1-1-1996

Faculty Senate Minutes 1995 - 1996

Missouri University of Science and Technology Faculty Senate

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ACADEMIC COUNCIL REPRESENTATIVES 1995-97

Nuclear Engineering                    Gary Mueller  
Civil Engineering                      Jerry Westphal  
                                        Charles Morris  
Military Science                       John Buckwalter  
Metallurgical Engineering              Ron Kohser  
Mathematics                             Steve Clark  
                                        Albert Goodman  
History and Political Science          Michael Meagher  
Mining Engineering                     Jerry Tien  
Aerospace Studies                      John B. Sullivan  
Geology and Geophysics                 Robert Laudon  
Psychology                             Richard Hall  
Economics                               Greg Gelles  
English                                 Dennis Perry  
Chemistry                               Shubhender Kapilla  
                                        Nicholas Leventis  
Electrical Engineering                 Nancy Hubing  
                                        Kurt Kosbar  
                                        Tom Van Doren  
MAEEM                                   L.R. Dharani  
                                        Les Koval  
                                        Bruce Selberg  
                                        John Sheffield  
Life Science                           James Hufham  
Engineering Management                 Henry Metzner  
                                        Susan Murray  
Ceramic Engineering                    Doug Mattox  
Geological and Petroleum Eng.          Jeffrey Cawlfied  
Computer Science                       Howard Pyron  
                                        Garnett Walters  
Philosophy and Liberal Arts            Lance Haynes  
Physical Education                     Linda Roberts  
Basic Engineering                      Dan White  
Chemical Engineering                   Neil Book  
Physics                                

Student Representatives: Amy Johnston, Brian Harris, Rich Lee, Suzanne Lynch, and Andy LeCren

Academic Council Meeting Dates

September 28, 1995  
October 19, 1995  
November 16, 1995  
January 25, 1996  
February 29, 1996  
April 18, 1996  
June 20, 1996
TO: Greg Gelles  
FROM: Walt Gajda  
SUBJECT: Promotion/Tenure Process  

The following was sent to the Deans:

"As you know, executive order 6, issued by President Russell, states that the recommendations of each committee and administrator (dean and chair) be communicated to each candidate to allow for rebuttal. I have suggested changes in wording which would limit the executive order obligations to the dean and chair only, thereby reducing the amount of appeal time that has to be built into the process. However, the present order stands as of this date and prudence compels me to suggest a time table for the 1995-96 academic year which would allow rebuttal and reconsideration at each level. Please let me know your comfort level with the following timetable.

July 20-memo initiating process from my office to the deans  
Oct. 2-departmental committee recommendations to candidate  
Oct. 2-13-rebuttal and reconsideration  
Oct. 13-dossiers to department chair  
Oct. 27-chair recommendations to candidates  
Oct. 27-Nov. 10-rebuttal and reconsideration  
Nov. 10-dossiers to dean  
Dec. 4-dean recommendations to candidate  
Dec. 4-Jan. 2-rebuttal and reconsideration  
Jan. 2-dossiers to campus committee  
Feb. 15-campus committee recommendations to candidate  
Feb. 15-March 8-rebuttal and reconsideration  
March 8-dossiers to vice chancellor and chancellor."

To date, no dean has offered comment and I assume the timetables suggested are being followed.

To reach as much harmony as possible between the campus promotion/tenure guidelines and the President’s executive order, I propose that rebuttal materials accompany the dossier but not be considered a formal part of the dossier. If this is not the case, the President’s executive order, when combined with the campus procedure requiring that any dossier to which significant material be added be returned to the departmental committee and be reevaluated by each committee and administrator, would lead to multiple loops and potentially long delays in reach final decisions.

The Chancellor and I would appreciate any suggestions on this matter.
FALL SEMESTER 1997

Fall Semester Opens 7:30 a.m.  August 19, Tuesday
Freshmen Orientation  August 19, Tuesday
New Student Orientation  August 20, Wednesday
Student Registration 8:15 a.m. - 3:30 p.m.  August 21, Thursday
Classwork begins 7:30 a.m.  August 25, Monday
Labor Day Holiday  September 1, Monday
Mid-Semester  October 18, Saturday
Thanksgiving vacation begins 7:30 a.m.  November 26, Wednesday
Thanksgiving vacation ends 7:30 a.m.  December 1, Monday
Last Class Day  December 12, Friday
Reading Day  December 13, Saturday
Final Examinations begin 8:00 a.m.  December 15, Monday
Final Examinations end 5:30 p.m.  December 19, Friday
Fall Semester Closes 5:30 p.m.  December 20, Saturday

