

MINUTES
ACADEMIC SENATE
Friday, February 7, 1975

PRESENT: E. Abram, T. Alderman, R. Arnold, J. Bakos, F. Barger, E. Barret, P. Bellini, M. Braun, B. Brothers, A. Budge, I. Cohen, R. Crum, P. Dalbec, L. DiRusso, T. Dobbelstein, C. Dykema, Vice President Edgar, F. Feitler, M. Foley, C. Freeman, R. Gould, P. Hahn, S. Hanzely, D. Hille, V. Jenkins, R. Jones, E. Juhasz, K. Krill, D. Luntz, J. Maruskin, H. Mettee, R. Miller, T. Miner, D. Mitchell, A. Moore, C. McBriarty, E. Pejack, P. Peterson, W. Petrych, V. Phillips, L. Rand, V. Richley, S. Roberts, D. Rost, K. Salaka, L. Satre, A. Scheetz, J. Scriven, R. Shuster, C. Singler, C. Smith, R. Sorokach, J. Steele, E. Sterenberg, E. Sturgeon, C. Sweeney, C. Vanaman, E. Yager, B. Yeaton, B. Yozwiak, M. Yozwiak, L. Zaccaro.

A quorum having assembled, the meeting was called to order at 4:07 p.m. in Schwebel Auditorium by Chairman, Clyde Vanaman.

Preceding the regular agenda of business, Dr. Vanaman announced that the last two rows of seats in the auditorium should be reserved for guests; Senate members, therefore, sitting in seats other than those in the last two rows of the auditorium.

Chairman Vanaman then read the following message, which had been received from his predecessor in office, Presiding Officer David Behen:

Dr. Behen expresses his warmest thanks to the Senate for their Resolution respecting his tenure as Presiding Officer. He says that although he fears the Resolution's laudatory sentiments may produce a hyper-inflated ego, he has enough of human weakness to welcome this potential damage to his psyche.

Dr. Vanaman then called for corrections, additions, or other changes in the published minutes from the meeting of Friday, January 17, 1975. There being no corrections, additions, or other changes suggested, the minutes were declared approved as distributed.

COMMITTEE REPORTS

Constitution and Bylaws Committee: Chairman, Stephen Hanzely, reported:

1. The Committee interpreted that Item (c), Section V, Article III applied only to reports which require Senate voting. Further, the Committee has interpreted that acceptance of a report is not to be construed as voting on the report.
2. The Chairman of the Arts and Sciences Curriculum Committee, Dr. Sweeney, had requested that department chairmen be included on the circulation list for all materials from the Senate Curriculum Committee. Consultation with the Curriculum Committee showed that the Committee had already added these names to its circulation list as a matter of courtesy. The Charter and Bylaws Committee asked the Curriculum Committee to formalize this procedure.
3. In response to questions from Dean Moore of the School of Education, the Charter and Bylaws Committee is considering the matter of faculty apportionment. In the near future, a formal amendment will be proposed which will suggest that for purposes of Senate apportionment, faculty will be considered to be those persons who are assigned at least fifty percent of their time to teaching duties, regardless of the particular academic title or payroll classification in which they are listed.

A preliminary survey has shown that this statement will not at the present time make any difference whatsoever in apportionment of Senate seats.

4. The Committee has also approved and will present as a formal amendment proposal in the near future a change of the exact manner in which the number of faculty seats apportioned to each college is ascertained. In the past, the system has been essentially a "nose count" system. Under the new proposal, apportionment would consider in each college the fraction of a faculty member's time which is officially assigned to duties within that department. All fractions would be added in ascertaining the total number of faculty for purposes of Senate apportionment.

Again, a preliminary survey has shown that at the present time, this would make absolutely no difference in the apportionment of Senate seats.

Executive Committee: Chairman, Richard Jones, made the report which is appended to these minutes. Discussion following the report indicated that there is still some question as to what comprises the "service area" in which Youngstown State University is located. Further, the Academic Events Committee, as charged under the new Charter and Bylaws, is a policy-making committee, not a committee actively devoted to carrying out the details of events.

