)**  
Cultures of the world

**ANTHROPOLOGY 150 AND 150L (4)**  
Evolution and Human Emergence

**COMMUNICATION 101 (3)**  
Introduction to communication.

**ECONOMICS 200 (3)**  
Principles of Macroeconomics

**ECONOMICS 201 (3)**  
Principles of Microeconomic.

**GEOGRAPHY 102 (3)**  
Human geography

**POLITICAL SCIENCE 110 (3)**  
The Political World An introduction to politics

**POLITICAL SCIENCE 200 (3)**  
An introduction to American politics

**PSYCHOLOGY 105 AND 105L (4)**  
General Psychology

**SOCIOLOGY 101 (3)**  
Basic concepts, topics and theories of sociology



# UNIVERSITY OF NEW MEXICO FACULTY SENATE MEETING AGENDA

361

March 5, 1996  
3:30 p.m.  
Kiva

	AGENDA TOPICS	PRESENTERS
	1. Approval of Agenda	<b>ACTION ITEM</b>
pp. 1-8	2. Approval of Summarized Minutes (February 13, 1996)	<b>ACTION ITEM</b>
	3. Comments - UNM President	<b>RICHARD E. PECK</b>
	<del>5.</del> 4. Core Curriculum Draft presented by Charles Steen, Chair, Core Curriculum Committee	<b>DISCUSSION ITEM</b>
	<del>8.</del> 5. Report from the Teaching Enhancement Committee presented by Gordon Hodge, Chair	<b>INFORMATION ITEM</b>
pp. 9-15	<del>4.</del> 6. Form C from the Curricula Committee presented by Henry Shapiro, Chair <ul style="list-style-type: none"> <li>new certificate program - Scientific and Engineering Computation (SEC) Program (College of Arts and Sciences and School of Engineering)</li> </ul>	<b>ACTION ITEM</b>
	7. Announcements - Senate President	<b>HARRY LLULL</b>
	<del>6.</del> 8. Honorary Degree Nomination presented by Senate Graduate Committee Representative	<b>ACTION ITEM</b>
	9. New Business	
	10. Adjournment	

FOR MORE INFORMATION, PLEASE CALL THE OFFICE OF THE UNIVERSITY SECRETARY, 277-4664



**UNIVERSITY OF NEW MEXICO  
FACULTY SENATE SUMMARIZED  
MEETING MINUTES**

**MARCH 5, 1996**

The Faculty Senate meeting was called to order at 3:35 p.m. on March 5, 1996, in the Kiva. President Harry Lull presided.

**Senators present:** Steven Block (Music), James Boone (Anthropology), Judith Brillman (Emergency Medicine), Beverly Burris (Sociology), Anthony Cardenas (Spanish & Portuguese), Victor Delclos (Education), Charles Fleddermann (Electrical & Computer Engineering), John Geissman (Earth & Planetary Sciences), Deborah Graham (Health Science Library), Blaine Hart (Radiology), William Johnson (Biology), Peggy Kelley (Surgery), Astrid Kodric-Brown (Biology), Harry Lull (General Library), George Luger (Computer Science), Deborah McFarlane (Public Administration), Richard Melzer (Valencia), Christine Nathe (Dental Hygiene), Peter Pabisch (Foreign Languages & Literatures), Stephen Preskill (Education), Ed Reyes (Pharmacology), Howard Schreyer (Mechanical Engineering), Fred Schueler (Philosophy), Sandra Schwanberg (Nursing), Scott Taylor (Law), Henry Trehwitt (Communication & Journalism), Holly Waldron (Psychology), Maurice Wildin (Mechanical Engineering), Sherman Wilcox (Linguistics), Gerald Weiss (Physiology)

**Senators absent:** Jane Bruker (Gallup), Tom DeCoster (Education), Patrick Gallacher (English), Andrew Hsi (Pediatrics), Craig Kelsey (Education), Tom Kyner (Mathematics & Statistics), Larry Lavender (Theatre & Dance), Elizabeth Nielsen (Education), Gloria Sarto (Obstetrics & Gynecology), Avarham Shama (Anderson)

**Excused absences:** Ernest Dole (Pharmacy), Beulah Woodfin (Biochemistry)

**1. APPROVAL OF AGENDA**

The agenda was adopted as presented.