SPRING SEMESTER 1998

Spring Semester Opens 7:30 a.m.  January 12, Monday
Student Registration 8:15 a.m. - 3:30 p.m.  January 12, Monday
Classwork begins 7:30 a.m.  January 14, Wednesday
Martin Luther King Jr. Recognition Holiday  January 21, Monday
Mid-Semester  March 7, Saturday
Spring recess begins 7:30 a.m.  March 12, Thursday
Spring recess ends 7:30 a.m.  March 16, Monday
Spring break begins 7:30 a.m.  April 4, Saturday
Spring break ends 7:30 a.m.  April 13, Monday
Last Class Day  May 8, Friday
Reading Day  May 9, Saturday
Final Examinations begin 8:00 a.m.  May 11, Monday
Final Examinations end 5:30 p.m.  May 15, Friday
Spring Semester closes 5:30 p.m.  May 15, Friday
May Commencement  May 16, Saturday

*SUMMER SESSION 1998

Summer Session opens 7:30 a.m.  June 8, Monday
Student Registration 8:15 a.m. - 3:30 p.m.  June 8, Monday
Classwork begins 7:30 a.m.  June 9, Tuesday
Independence Day Holiday  July 3, Friday
Summer Session Closes 12:00 noon  August 1, Saturday

*Schedule shows the regular eight-week Summer Session. Other special course sessions may be scheduled.

CLASS SESSIONS (EXCLUDING FINAL EXAMINATIONS)

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The faculty is reminded of the religious and other holidays that a substantial number of students may wish to observe.
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<td>Industry Career Day</td>
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<td>Rolla Night at the Engineers Club of St. Louis</td>
<td>Thursday, September 26, 1996</td>
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<td>Spring Career Day</td>
<td>Wednesday, February 26, 1997</td>
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<tr>
<td>Science and Engineering Fair</td>
<td>Friday &amp; Saturday, March 28 &amp; 29, 1997</td>
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<td>Spring Open House</td>
<td>Saturday, March 22, 1997</td>
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<td>Commencement*</td>
<td>Saturday, May 17, 1997</td>
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*Approved as part of 1996-97 calendar
Home Football Schedule - 1996

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<td>September 21</td>
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<td>October 5</td>
<td>Missouri Southern</td>
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<td>October 19</td>
<td>Washburn State</td>
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<tr>
<td>November 9</td>
<td>Pittsburg State</td>
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Other Dates:

- Spring Recess - March 13 - March 17, 1997
- Spring Break - April 5-14, 1997
- EIT Exam - Saturday, October 26, 1996 & Saturday, April 19, 1997
- Easter - March 30, 1997
MEMORANDUM TO: UMR Faculty Members

FROM: Myron Parry, Secretary, General Faculty

DATE: August 24, 1995

SUBJECT: Agenda for the General Faculty Meeting

Wednesday, August 30, 1995 4:00 P.M.

Humanities/Social Science - G-5

I. Call-to-Order: 4:00 P.M. John T. Park

II. Approval of Minutes of the May 2, 1995 General Faculty Meeting

III. Unfinished Business - None

IV. Introduction of the Officers of the General Faculty John T. Park

V. Report of RP&A Committee W. Lance Haynes

1. Election to Standing Committees

VI. Introduction of New Faculty and Announcement of Faculty Awards John T. Park

VII. New Business - None

VIII. Chancellor’s Report John T. Park

IX. Announcements

A special closed meeting of the General Faculty will be held immediately following the regular meeting for the purpose of presenting honorary degree candidates.

NOTE THE CHANGE TO WEDNESDAY MEETING TIME
Memorial Resolution

Harry A. Brown
Professor of Physics

Harry Allen Brown, Professor of Physics, was born on April 26, 1925 in Queens, New York, and died on January 20, 1995 in Rolla, Missouri. He grew up and received his early education in New York City. Upon graduation from high school Harry joined the Navy. He served as a radio technician and was stationed in the Pacific during the Second World War. At the end of the War he entered the University of Wisconsin where, in 1951, he received his Bachelor and Master of Science degrees. Continuing at Wisconsin, he worked with Joaquin M. Luttinger developing the models for ferro- and antiferro-magnetism. He received his Ph.D. in 1954 for his calculation of the Curie temperatures for ferro- and antiferro-magnetic lattices. This fundamental work, initially published in the Physical Review of the American Physical Society, was subsequently reprinted, twelve years later, in “Selected Papers in Physics” published by the Physical Society of Japan.