OTHER COMMITTEE REPORTS

Curriculum Committee: Chairman, Virginia Phillips, reported that those course changes approved by the Curriculum Committee and not contested by curriculum committees of the various schools had been appended to the agenda for the meeting of Friday, February 7. Other courses to which there have been no objections are appended to these minutes. She further indicated that additional changes submitted at this time may not be able to be processed through the entire cycle in order to be included in the catalog for the 1975-76 academic year.

UNFINISHED BUSINESS

There was no unfinished business.

NEW BUSINESS

Dr. Roberts moved that the Executive Committee of the Senate consider the advisability of the University's dropping the requirement that student organizations must have a faculty advisor; and, that the Executive Committee report back to the Senate when it has a recommendation. The motion was seconded by Dr. Mettee. The motion passed unanimously.

Mr. Sturgeon moved that the Academic Senate submit to the Executive Committee the study of the deletion of all foreign language requirements from all degree requirements at Youngstown State University. The motion was seconded by Mr. Braun. In the discussion which followed, Dean Yozwiak indicated that there is a committee in the College of Arts and Sciences considering (among other things) exactly this question, and that he felt that the correct procedure would be for this committee to make its report to the Senate Academic Affairs Committee, rather than for this motion to be referred by the Executive Committee to the Academic Affairs Committee before the College of Arts and Sciences had completed its study. Dr. Mettee moved to table the motion; the motion to table was seconded by Dr. Hanzely. On voice vote, the chair ruled the motion to table carried.

Mr. Sturgeon moved that the Academic Senate recommend that the Student Affairs Committee study and consider the establishment of a student academic grievance committee. The motion was seconded by Mr. Braun. The motion carried.

Dr. Jones, YSU representative for the Faculty Advisory Committee to the Board of Regents, made the report which is appended to these minutes.

Dr. Cohen announced that the Committee for Individualized Curriculum has prepared posters for posting in various departments.

Dr. Vanaman announced that the next regularly scheduled meeting of the faculty Senate will be held on Friday, March 7, 1975.

The meeting was adjourned at 4: 55 p.m.

Respectfully submitted,

Caryl P. Freeman
Secretary

Other Attachments: Report of the Computer Committee

The Ad Hoc Computer Committee has completed its work and submitted its final report to the Executive Committee. The Ad Hoc Committee recommended:

- (a) A method to evaluate bids for a "mini-computer".
- (h) That a bid be submitted on an available used "plotter".

The complete Ad Hoc Committee report is attached to this report.

Appointments to the chartered Senate Committee are virtually complete. Announcements of all appointments should be distributed early next week. Recommendations of faculty to serve on the Administrative Advisory Committee should be completed by the end of next week.

Details of the Ohio Board of Regents' new policy allowing institutions to choose between the quarter and the early-semester calendar can be found on ~~pages~~ pages 16 and 23 of the December 20 Board of Regents' minutes.

Dr. E. Edgar requested that the Executive Committee establish an Ad Hoc Committee to be **responsible** for organizing the March commencement. After discussing the request the Executive Committee agreed not to establish an Ad Hoc Commencement Committee. In the opinion of the Executive Committee **organizing** the commencement exercise is not a faculty responsibility. Also, the Executive Committee is of the opinion that the routine matters associated with every commencement exercise should be the responsibility of a single administrative staff person, and not require the attention of an entire committee.

Respectfully submitted,



R.W. Jones, Chairman
Senate Executive Committee

*Postscript: It has been brought to my attention that Dr. Edgar has circulated to all Academic Deans those sections of the Board of Regents' minutes listed in this report.