**2. APPROVAL OF SUMMARIZED MINUTES (FEBRUARY 13, 1996)**

The summarized minutes for February 13, 1996 were adopted as presented.

**3. COMMENTS - UNM PRESIDENT RICHARD E. PECK**

President Peck provided information regarding the state's budget (House Bill 2) which was unexpectedly signed by Governor Gary Johnson on Monday, March 4.

- UNM's faculty may receive a 2% increase in compensation, but since 2% is next to nothing, no one is expecting much from it. Promotions, market adjustments, and probable salary needs created by UNMPact for staff need to be taken care of with these monies. However, the 2% increase is much better than was expected.

- House Bill 2 calls for a 3% tuition credit (\$929,700) to be taken out of UNM's budget by the legislature. (President Peck explained that after UNM's final appropriation is established, the amount equivalent to a 3% increase in tuition is subtracted from it.) Therefore, in order for the University to compensate for the 3% tuition credit taken from its budget the Regents must raise tuition by approximately that amount. ~~Students will pay a gross receipt's tax on the tuition they paid last year.~~ The tuition increase for this year will be added to student costs.
- Two and one-half percent cuts to this year's budget were restored to UNM's budget base for next year. The increases for 96-97 were calculated on last year's original budget base, not on the two and one-half percent reduced budget. The overall budget increase for UNM is approximately 4%, of which 2% is for salary increases.
- Some of UNM's special project requests funded in House Bill 2 are: Graduate and Professional Research was increased by \$250,000; ~~Local Tenants~~ <sup>LOCAL Tenants</sup> for medical school received \$85,000; Distance Education received \$75,000; Natural High Early Intervention, a youth program, received \$50,000; Family Development Program received \$250,000 (\$150,000 is from the State Board of Education).
- UNM's capital expenditures frozen for this year have been released by Governor Johnson. All of the University's capital projects for next year, however, were vetoed. If the general obligation bonds are passed, UNM will receive \$500,000 for Architecture and Planning, and a \$1.5 million for facility upgrades for special needs on campus.
- New costs faced by the University are escalating insurance liability premiums. This year the rates for the hospital liability insurance will go over \$1 million. These monies do not come back to UNM, they are used to pay off claims settled out of court or adjudicated. Discussions have been held about UNM moving toward self insurance for economical purposes.
- Information provided by President Peck on other bills of special interest included: the bill for educational retirement (to match other state systems) was defeated; an internship for students funded for \$25,000 remains to be signed or vetoed; the tele-medicine network was funded for \$311,000; and the resident tuition allowed for students within 75 miles of the New Mexico border was passed.
- UNM's request last year for 2% budget cuts from the academic departments (4% for non-instructional units) will be redistributed.
- President Peck talked about innovative ways UNM can start saving money. He mentioned the President's Office held a retreat recently to discuss ways in which expenses can be reduced in his office.

4. FORM C FROM THE CURRICULA COMMITTEE PRESENTED BY HARRY LLULL FOR HENRY SHAPIRO, CHAIR

The Faculty Senate approved the following curriculum request from the Curricula Committee:

- a new certificate program - Scientific and Engineering Computation (SEC) Program (College of Arts and Sciences and School of Engineering)

(At this point, agenda items were repositioned to allow more discussion time on the core curriculum draft. Agenda items were reordered: #6 to #4; #4 to #5; #8 to #6; and #5 to #8.)

5. CORE CURRICULUM DRAFT PRESENTED BY CHARLES STEEN, CHAIR, CORE CURRICULUM COMMITTEE

As an introduction to the discussion on the core curriculum, Senate President Lull read the motion moved by Senator Maurice Wildin, which was unanimously adopted by the Faculty Senate on November 8, 1994.

That the Faculty Senate, in consultation with the Provost's Office, appoint an ad hoc committee comprised of faculty and academic staff to identify a core curriculum that is comprised of existing courses, or a set of core competencies that can be satisfied by using existing courses, to the maximum possible extent. This core shall be acceptable to all academic units, i.e., to all colleges and schools. Attention shall be given to issues of cost, implementation, and articulation. An initial report shall be made to the Faculty Senate at its February meeting, and a final report with recommendations shall be submitted to the Senate prior to its April meeting.