Harry’s resume reflects the great mobility of the scientists of his generation. In 1954-55 Harry was an instructor at Oberlin College in Ohio. In 1955 he joined the faculty of the University of Miami in Florida as an Assistant Professor of Physics. He was promoted to Associate Professor of Physics at the University of Miami in 1958. Then, in 1959, Harry returned to the New York area as an Associate Professor at St. John’s University. During this period he was also employed as an industrial consultant to the Research Laboratory of the National Carbon Company (1955-58) and to the Research Laboratory of the AMF Company (1960-61). In 1961 Harry again came to the Midwest, this time as Senior Physicist at the University of Chicago’s Laboratory for Applied Sciences. But Harry enjoyed being in the classroom. In 1963-64 he held the first of his two Fulbright Lectureships at the University de Sao Paulo at Sao Carlos, Brazil. Returning to the United States, he spent a year at San Francisco State College as an Associate Professor before joining the Physics Department at the University of Missouri - Rolla in 1965. Here he became Professor of Physics in 1970. In 1971-72 Harry accepted his second Fulbright Lectureship at the University de Sao Paulo.

At UMR Harry continued to work on models for magnetism and other critical phenomena. He supervised several students whose research in these areas earned them advanced degrees. Harry maintained an active research program, publishing regularly all of his life.

As evidenced by his two Fulbright Lectureships at Sao Paulo, Harry was an excellent lecturer. His principal responsibility at UMR lay with the courses in the graduate physics program. But he often spoke of the year he spent at Oberlin College as an instructor and the challenge and the rewards associated with introducing liberal arts students to concepts of physics. At UMR he particularly enjoyed teaching the non-calculus introductory physics course, Concepts in Physics, better known as “Physics for Poets”.
UMR's Approach to Excellence

The Malcolm Baldrige National Quality Award and the Missouri Quality Award have received a great deal of attention in recent years. However, they represent much more than just an award. Their main purpose is to provide a self assessment tool. This tool is being used by an increasing number of institutions throughout the United States. If properly used, it can help UMR clearly identify and prioritize who we serve, what their needs are, how our processes are used to supply these needs and what must be done to make these processes as effective as possible.

Basically, every component of the university exists to serve students and to a larger extent, the society of which we are a part. The processes used to provide this service are sometimes complex and difficult to analyze. The award criteria provide an approach for doing this that is both comprehensive and thorough yet does not dictate how a university must accomplish its goals. There are seven distinct categories in which this examination takes place:

1. The effectiveness of an institution's leadership.
2. The use of data and information in planning and decision making.
3. The effectiveness of strategic and operational planning.
4. The effectiveness of human resource development and management.
5. The management of educational programs and support services.
6. Academic program and support service results.
7. Student/constituent satisfaction.

Responses to these criteria have caused UMR to evaluate its approach to leadership and the degree to which planning and decision-making must be shared to maximize its effectiveness. UMR has expanded the strategic planning process to involve everyone at all levels of the university. Process teams involving over 60 faculty and staff have been established to analyze the processes used to serve our constituents. We are also working to identify, evaluate and prioritize key quality indicators of these processes.

It is critical that UMR continue this self evaluation and improvement process. Rapid changes in technology and the world's competitive environment are making increasing demands of our graduates. At the same time, financial pressures and the demands of constituents will also continue to increase in the foreseeable future. This is all taking place in the midst of an institution that already has high standards and is performing at a very high level in both the academic and non-academic areas. Continued high performance and future improvements are possible only because of the teamwork and dedication that exists throughout UMR.

It is through these efforts that results such as those summarized below are possible. We have every right to be proud of our past accomplishments and at the same time all share in the need to seek ways to better serve those who depend on us.
Table 7-1. Student satisfaction with faculty and courses (max = 4.0).

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<td>Instructive Content</td>
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<td>Preparedness</td>
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<td>2.8</td>
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</table>

Figure 7-3. Academic Enhancement Center Usage.

Figure 7-9. UMR student satisfaction vs. UM system and other Missouri schools (max = 5).

Figure 7-24. Students selected college due to job opportunities upon graduation.

Figure 6-1. GPA for all undergraduates, all jurisdictions.

Figure 6-11. Percent of 1993 ACT scores in four intervals.

Figure 6-21. 1993-94 junior return rates, University of Missouri System.
Figure 7-5. Helpfulness and competence of library personnel, 1994.

Figure 6-17. Number of students applying to participate in the following year’s OUR Program.

Figure 6-55. Expenditures on student services, 1990-94.

Figure 6-40. Ratio of networked computers in CLCs to students.

Figure 6-33. Grant and contract per faculty awards for public service.

Figure 6-34. Credit and non-credit extension per faculty expenditures.