RWJ/vdd

REPORT TO SENATE FROM THE FACULTY ADVISORY COMMITTEE TO THE CHANCELLOR,
OHIO BOARD OF REGENTS

February 7, 1975

CODE

FAC - Faculty Advisory Committee

OBOR- Ohio Board of Regents

CN - Chancellor Norton

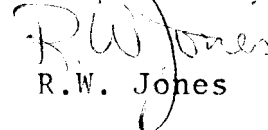
Although neither of the YSU-FAC representatives was able to attend the January FAC meeting, several items from the minutes of that meeting merit attention.

CN indicated that he would support legislation which would increase the limit on student fees by \$25-\$50 per quarter. The FAC representatives are divided in their opinions concerning student fees. Some believe that in periods of declining enrollments students' fees should be decreased rather than increased in order to encourage individuals into higher education. Others believe that the increased revenue from increased student fees is necessary for the institutions to continue to operate in inflationary times.

In response to a question regarding rumors that OBOR is going to limit the enrollment of Ohio University to 10,000, CN stated that OU has received \$8.6 million in excess of the FTE subsidy level during the past four years, and that this practice would not be continued. (Note: These monies came from cuts in the subsidies to other state institutions). OBOR will provide a "coast down" subsidy for only one more year (1975-1976), and then fund OU only for the number of students enrolled. In the opinion of OBOR, OU will level out at 10,000-12,000 students. At an earlier meeting this year FAC requested CN to consider several plans, such as decreased tuition, to encourage enrollment at OU. CN did not mention any thinking in the directions suggested by FAC. OU has already eliminated approximately 175 positions (not all faculty positions). Any further reduction in faculty would involve tenured faculty.

During the first three weeks of the legislative session many bills have been introduced into both the House and the Senate which could have an impact on higher education. Four bills regarding collective bargaining of public employees, one bill that would allow public employees to be paid cash for accrued unused sick leave upon retirement, and one bill that would allow public employees on extended medical leave or furlough to continue group life insurance at group rates at their own expenses, have been introduced into either the House or Senate.

Respectfully submitted,


R.W. Jones

To: Senate Executive Committee

From: Janet E. Del Bene
Chairman, Ad Hoc Computer Committee

Subject: Report of the Ad Hoc Computer Committee 1/31/75

The Ad Hoc Computer Committee met on January 9, and January 23, 1975, to consider the three topics specified in its charge of December 19, 1974. The following summarizes the results of the Committee's work.

a) Nineteen bids on the minicomputer were received by YSU. On the basis of cost and/or specifications, it was possible to reduce the bids for final consideration to four: one each from Canberra and Tracor Northern, and two from Nuclear Data. It appeared that the two bids from Nuclear Data were most attractive. It was noted that this company is financially stable, and that several installations using Nuclear Data equipment had expressed their satisfaction with the performance of the equipment. Both bids from Nuclear Data fit the specifications, have some flexibility, and are for machines supported by a large and readily available software library. One bid from Nuclear Data is for an 8K machine with more accessories and therefore greater flexibility, while the other is for a 16K machine.

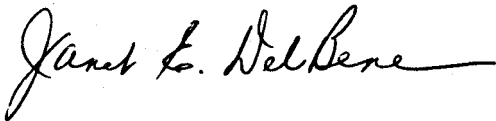
The Committee recommended that the final decision concerning the purchase of the minicomputer and accessories be made by Dr. Mooney and the Computer Center, within the context of the discussions held at the two Committee meetings.

b) YSU was invited to bid on a plotter from the University of Akron, and on a remote station from Bowling Green State University. The funds for the purchase of these two items would come from the \$ 52,750. received from the sale of the IBM 360/40 last year. These funds had previously been earmarked for the purchase of these two items and ten interactive terminals. By acquiring the plotter and the remote station at the prices quoted (\$ 3,000. for the plotter and a year's supply of paper, and \$ 15,500. for the remote station), a considerable savings would be made, and the original plans made by the Computer Center and the Computer Committee at the time of the sale of the 40 could be implemented, even though the money received for the 40 was significantly less than anticipated.

- 1) The Committee recommended that a bid on the plotter be made. This bid of \$ 3,000. has been accepted by the University of Akron, and the plotter is scheduled for delivery around February 1, 1975.