Senate President Lull said the core curriculum document being discussed today resulted from the above resolution. This document has been presented not only to the Faculty Senate, but has been distributed widely to the faculty, and has been discussed with the academic departments.

President Lull asked Senators to discuss and ask questions on the narrative of the *Report of the Core Curriculum Task Force* first. He said the specific courses listed in the report could be discussed second.

Chair Charles Steen and other task force members were present for discussion. President Lull noted some non-senators were also present. He said anyone who wanted to participate in this discussion could do so upon being acknowledged by him or Chair Steen. Dialogue on the issues of the core curriculum and its specific course requirements ensued and is summarized below.

Chair Steen said the rationale for the core curriculum was derived from a variety of meetings and interviews with various faculty members, department chairs, deans, and from information he obtained from other comparable schools.

He said UNM's concerns regarding core courses, which began approximately one and one-half years ago, are general throughout the country in public institutions such as UNM that rely on undergraduate and graduate education alike, and have a strong professional component.

Professor Wanda Martin (English) said it was unclear to her how the proposed core

curriculum is meant to articulate with the general education requirement already in place in the various colleges.

Chair Steen replied the proposed courses center on the freshman year with necessary overlap due to the propensity of students to take the minimum number of courses and still be eligible for financial aid. The core curriculum relates to students before they enter a degree granting program. The courses usually conform with those of the degree colleges. The College of Arts and Sciences' requirements in individual units are greater than what is required in the core curriculum. The large number of transfer students will be accommodated to this program through an intense and much improved advising system, which will have to be part of the implementation of a core curriculum.

Someone asked whether freshmen students would be overloaded with 32 course hours required in the core curriculum. Chair Steen replied 32-36 hours would be the minimum in a carefully selected core program. He said according to the standards of today's students, 32 hours would often be course overload. In preparing UNM's core curriculum proposal, the task force started with basic courses and did not include or consider the quality of any courses that had prerequisites. The core curriculum courses will serve in that capacity.

Professor Henry Shapiro (Computer Science) asked if a college or department could further restrict the courses listed in the core requirements. He said the School of Engineering might wish to restrict students to English and communication courses, and not allow philosophy or linguistics courses, due to the College's accreditation requiring a third English course and stressing communication skills. Chair Steen said departments could do this in situations of this nature. However, students should follow the core requirements whenever possible. Proper advising for students who are on a degree track will ensure that they have programs tailored to both their needs and the University's. Chair Steen said the core courses are less of an issue today than the philosophy that underlies the selection and the advocacy of these courses. The latest core curriculum draft reflects recommendations from discussions held at the last Faculty Senate meeting.

<sup>Someone</sup> Senator Burris asked if departments could add courses to given areas to prepare students for their majors. Chair Steen responded the courses listed in the core curriculum are for nonprofessional preparation. A particular course in a discipline will be taken by students anyway. Chair Steen acknowledged some science courses included in the core are very professional school oriented. He said they are dictated by degree requirements and the philosophy encouraged for these courses is much more tenuous. He said a core curriculum that really is a core is preferred for the University so advisors can shift courses around for the students. The goals are to find courses that are based on outcomes and the successes of the students, and to create a managed program that addresses what the students can achieve in specific disciplines.

Someone asked why so many anthropology courses are listed in the core. Chair Steen said

this reflects what is happening in individual disciplines. A few years ago there would have been only one anthropology course, just as there is only one core course each from economics and psychology. He said these are entry-level courses that have the general characteristics of the particular discipline, but have no prerequisites.

Senate President Lull mentioned an issue brought up at a Senate Operations Committee meeting was whether there should be a monitoring process to determine the impact of a core curriculum on departments. Chair Steen said the Undergraduate Committee and the Curriculum Committee are fully capable of reviewing and making the necessary modifications to the core curriculum. He said in most cases it will not be necessary. The core set is a rearrangement of basic courses currently offered, with implications for when students should take the courses, how they are advised and encouraged to pair courses, and what courses will be required for undergraduate, lower-division preparation.