Figure 7-12. Alumni giving to annual fund.
Figure 6-38. Percentage of campus networked.

Figure 7-25. Companies' satisfaction with Career Opportunities Center.
September 1, 1995

Shirley D Hobson
202 Norwood
Acad Council

Dear Shirley:

I am pleased to inform you that UMR's Missouri Quality Award Application has survived two stages of review and that UMR has been selected for a site visit. The site visit will occur on September 17 through 20.

The site visit team consists of six reviewers plus an overseer. The team will investigate all phases of the university’s activities. They will be closely examining the processes that we use to determine how we assure the quality of our programs. They will be interested in how we improve the processes we are using and they will want to see the surveys and data that we are using to determine the quality of our work.

After the review is completed, the team will provide the campus with an intensive evaluation of how the university is performing. We can use this professional assistance as the basis for our efforts to improve our programs. In addition, the review provides us an opportunity to demonstrate the quality of what we are doing and to show others our ongoing efforts to provide the very best possible service to our students, industry, the State of Missouri, and each other.

I have attached a brief description of UMR’s approach to this Quality Award. This description includes highlights of UMR's accomplishments that were included in the Missouri Quality Award Application. Copies of the entire application were distributed earlier to members of the Chancellor’s Council. You are encouraged to obtain a copy for review. If you have any difficulty obtaining a copy, please give my office a call at extension 4094, or send an electronic mail message to castlemm@shuttle.cc.umr.edu.

I want to thank you in advance for the time and effort required to prepare for the site review. UMR can take pride in what we are doing and in our efforts to improve a program that is already very good. I am confident that the visitors will be very impressed with what they see at UMR and that we will learn a great deal from our interactions with the site visit team. Your assistance in making this a pleasant and successful visit for both the site visit team and the campus will be greatly appreciated.

Sincerely yours,

John T. Park
Chancellor

Attachment
MEMO TO: Academic Council
FROM: Curricula Committee
RE: September 7, 1995, Meeting

For the information of the Academic Council, the following EC1's have been submitted by the University department for an experimental course that will be offered in the near future.

EC1's Reviewed:

EC1 615, Geological Engineering 301, *Groundwater Remediation*. Approved for WS96. 3 hours credit. No prerequisites.

EC1 616, English 301, *Shakespeare's English History Plays*. Approved for WS96. 3 hours credit. No prerequisites.

EC1 617, English 201, *Science in Sherlock Holmes Stores*. Approved for WS96. 3 hours credit. No prerequisites.

EC1 618, Metallurgical Engineering 301, *Steelmaking*. Approved for WS96. 3 hours credit. Prerequisites: Met Eng 281 or Cer Eng 259; Met Eng 204 or equivalent.

EC1 621, Engineering Management 301, *Integrated Product/Process Development*. Approved for WS96. 3 hours credit. Prerequisites: Graduate or Senior Standing.

EC1 622, Engineering Management 301, *Fundamentals of Manufacturing Engineering Management*. Approved for WS96. 3 hours credit. Prerequisites: Graduate or Senior Standing.

EC1 623, Ceramic Engineering 401, *Advanced Ceramics and Processes*. Approved for WS97. 3 hours credit. Prerequisite: Graduate Standing.

EC1 624, Art 301, *Film & Comedy*. Approved for WS96. 3 hours credit. Prerequisites: Introductory Art or Literature course.

EC1 625, Computer Science 301, *Distributed Operating Systems*. Approved for WS96. 3 hours credit. Prerequisites: CSci 284, CSci 253.
EC1 626, Computer Science 301, **Software Quality Assurance.** Approved for WS96. 3 hours credit. Prerequisites: CSci 306.

EC1 628, Political Science 201, **Contemporary Political Theory.** Approved for WS96. 3 hours credit. Prerequisites: Pol Sci 090 or Hist 111 or 112.

EC1 629, Geology 401, **Advanced Palynology.** Approved for WS96. Prerequisites: Geol 223 or Geol 329.

**The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1's be approved.**

CC1's Reviewed:

CC1 4016, Geological Engineering 344, **Remote Sensing Technology.** Removed from table. Approved for FS96. Change in course number from 246. Change in course title from Remote Sensing. Change in prerequisites from GeE 50 "TO" GeE 248. Change in course description to: Principles of digital image processing including image enhancement and multispectral classification. Emphasis upon design and implementation of remote sensing systems and analysis of remotely sensed data for geotechnical and environmental investigations. This course was removed as a "Required for Majors" course and replaced as an "Elective for Majors".