- 2) The Committee recommended that YSU bid on the Unitek 104 from BGSU, with the proviso that the contract insure that the criteria submitted by the Computer Center and by the Computer Technology Division of T&CC (see minutes of the Committee meeting of January 23) be satisfied, and that the system be operational by the fall quarter, 1975.
- c) The Committee received a report concerning the types of terminals presently installed at the various locations on campus, and terminal usage during the fall quarter, 1974. The statistics indicate that the academic terminals are being used extensively by faculty and students. Since the experiment with terminals supplied by various manufacturers is still in progress, a final recommendation for procurement and distribution is somewhat premature at this time.

Respectfully submitted,

A handwritten signature in cursive script, reading "Janet L. DeBene". The signature is written in dark ink and is positioned below the typed name "Janet L. DeBene".

cc: Vice-President Edgar
Dr. Jonas

CURRICULUM CHANGES TO BE APPENDED TO SENATE MINUTES
 (These courses have been circulated according to the procedures outlined in the Constitution and By-laws--no objections were received)

Department and Catalog Number	Course Title	Description
Bus. Ed. & Sec. St. (A) 613	Business Machines I	Use of common office calculating machines to solve typical business problems. Introduction to automated record keeping. One hour lecture; two hours lab.
Bus. Ed. & Sec. St. (A) 614	Business Machines II	Machine accounting and systems. Basic reprographics. One hour lecture; two hours lab.
Bus. Ed. & Sec. St. (A) 615	Business Machines III	Dictation, transcription, and automatic typewriters. Advanced reprographics. Machine maintenance. One hour lecture; two hours lab.
Bus. Ed. & Sec. St. (D) 617	Business Machines I	The operation of typical calculators with application to business problems.
Bus. Ed. & Sec. St. (D) 618	Business Machines II	Building of skill in the operation of special typewriters, and transcribing, duplicating, and bookkeeping machines.
Bus. Ed. & Sec. St. (D) 717	Comprehensive Business Machines	Designed to provide the student with a working knowledge of typical office machines with emphasis on the uses of these machines and teaching techniques. For business education students only.
Bus. Ed. & Sec. St. (c) 718	Word Processing	Students are introduced to word processing through three phases--orientation, skill building, and actual simulation. In skill building, students receive intensive work on word processing equipment in order to meet today's office productivity requirements. In simulation, the class is actually organized into a word processing center of a company and each student becomes a working employee of the center.
Bus. Ed. & Sec. St. (c) 731	Specialized Dictation	Dictation and transcription in specialized fields: law, medicine, etc. Includes machine transcription. Four hours lecture, four hours laboratory.
Bus. Ed. & Sec. St. (A) 740	Records Systems - Theory & Practices	Fundamentals of records handling from creation to destruction. Includes information retrieval, retention and storage, correspondence control, records inventorying, reproduction and photocopying, directives and manuals, forms

Curriculum Changes

Page 2

		design and analysis, office layout and space utilization, and reports control.
Bus. Ed. & Sec. St. (C) 805	Office Practicum	A terminal course for refinement of secretarial skills and techniques in simulated office procedures. Includes communication systems, records management, training and supervision problems, specialized typing and reports, and specialized secretarial functions.
Engineering Tech. (C) 501	Circuit Theory I	Fundamental electrical definitions and units; electrical energy sources; Ohm's law; Kirchhoff's laws; analysis of D.C. circuits; network theorems.
Engineering Tech. (C) 502	Circuit Theory II	Analysis of elementary magnetic circuits; capacitance; inductance; analysis of simple RC and RL transient circuits; alternating current and voltage; average and effective values; Phasor representation of sinusoidal waveforms; Phasor algebra; impedance.
Engineering Tech. (c) 502L	Circuit Theory II Laboratory	Experiments on the measurement of inductance and capacitance; simple transient circuits; hysteresis curves; average and effective values; A.C. impedance. Three hours of laboratory per week.
EngineeringTech. (c) 503	CircuitTheory III	Analysis of A.C. circuits (steady state solution); Phasor diagrams; network theorems; power, power factor; series and parallel resonant circuits; polyphase circuits; mutually coupled circuits.
EngineeringTech. (c) 503L	CircuitTheory III Laboratory	Experiments on the measurement of voltage, current, and power in A.C. single phase series and parallel circuits; resonant circuits; mutually coupled circuits. Three hours of laboratory per week.
Engineering Tech. (C) 600	Measurements	Measurement errors; basic meter in D.C. measurement; basic meter in A.C. measurement; D.C. and A.C. bridges; electronic voltage and current meters; cathode ray oscilloscope; counting and digital display instruments; transducers.
Engineering Tech. (c) 605	Electronics I	Basic theory of operation and I-V characteristics of the vacuum diode,