Senate President Lull mentioned three philosophical areas of commitment which would involve the faculty in a core curriculum: (1) advising, (2) continuity of courses to be taken, and (3) the level of expertise at which teaching the core courses will be done.

Senator Waldron expressed her appreciation for the task force's work in developing a core curriculum. She said structurally the courses in the core curriculum are slightly different from those in place now. She said, potentially, a core curriculum could make a big difference in attitudinal changes about the way UNM has approached the requirements for incoming students. Senator Waldron asked what process would be used to evaluate the usefulness of a core curriculum, and whether the problems needing to be resolved will have been addressed by bringing forward a core curriculum.

Chair Steen said if skills and values are introduced to students before they take upper-division courses, their upper-division work will be better. The students will be better able to write and read, particularly if writing and reading are encouraged through the core curriculum. The students' success rates will improve in terms of the length of time it takes them to graduate, and on the scores achieved on the exit examinations. The measure of the usefulness of a core curriculum will be reflected in graduation rates and GRE scores.

Professor Vera Norwood (American Studies) was concerned that her department was not contacted in the development of the core courses. She expressed concern the proposed core curriculum does not give students the opportunity to take interdisciplinary courses. Professor Norwood wanted to know how such courses could be presented to the task force for consideration before the core curriculum document is presented for a final vote.

Chair Steen explained the differences between a skills-oriented core under the previous provost and a values-oriented core under Provost Gordon are very modest. In a skills-oriented proposal the task force looked at content and tried to track courses which lead to specific degrees in order to encourage students on those tracks. He said many values-

centered courses at UNM do not follow to degree tracks. The task force felt there were education issues that were pertinent to all students. There are also issues that are up to students' choices and interests which offer values and concerns that are not necessarily related to what is being attempted to achieve in advocating a core curriculum.

There was discussion on whether art courses should be separated from humanities, and whether there should be a foreign language requirement in the core courses.

Professor Shapiro said faculty may resist the proposed core curriculum due to it being too spread out and allowing too many options. He said some of the courses listed are high school material. He said the proposed document is not a core curriculum at all, but an articulation curriculum with schools around the state.

Professor Wanda Martin said the core curriculum document reflects only a superficial grasp of the notion of writing. She invited Chair Steen and the task force members to the English Department to talk specifically about writing as one way to strengthen the core curriculum proposal. She asked for substantial consultation, prior to the document's approval, with respect to the writing, English 101 and 102. Professor Martin said the proposed document as it is now constituted shows little awareness of the potential affects it would have on departments.

Chair Steen responded the task force is aware that writing concerns everyone at the University, and a member from the English Department was involved in the preparation of the core curriculum document.

Someone asked why cultural and multicultural diversity courses were not incorporated in the core curriculum. Chair Steen said they were initially discussed, but when dropping from 64 hours to 32-36 hours for the core they were not discussed again.. It was acknowledged by the task force that such considerations had to occur, but not necessarily in the freshman component of classes. Chair Steen said most of the diversity courses are 300-400 level courses.

Senator Bruker expressed concerns from the associate degree programs at the Gallup campus that the core curriculum would extend the length of time, by at least one or two semesters, in which students have to get a bachelor's degree.

Senators and faculty discussed the core curriculum draft at length. Many expressed their opinion that the core curriculum draft is far from being ready for a final vote, and urged further discussions on the proposed requirements. Chair Steen said he is willing to continue meeting with departments to discuss changes.

Senator Wildin commended Chair Steen and the task force for the work they have done.

(At this point, Senator Charles Fleddermann presided over the remainder of the meeting for Senate President Llull who had to leave early.)

6. **HONORARY DEGREE NOMINATION PRESENTED BY SENATE GRADUATE COMMITTEE REPRESENTATIVE**

Professor Teresa Cordova (Architecture and Planning), a member of the Senate Graduate Committee and the Honorary Degree Committee presented a third honorary degree nomination for Faculty Senate approval. The Senate voted unanimously to approve the nomination. (Two honorary degree nominations were approved by the Faculty Senate at its February 13, 1996 meeting.) The names of the nominees will remain confidential until the nominees have been notified and have accepted the honor.