CC1 4017, Geological Engineering 248, **Geographic Information Systems.** Removed from table. Approved for FS96. Change in course number from 346. Change in prerequisites from GeE 50 "TO" GeE 275. Change in description to: Concepts, algorithms and components of geographic information systems. Applications of the technology for the modelling and analysis of geological parameters for mineral resource exploration, geotechnical studies and environmental monitoring. This course is now required for majors.

CC1 4021, Computer Science 330, **Automata Theory.** Approved for WS96. Change in course title from Formal Language and Automata Theory I.

CC1 4022, Management Systems 001, **Introduction to Management Systems.** Approved new course for WS96. 1 hour credit. No prerequisites. Description reads: Introduction to Management Systems as a profession. Orientation to campus facilities and services. Instruction and practice in basic study, test-taking, computer and collaborative learning skills.

CC1 4023, Art 222, **Revolution & Romanticism in the Arts, 1785-1832.** Approved for WS96. Change in prerequisites from None "TO" Introductory level Art or History course.

CC1 4024, Art 255, **Script to Screen: How Books Become Films.** Approved for WS96. Change in prerequisites from None "TO" Introductory level Art or Literature course.

CC1 4025, Management Systems 000. Approved change in curriculum for FS96. New curriculum approved which shows addition of new required course Mgt Systems 001.
CCI 4026, Psychology 000. Approved change in catalog description which reads: D. A cumulative grade point average of 2.0 must be earned in all courses work taken in the major field. Upper-class (200- and 300- level) courses completed with grades of "D" may not be included in the major field without the approval of the adviser and the chairman of the department concerned.

CCI 4028, Metallurgical Engineering 000. Approved for Fall 1996. Change in courses in the emphasis areas.

CCI 4029, Engineering Management 479, Smart Engineering System Design. Approved new course for WS96. 3 hours credit. Prerequisites: EMgt 378 or equivalent neural network course. Description reads: The course covers the emerging technologies for the design of Smart Engineering Systems, namely; evolutionary programming, fuzzy logic, wavelets, chaos and fractals are introduced. Integration of these techniques for designing Smart Engineering Systems are stressed through a design project.

CCI 4030, Engineering Management 251, Marketing Management. Approved for WS96. Change in prerequisites from EMgt 211 "TO" EMgt 209.


CCI 4033, Engineering Management 345, Energy Management Engineering. Approved for WS96. Change in prerequisites from EMgt 208, Senior standing "TO" EMgt 209, Senior Standing.


CCI 4036, Military Science 102, Basic Leadership Laboratory. Approved new course for WS96. 1 hour credit. Prerequisite: To accompany Mil Sci 040. Description reads: Hands-on experience in basic military leadership skills, supplementing, but not duplicating classroom instruction in MSI and MSII courses. Training is conducted at squad (8 person group) level with emphasis on leadership development at that level. Topics include oral communication and presentations, decision making, drill and ceremonies, squad tactics, land nav, and the tactical bivouac.
The Curricula Committee recommends to the Academic Council that the curricula changes on the following CCl’s be approved.

CCl’s reviewed:
CCI 4038, Political Science 315, American Public Policy. Approved for Fall 1996. Change in course title from Public Policy Analysis.

CCI 4039, Political Science 316, The American Presidency. Approved new course for Fall 1996. 3 hours credit. Prerequisite: Pol Sci 90. Description reads: Historical development of the presidency; emphasis on the constitutional powers and limits of the office and the political contextual variables which influence presidential behavior.


CCI 4050, Petroleum Engineering 437, Advanced Reservoir Engineering I. Approved for Winter 1996. Change in prerequisites from PE 329 "TO" PE 308 and PE 341.

Howard Pyron, Chair
I would like to thank you for your quick response to Linda Bramel's fax you received yesterday. I have incorporated most of the suggested changes into the final version of this table which is attached.

Please remember that the items marked with an "*" will not be included on the process team's handout. These items are for the UMR faculty and staff to refer to when the process team visits their area. Also, these are programs and processes that have either been initiated or changed in some way by data obtained from the 1994 Missouri Quality Award Feedback Report and the National Institute of Standards and Technology (NIST) Pre-Pilot Baldrige Feedback Report

Thank you for your continued support of UMR and the quality movement.
### DATA FACILITATORS and INFORMATION RESOURCES

- **Student Record Data**
  - Myron Parry
- **Fiscal Data**
  - Carol Heddinghaus
- **Student Test/Survey Data**
  - Carl Burns
- **Retention**
  - Debra Robinson
- **Administrative Data Processing**
  - Art Brooks
- **Application Information**
  - Mike McKean
- **Research**
  - Henry Wiebe
  - Walt Gajda
  - Bob Mitchell
  - Lee Saperstein
  - John Fulton
  - Bill Onurtag
  - Keith Blackford
  - Jan Buhlinger
  - Greg Gelles
  - Jerry Westphal
  - Mary Lou Castelman
  - Linda Bramel