gas diode, and semiconductor diode; diode applications, including voltage regulators, rectifiers, clippers, and clippers; basic theory of operation and I-V characteristics of the triode, tetrode, pentode, and junction transistor; D.C. biasing of vacuum tube and transistor amplifiers.

Engineering Tech. (C)
605L

Electronics I
Laboratory

Experiments on I-V characteristics of vacuum, gas, and semiconductor diodes; voltage regulator; half-wave, full-wave rectifiers; waveshaping circuits; I-V characteristics of triode and junction transistor; D.C. biasing circuits. Three hours of laboratory per week.

Engineering Tech. (c)
606

Electronics II

Analysis of vacuum tube, junction transistor, and field-effect transistor amplifiers; transformer coupled, RC coupled, and direct coupled amplifier stages; frequency response for single- and multi-stage amplifiers.

Engineering Tech. (C)
606L

Electronics II
Laboratory

Experiments on vacuum tube, junction transistor, and field-effect transistor amplifiers; transformer coupled amplifiers; R-C coupled amplifiers; frequency response characteristics. Three hours of laboratory per week.

Engineering Tech. (C)
607

Electronics III

Analysis of power amplifiers; feedback amplifiers; oscillators; differential amplifiers, operational amplifiers; multivibrators; transistor logic circuits.

Engineering Tech. (c)
607L

Electronics III
Laboratory

Experiments on power amplifiers; feedback amplifiers, sinusoidal and non-sinusoidal oscillators; differential amplifiers; operational amplifiers; logic circuits. Three hours of laboratory per week.

Engineering Tech. (C)
614

Industrial Electronics

Analysis of electronic control circuits in industry; analog and digital time delay circuits; silicon-controlled rectifier circuits; photoelectric devices; phase shift control.

Engineering Tech. (c)
616

Industrial Controls

Study of manual and automatic starting and speed control of AC and DC motors, overload protection, magnetic and solid state switching systems.

Engineering Tech. 508	(c)	Business Programming II	The application of COBOL to the solution of advanced problems in business. Techniques of programming using mass storing devices.
Engineering Tech. 613	(c)	Programming-RPG	A detailed study of the Report Program Generatory (RPG) language. Applications programs ranging from card-to-printer listings to updating of master files will be prepared for use with card, tape, and disc systems.
Engineering Tech. 622	(c)	Utility Programs	A course designed to familiarize the student with general purpose programs found in computer installations. These include sort-merge routines, report generators, magnetic tape routines, supervisory routines, and random access utility programs.
Engineering Tech. 515	(c)	Mechanics I	Study of forces as vector quantities; resultant of force systems; principles of mechanical equilibrium; application of basic principles to problems involving trusses, frames, machine elements; friction and internal forces.
Engineering Tech. 516	(c)	Mechanics II	Continuation of MET 515 with applications of basic principles of statics, introduction to dynamics of solids, study of various types of motion, Newton's second law, concept of work and energy, impulse and momentum.
Engineering Tech. 630	(c)	Manufacturing Techniques	Manufacturing methods, processes, tooling, and equipment. Topics include casting, heat treatment, hot and cold working, welding.
Engineering Tech. 630L	(A)	Manufacturing Techniques Laboratory	Practice and procedures of machine tool operation including lathes, drill presses, shapers, and milling machines. Three hours laboratory per week.
Engineering Tech. 700	(c)	Physical Measurements	Practice in the use and selection of instruments for measuring pressure, temperature, strain, force, flow rate, vibration, etc. Three hours lecture, three hours laboratory per week.