7. **ANNOUNCEMENTS - SENATE PRESIDENT**

- The deadline for faculty nominations for the Academic Freedom and Tenure Committee, the Committee on Governance, and at-large senators has been extended by the Office of the University Secretary to Friday, March 22, 1996. The extension was made to allow faculty an additional week to submit nominations due to the Spring semester break being March 10-17.

8. **REPORT FROM THE TEACHING ENHANCEMENT COMMITTEE PRESENTED BY GORDON HODGE, CHAIR**

Chair Gordon Hodge reported the Teaching Enhancement Committee is working on a method for assuring there will be some process by which development and teaching enhancement can occur for professors who have tenure and those who have yet to achieve tenure. The Teaching Enhancement Committee is working on this in conjunction with considering different ways to evaluate and enhance the development of teaching with the implementation of post-tenure review. Chair Hodge said the Committee is working on the development and implementation of a faculty resource facility. Chair Hodge said the Senate has discussed this issue before, however, the teaching resource center was never established although there were funds and provisions for such an implementation. A center of this sort would provide all faculty with a mechanism for discussing, with other faculty, how to improve or enhance their teaching. This center should be directed by a full-time faculty member and would have several different functions: to continue orientation of new faculty; to provide support for all faculty; to provide ways to develop and enhance teaching via new technologies available for use in the classrooms; and to provide a mechanism for faculty to get together to attend and present workshops on developing teaching methods.

9. **NEW BUSINESS**

There was no new business to come before the Faculty Senate at this time.

10. **ADJOURNMENT**

The meeting adjourned at 5 p.m.





**FORM C  
MAJOR AND MINOR CURRICULAR CHANGES**

Date: 9-6-95

CIP CODE \_\_\_\_\_

College of Arts and Sciences,

(Name of Individual Initiating curricular change form)

School of Engineering

(Title, position)

(Dept., Div., Prog.)

**UNIT PREPARES IN QUADRUPPLICATE**

Routing (All four copies)

1. Dean of Library Services
2. CIRT (Comp & Inform Res & Tech), if necessary
3. College Curriculum Comm. if necessary
4. College or School Faculty
5. College or School Dean
6. FS Undergraduate Academic Affairs Comm. and/or FS Graduate Comm.
7. Office of Graduate Studies (For grad. level changes)
8. FS Curricula Committee
9. VP of Academic Affairs
10. Faculty Senate

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This form is for \_\_\_\_\_  
Name of New or Existing Program

This program is or would be located in current catalog page \_\_\_\_\_

**I. Major Change-Mark appropriate category**

Degree	New	<input type="checkbox"/>	Revision of existing degree	<input type="checkbox"/>	Deletion	<input type="checkbox"/>
Major	New	<input type="checkbox"/>	Revision of existing major	<input type="checkbox"/>	Deletion	<input type="checkbox"/>
Minor	New	<input type="checkbox"/>	Revision of existing minor	<input type="checkbox"/>	Deletion	<input type="checkbox"/>
Certificate Program	New	<input type="checkbox"/>	Revision of	<input type="checkbox"/>	Deletion	<input type="checkbox"/>
Concentration	New	<input checked="" type="checkbox"/>				

Give exact title and requirements as they should appear in the catalog. (See current catalog for format within the respective college). Attach additional sheets if necessary.

Scientific and Engineering Computation (SEC) Program  
(See Addendum)

**II. Minor Change-**

Minor name change of existing degree, major, minor, or concentration. \_\_\_\_\_  
New Name of Program

Minor program revision (3-5 hours) Please specify below:

Reasons for Request: (attach statement)

Effective Date of Proposed Change: \_\_\_\_\_  
Semester Year

Budgetary and Faculty Load Implications: (attach statements) See addendum  
Does this change impinge in any significant way on my other student or departmental programs? Yes \_\_\_\_\_ No x  
If yes, have you resolved these issues with department involved? \_\_\_\_\_ (attach statement)

Signature: Wasi Ahmed  
Department Chair

Approvals:

Dean of Library Services	<u>[Signature]</u>	Date: <u>10-18-95</u>
CIRT	<u>[Signature]</u>	Date: <u>10/23/95</u>
College Curricula Committee	<u>[Signature]</u>	Date: <u>10/19/95</u>
(If necessary) Graduate		
College of School Faculty	<u>[Signature]</u>	Date: <u>10-12-95</u>
College or School Dean	<u>[Signature]</u>	Date: <u>10-12-95</u>
FS Undergraduate Ac. Affairs	<u>[Signature]</u>	Date: <u>10-16-95</u>
and/or FS Graduate Committee	<u>[Signature]</u>	Date: <u>11/17/95</u>
Office of Graduate Studies	<u>[Signature]</u>	Date: <u>11/29/96</u>
FS Curricula Committee	<u>[Signature]</u>	Date: <u>2/21/96</u>
Assoc. VP of Academic Affairs	<u>[Signature]</u>	
Faculty Senate	<u>[Signature]</u>	

(9)

(Mainframe) \_\_\_\_\_  
Entered (Catalog) \_\_\_\_\_

For Scheduling Office Use ONLY:

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### 1. Purpose and Rationale for the Certificate Program

The Scientific and Engineering Computation (SEC) certificate program is an interdisciplinary graduate program aimed at promoting advanced research in high performance computing. The participating departments in this program include Biology, Mathematics and Statistics, Earth and Planetary Sciences, Physics and Astronomy, and Chemistry from the College of Arts and Sciences and Civil Engineering, Chemical and Nuclear Engineering, Computer Science, Electrical and Computer Engineering, and Mechanical Engineering from the School of Engineering. The purpose of the SEC certificate program is to provide graduate students in Engineering, Science and Mathematics the opportunity to complete a structured educational program in applied high-performance computing, while still satisfying all requirements of a traditional degree program.

The key points and rationale in the design of the program are:

- a. Development of a coherent and meaningful set of courses whose completion will prepare students to use high-performance computing within their disciplines. This should benefit not only the students but also research programs within the departments.
- b. Development of a mechanism to formally certify a student's training in applied high-performance computing. This should benefit students when they seek employment.
- c. Leverage the resources of the High-Performance Computing Education and Research Center (HPCERC) to recruit talented students with an interest in computation, thereby improving the graduate programs of participating departments.
- d. Facilitate the broad participation of departments in Science and Engineering by keeping the requirements as streamlined as possible. In particular, SEC students must fully satisfy departmental degree requirements, and acceptance into the program will be contingent on acceptance by a participating department.
- e. Help the HPCERC meet its educational goals.
- f. Encourage the creation of new courses within disciplines which involve high-performance computing, as well as the integration of existing courses across disciplines.

### 2. Proposed Certificate Program

A Masters or Ph.D. degree with a certificate in Scientific and Engineering Computation is a degree in one of the participating departments. The program will be managed by the

HPCERC. In addition to satisfying all home department requirements, students in the SEC program must complete the following SEC program requirements:

Complete the two course sequence CS 471 (Introduction to Scientific Computing) and CS 442 (Introduction to Parallel Computing).

Master students are required to complete an additional 6 hours from the approved list of SEC electives or 3 additional hours from the approved list of SEC electives and a thesis. Ph.D. students are required to complete an additional 9 hours from the approved list of SEC electives. SEC students from the Computer Science Department will be required to choose at least 1 SEC elective from outside their home department. All Ph.D. SEC students will be required to take at least 1 SEC elective from outside their home department.

At least one faculty member from the Associated Faculty list must be on a student's Master's or Ph.D. committee, and any thesis must contain a significant computational component.

3. Proposed Effective Date: Spring 1996

4. Budgetary and Faculty Load Implications

The new certificate program will require only moderate resources. The program will require printing and disseminating a promotional brochure, secretarial support, and research and teaching assistantships. Primarily, this funding will be provided by the High-Performance Computing Education and Research Center (HPCERC). Initially, all required and elective courses for this program will be existing courses and will have no effect on faculty teaching loads. There will be a modest increase in associated faculty load to administer the program.