### Program/Process | Driving Data | Contact Person(s)
--- | --- | ---
**Strategic Action Plan** | 1994 Missouri Quality Award Feedback Report National Institute of Standards and Technology (NIST) Pre-Pilot Feedback | John T. Park
 | *students | *faculty | *staff*
**Master Student Fellowship Program** | Admissions Data Graduate Student Data | Dave Allen
 | Bob Mitchell
**Campus Community Orientation** | Retention Data Student Satisfaction Survey National Surveys | Debra Robinson
**Freshman Design Courses** | Retention Data Student Satisfaction Survey National Surveys ABET Data | Ron Fannin
**Professional Academic Success Skills** | Retention Student Satisfaction Survey | Debra Robinson
**Research Support** | Research Grant Data | Walt Gajda
**Grant Matching** | National Surveys Student Satisfaction Surveys Alumni Surveys | Bob Mitchell
| Lee Saperstein | John Fulton | Tom Hernek
**Sponsored Research Incentives** | *SURE | *Master Student Fellowship | *GAANN
**Teaching Innovations** | National Surveys Student Satisfaction Surveys Alumni Surveys | Bob Mitchell
| Lee Saperstein | John Fulton | Tom Hernek
**Best Class (Physics)** | National Surveys Student Satisfaction Surveys Alumni Surveys | Bob Mitchell
| Lee Saperstein | John Fulton | Tom Hernek
**BEST Dynamics** | National Surveys Student Satisfaction Surveys Alumni Surveys | Bob Mitchell
| Lee Saperstein | John Fulton | Tom Hernek
**Faculty and Staff Development** | Faculty Survey Staff Survey 1994 Baldrige Results | Walt Gajda
| John Molchan
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<th>Student Satisfaction Survey</th>
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<td>*GAANN</td>
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<td>University of Missouri Fiscal Reports</td>
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<td>Outreach and Constituent Relation</td>
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<td>Industry Survey</td>
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<td><strong>IN PROGRESS FY 1995-96</strong></td>
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<td>Learning Communities</td>
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ENGINEERING SCHOOLS
THE TOP 50 PROGRAMS

CURRENT FUND REVENUE AND EXPENDITURES
FISCAL YEAR 1994-95
DOLLARS IN MILLIONS

REVENUE

<table>
<thead>
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<th>Source</th>
<th>Amount (Millions)</th>
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<tr>
<td>Tuition &amp; Fees</td>
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<tr>
<td>State Approp</td>
<td>$37.10</td>
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<td>Gifts/GRTS/Contracts</td>
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<td>Auxiliary</td>
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<td>Other</td>
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EXPENDITURES

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<th>Category</th>
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<td>Student Srv</td>
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<td>Academic Spt</td>
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<td>Inst Spt</td>
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<td>Scholar/Fell</td>
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<td>Auxiliary Enter</td>
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<td>Transfers</td>
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To: UMR FACULTY

Academic Council Meeting
Thursday, September 28, 1995 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the June 22, 1995 Meeting

II. Reports and Responses
A. President’s Report (5 min.) Jerry Westphal

B. Chancellor’s Report (10 min.) John Park
   (10 minutes for Questions and Answers)

III. Reports of Standing and Special Committees
A. Curricula (5 min.) Howard Pyron
   1. *Report No. 1

B. Personnel (No report)
   1. Dean and Chair Search Procedures
   2. Tenure and Promotion Procedures

C. R P &A (10 min.) Lance Haynes
   1. Election of Academic Council Officers
   2. Committee Elections
   3. Question of authority over PS&T Committee

IV. Old Business

V. New Business and Announcements
   1. Staff Council
   2. Student Council

*Information distributed with agenda to Academic Council members and department chairs.
XXV,1. The meeting was called to order promptly at 1:30 P.M. by President Jerry Westphal. One substitution was noted—Cogell for Fulton.

.1 It was moved and seconded to approve the minutes of the June 22, 1995 meeting as distributed. Motion carried.

.2 REPORTS AND RESPONSES

A. CHANCELLOR'S REPORT

1. Dr. Park introduced the three newer Curators, who were visiting the UMR Campus: Malaikea Horne, Ted Beckett, and Paul Combs. The Chancellor thanked the Curators for coming, and informed the Council that the Curators had been very complimentary about the working relationship at UMR between Administration, Academic Council, Student Council, and Staff Council.