French (C) 885	Special Topics	Studies in French language, literature or civilization ranging from medieval to modern times. Topic is announced each time course is offered; May be taken three times for credit, if content is not repeated.
German (C) 885	Special Topics	Studies in German language, literature or civilization ranging from medieval to modern times. Topic is announced each time course is offered. May be taken three times for credit, if content is not repeated.
Italian (C) 885	Special Topics	Studies in Italian language, literature, or civilization ranging from medieval to modern times. Topic is announced each time course is offered. May be taken three times for credit, if content is not repeated.
Spanish (C) 885	Special Topics	Studies in Spanish language, literature, or civilization ranging from medieval to modern times. Topic is announced each time course is offered. May be taken three times for credit, if content is not repeated.
Russian (C) 885	Special Topics	Studies in Russian language, literature or civilization ranging from medieval to modern times. Topic is announced each time course is offered. May be taken three times for credit, if content is not repeated.
Soc. & An (C) 773	Australian and Oceanic Cultures	An anthropological analysis of ancient and contemporary cultures found in Australia and Oceania.
Industrial Engineering (A) 715	Industrial Engineering Analysis I	An introduction to the engineering design process and the survey and application of quantitative methods and decision making techniques engineers apply to the design and evaluation of industrial processes and systems for assuring reliability of performance. Emphasis on the philosophy of engineering design; problem definition, search for alternative solutions and specification of the final solution.

Industrial Engineering Facilities Design
(A) 801

The application of engineering techniques to the analysis, design, and justification of a production facility which may be product or service oriented. Equipment selection, process flow, material flow and material handling will be considered in the design of a system which is economically feasible and compatible with the processing requirements. The system design will involve field investigation, acquisition and analysis of data, and preparation of drawings.

Industrial Engineering Industrial Pollution
(C) 686R to 720 Control

Introduction to the thermodynamic and kinetic properties of the atmosphere and to the geophysical aspects of the natural water systems. Chemistry and physics of air and water pollution as related to modern methods for waste control in chemical operations including filtration, ejector aeration, deep well disposal, activated sludge treatment and disposal, and current approach to waste control education and program formulation.

Electrical Engineering Solar Energy Systems,
(A) 832 Synthesis and
 Optimization

Synthesis, analysis and optimization of systems and subsystems of a solar energy installation. Small scale (residential/business) systems, direct heating and cooling and electricity generation. Large scale solar powered electrical generating plants/farms.

Electrical Engineering Solar Energy Engineering
(A) 831

Fundamentals of systems that use solar energy as an energy input. Analysis of collection methods and energy conversion, transmission, storage and utilization. Application examples from direct heating and cooling and electrical generation. Environmental implications of the utilization of solar energy.