5. Associated Faculty

- David Ackley, Computer Science
- Edward S. Angel, Computer Science
- Benjamin B. Bederson, Computer Science
- Michael E. Campana, Earth and Planetary Sciences
- Thomas P. Caudell, Electrical and Computer Engineering
- Colston Chandler, Physics and Astronomy

Stephanie Forrest, Computer Science  
 Walter H. Gerstle, Civil Engineering  
 Frank L. Gilfeather, Mathematics and Statistics  
 Tom Hagstrom, Mathematics and Statistics  
 Eric Haskin, Chemical and Nuclear Engineering  
 James D. Hollan, Computer Science  
 Stephen P. Huestis, Earth and Planetary Sciences  
 Marc Ingber, Mechanical Engineering  
 Arthur B. Maccabe, Computer Science  
 Bruce T. Milne, Biology  
 Bernard M. E. Moret, Computer Science  
 Vince Ortiz, Chemistry  
 Henry D. Shapiro, Computer Science  
 Brian T. Smith, Computer Science  
 John Sobolewski, Electrical and Computer Engineering  
 Deborah Sulsky, Mathematics and Statistics

#### 6. Approved List of SEC Elective Courses (Tentative - to be reviewed by the program committee)

##### Mechanical Engineering

1. ME500 Numerical Methods in Mechanical Engineering
2. ME504 Introduction to Computational Mechanics
3. ME561 Boundary Element Methods in Engineering
4. ME562 Scientific Visualization

##### Computer Science/Electrical and Computer Engineering

1. CS441/EECE401 Modern Computer Architecture
2. CS433/EECE433 Computer Graphics
3. CS442/EECE432 Introduction to Parallel Processing
4. CS508/EECE509 Parallel Algorithms

5. CS532/EECE516 Computer Vision
6. CS531/EECE517 Pattern Recognition

#### Computer Science

1. CS487 Computer Networks
2. CS534 Advanced Computer Graphics
3. CS587 Topics in Operating Systems

#### Electrical and Computer Engineering

1. EECE440 Introduction to Computer Networks
2. EECE506 Optimization Theory
3. EECE533 Digital Image Processing
4. EECE538 Advanced Computer Design
5. EECE547 Neural Networks
6. EECE595 Topics in Virtual Reality Technology

#### Mathematics and Statistics

1. Math504/CS575 Numerical Analysis: Linear Algebra
2. Math505/CS576 Numerical Analysis: Approximation and Differential Equations
3. Math557/CS557 Topics in Numerical Analysis
4. Math576 Numerical Linear Algebra
5. Math577 Numerical Ordinary Differential Equations
6. Math578 Numerical Partial Differential Equations

Civil Engineering

- 1. CE453 Advanced Numerical Methods in Solid Mechanics
- 2. CE502 Finite Element Methods in Solid Mechanics
- 3. CE551 Numerical Methods in Geomechanics
- 4. CE563 Earth Structures

7. Proposed Catalog Listing

SCIENTIFIC AND ENGINEERING COMPUTATION CERTIFICATE

The Scientific and Engineering Computation (SEC) certificate program is available to students in the following participating departments, Biology, Chemical and Nuclear Engineering, Chemistry, Civil Engineering, Computer Science, Earth and Planetary Sciences, Electrical and Computer Engineering, Mathematics, Mechanical Engineering, and Physics and Astronomy. A Masters or Ph.D. degree with a certificate in scientific and engineering computation is a degree in one of the participating departments. In addition to satisfying all home department requirements, students in the SEC program must complete the two course sequence CS 471 (Introduction to Scientific Computing) and CS 442 (Introduction to Parallel Computing). Masters students are required to complete an additional 6 hours from the approved list of SEC electives or 3 additional hours from the approved list of SEC electives and a thesis. Ph.D. students are required to complete an additional 9 hours from the approved list of SEC electives. Detailed information about the SEC program may be obtained from the High Performance Computing, Educational, and Research Center.

FACULTY SHOULD ATTEND THE SENATE MEETING  
 ON TUESDAY, APRIL 9, 1996  
 YOUR INPUT IS VERY IMPORTANT