2. The Chancellor mentioned the Missouri Quality Award site visit. He stated that there were positive comments, with remarks on the positive attitude and enthusiasm.

3. Dr. Park said there is a "push" system-wide for a new planning process, and stated that UMR was far ahead of the other campuses in this respect.

4. The Chancellor also said the Curators are pushing to develop cooperation between the four campuses, but no decisions have been made. He said UMR has more to gain than lose from this process, and that we need to be willing to cooperate without giving up quality. Along with this, Dr. Park said they are also pressing for a common calendar.

5. Dr. Park gave some "good news items"—approval of the various building projects.

6. The only "bad-news item" was the impending loss of the Bureau of Mines.

7. Dr. Park announced that the results of all the questionnaires (faculty, staff, alumni, and industry) would be circulated shortly to all employee groups.

B. Q & A—There were no questions from the floor.
C. PRESIDENT’S REPORT

1. Professor Greg Gelles gave a brief report from the most recent meeting of the Board of Curators and items presented at that time:
   a. University Hospital’s potential partnership with a healthcare corporation in California.
   b. The University of Missouri taking over Missouri Rehab Center at Mt. Vernon.
   c. A talk by Richard Wallace on cooperative programs between the University and other colleges in Missouri.
   d. A presentation by Gayatri Bhatt on Outstanding Student Achievements.

2. Professor Westphal stated that he would like to give a brief "State of the Council" speech, and hoped it would be an ongoing thing year to year.
   a. Highlights from the past year that he mentioned were:
      1. Referral on + and - grades for transfer
      2. Action on Annual review of Administrators
      3. Referral on Informal Grievance Procedure
      4. Referral on Rescheduling tests
      5. Referral on Parking Permit Procedure
      6. Referral on Course Prerequisites
      7. Referral on Faculty Awards
   b. He then mentioned the fact that a lot of time had been spent in Academic Council meeting in the past year on discussion from the Campus Climate Committee. He said that President-Elect Greg Gelles is now a member of that committee, and would keep the Council informed.
   c. Dr. Westphal also mentioned Program Review and some of the actions pertaining to it that took place in the past year.
   d. Professor Westphal thanked the Council for allowing him to serve as president, saying it had been a real learning experience. He thanked the Council office secretary, Shirley Hobson, for her continuing commitment to the work of Academic Council and RP &A, and called for a round of applause for her.

3 REPORTS OF STANDING AND SPECIAL COMMITTEES

A. Curricula—Professor Howard Pyron presented this report. He briefly referred to the EC1’s listed on previously distributed material, and then made a motion to approve CC1’s as distributed. There was a second and motion passed.

B. RP & A
1. During the brief absence of Professor Lance Haynes, chair of the committee, Shirley Hobson distributed ballots for committee elections. Members of Academic Council marked their ballots and returned them to be counted and results to be announced at a later date.
2. Professor Haynes returned to the meeting and presented the proposed slate of officers of Academic Council for 1995-96. The nominees were: President-Greg Gelles; President-Elect-Jeffrey Cawlffield; Secretary-Bruce Selberg; and Parliamentarian-Dennis Perry. There were no nominations from the floor, and Professor Haynes moved to elect the slate by acclamation. Professor Garnett Walters seconded, and the motion carried by voice vote.

.4 INCOMING PRESIDENT’S SPEECH

A. Newly-elected president, Greg Gelles, made a brief acceptance speech, beginning with a call for a round of applause for outgoing president, Jerry Westphal. He then elaborated on his thoughts and projections for the coming year.

.5 There was no old business presented.

.6 New Business and Announcements

A. Staff Council-Vice President, Mike Orlando thanked the Academic Council for allowing him to come and speak at their meeting, and invited anyone interested to come to Staff Council meetings. He said that he felt that interaction between the faculty, staff, and students is very important.
B. Student Council-Brian Harris voiced an objection on behalf of the Student Council as to the handling of a referral on a proposed Student Judicial Board. Professor Lance Haynes made a motion to refer the matter back to the Student Conduct Committee. Brian Harris stated that he was working on a new proposal, and that the motion might be premature. Professor Haynes then withdrew the motion.

There was a motion and a second to adjourn. Motion passed by voice vote.

Respectfully submitted,
Bruce Selberg
Secretary

*Minutes of the Academic Council are considered official notification and documentation of actions approved.
MEMO TO: Academic Council

FROM: Curricula Committee

RE: October 5, 1995, meeting

For the information of the Academic Council, the following EC1 has been submitted by the University department for an experimental course that will be offered in the near future.