NOTE: A Addition
 D Deletion
 C Change

Chemistry (C) 706	Chemical Literature	Examination of standard reference works and periodicals with written reports based upon technical writing procedures.
Chemistry (c) 709	Introduction to Polymer Chemistry	Introduction to polymerization and polymer properties.
Chemistry (c) 711,712 Must be taken in sequence	Biochemistry I, II	An introduction to the chemistry and metabolism of living organisms. Laboratory work is designed to illustrate modern biochemical methods. This course is primarily designed for medical technology and biology majors. Two hours of lecture and three hours of laboratory with discussions.
Chemistry (C) 713	Clinical Biochemical Techniques	Advanced clinical techniques designed for medical technology majors. Two three-hour laboratories per week.
Chemistry (C) 719,720,721 Must be taken in sequence	Organic Chemistry I,II,III	A systematic study of organic compounds, reactions, and theories. The laboratory includes typical preparations and procedures of analysis. Three hours of lecture and three hours of laboratory.
Chemistry (C) 730	Clinical Radio-Chemistry	An introductory and systematic study of radioisotopes in clinical practice. Three hours of lecture.
Chemistry (C) 831	Inorganic Chemistry Laboratory	The preparation of typical inorganic compounds and their characterization. Six hours of laboratory with discussion.
Mathematics (A) 580,581,681	Biomathematics I,II,III	An integrated course in mathematics and computer science having as a central theme the role of mathematical models in explaining and predicting phenomena in the life sciences. Specific topics include: computer programming, differential and integral calculus, matrix operations, linear programming, differential and difference equations, probability, Markov chains and applications to the biological sciences.
Mathematics (A) 781	Biostatistics	Statistical methods and their application to biological sciences. Specific topics include: descriptive statistics, testing hypotheses, analysis of count data, correlation, regression non-parametric statistics and analysis of variance.

Political Science (A) 717	Health Care Policy	Seminar and field work on the politics of health policy formation and alternative proposals for organization of health care delivery, manpower, and finance systems; to include on-site inspections of innovative programs, interviews with administrative and planning personnel.
Soc & An (c) 722	Social Casework Methods	Analysis of the major processes employed in social casework, the relation of these methods to other fields, such as medicine, nursing, teaching, legal counseling, personnel, and business administration. Lectures and field work.
Soc & An (A) 745	Medical Sociology	Social attitudes toward illness. A study of cultural and social factors in disease processes, distribution of disease, social definitions of illness, and organization of the health professions and health facilities. Lectures and field work.
H & PE (C) 896	Physiology of Exercise	Physiological bases and function of the body during exercise, stress, and muscular activity.

CURRICULUM CHANGES TO BE APPENDED TO SENATE AGENDA
 (These courses have been circulated according to the procedures outlined in the Constitution and By-laws--no objections were received)

<u>Department and Catalog Number</u>	<u>Course Title</u>	<u>Description</u>
Geology 707	Applied Geophysics	Applications of geophysics to geological problems. Emphasis is on the geophysical exploration for mineral and fuel resources. The study will include fundamentals of terrestrial electricity, seismology, geomagnetism, terrestrial heat, terrestrial gravity in addition to the structure and composition of the earth as determined by geophysical methods.
Biology 686	Introductory Soil Science	Fundamentals of the biological, chemical and physical properties which influence soil productivity. Laboratories include observation, evaluation and quantitative determination of soil properties which influence growth of crop and forest species. Three hours of lecture and two hours of laboratory per week.
Biology 805	Ichthyology	The ecology, evolution and taxonomy of fishes. Emphasis will be given to the fishes of the midwestern United States. Three hours of lecture and two hours of laboratory per week.
Soc & An 716	Anthropology: Maya, Aztec, and Inca Cultures	The origins, cultures, and achievements of the classical civilizations of the New World: Aztec, Inca, and Maya.
Soc & An 720	introduction to Social Work	Historical survey of the development of social services and social work as a profession in Western civilization with emphasis on the United States. Visits to local agencies.
Soc & An 721	Social Policy	A survey of the programs, organizations, and functions of social services, and the effects of government policies upon the administration of these services. May include visits to local agencies.
H & PE 763	Internship in Elementary Physical Education	Supervised elementary school experiences including teaching, video tape evaluations, use of media, team teaching and interdisciplinary approaches. Will require practical experience in the elementary schools.

Virginia Phillips
 Co-Chairman

CURRICULUM CHANGES TO BE APPENDED TO SENATE AGENDA
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Soc & An 721	Social Policy	A survey of the programs, organizations, and functions of social services, and the effects of government policies upon the administration of these services. May include visits to local agencies.
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Virginia Phillips
 Co-Chairman