EC1 642, Petroleum Engineering 301, Environmental Petroleum Applications. Approve for WS96. 3 hours credit. Prerequisite: Senior standing.
TO: Graduate Council  DATE: Oct. 5, 1995
FROM: Frank D. Blum  SUBJECT: Membership Curators’ Professor of Chemistry and Chair, Graduate Faculty

The following list is to my knowledge the current makeup of the Graduate Council.

Chair: Frank D. Blum, Chemistry
Secretary: Gary Patterson, School of Engineering

<table>
<thead>
<tr>
<th>Members Elected in May of 1994 (even years)</th>
<th>Members Elected in May of (actually Sept) of 1995 (odd years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering - Rex Reed</td>
<td>Aerospace Engineering - S. N. Balakrishnan</td>
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<tr>
<td>Computer Science - Ralph Wilkerson</td>
<td>Ceramic Engineering - Darrell Ownby</td>
</tr>
<tr>
<td>Economics - Richard Bryant</td>
<td>Engineering Mechanics - Lokesh Dharani</td>
</tr>
<tr>
<td>Electrical Engineering - Richard DuBroff</td>
<td>Mathematics and Statistics - Stephen Clark</td>
</tr>
<tr>
<td>English - Dennis Perry</td>
<td>Geology &amp; Geophysics - Neal Anderson</td>
</tr>
<tr>
<td>Geol &amp; Petr Engineering - Shari Dunn-Norman</td>
<td>History and Pol Sc - Lawrence Christensen</td>
</tr>
<tr>
<td>Geology &amp; Geophysics - Neal Anderson</td>
<td>Life Sciences - Nord Gale</td>
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<tr>
<td>History and Pol Sc - Lawrence Christensen</td>
<td>Mechanical Engineering - Al Crosbie</td>
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<tr>
<td>Life Sciences - Nord Gale</td>
<td>Metallurgical Engineering - Joe Newkirk</td>
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<tr>
<td>Mechanical Engineering - Al Crosbie</td>
<td>Petroleum Engineering - see Geol Eng</td>
</tr>
</tbody>
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Ex. Officio: Walt J. Gajda, VCAA; Robert Mitchell, Gary Patterson, and Vicki Gibbons (Eng), Nick Tsoulfanidis, Ron Kohser, and Paula Cochran (M&M), John Fulton and Roberta Cox (A&S).
To: UMR FACULTY

Academic Council Meeting
Thursday, October 19, 1995; 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the September 28, 1995 meeting

II. Reports and Responses
A. President’s Report (To include IFC) (5 min.) Greg Gelles
B. Chancellor’s Report (10 min.) John Park
   (10 minutes for Questions and Answers)
C. Vice Chancellor for Academic Affairs Report-Walt Gajda

III. Reports of Standing and Special Committees
A. Curricula (5 min.) Howard Pyron
   1.*Report No. 2
B. Personnel (No Report)
   1. Dean and Chair Search Procedures
   2. Tenure and Promotion Procedures
C. RP & A (No Report)
   1. Question of authority over PS&T Committee
D. Student Affairs (5 min.) Bill Wilson
   1.*3 Constitutions: UMR ACO, HPV Team, and ACI

IV. Old Business

V. New business and Announcements
   1. Staff Council
   2. Student Council

*Information distributed with agenda to Academic Council members and department chairs.
WHEREAS: St. Pat's provides a highly profitable week to community businesses, and
WHEREAS: Decreased participation in St. Pat's would hurt the university and the Rolla Community, and
WHEREAS: Placing Spring Break so that it immediately follows the St. Pat's celebration would decrease participation in the festival by encouraging students to leave campus early to start Spring Break activities.

THEREFORE: Be it resolved that the UMR Student Council requests that in the planning of all future academic calendars that impact the University of Missouri-Rolla, a time period of at least one week be maintained between the St. Pat's celebration and the start of Spring Break.

Respectfully submitted.

Josh Grove, Vice-President of Internal Affairs
UMR-Student Council

Matt Benz, Recorder
UMR-Student Council
Resolution #9596R5
Common Calendar

Meeting Date: October 24, 1995

WHEREAS: St. Pat's provides a highly profitable week to community businesses, and

WHEREAS: Decreased participation in St. Pat's would hurt the university and the Rolla Community, and

WHEREAS: Placing Spring Break so that it immediately follows the St. Pat's celebration would decrease participation in the festival by encouraging students to leave campus early to start Spring Break activities,

THEREFORE: Be it resolved that the UMR Student Council requests that in the planning of all future academic calendars that impact the University of Missouri-Rolla, a time period of at least one week be maintained between the St. Pat's celebration and the start of Spring Break.

Respectfully submitted,

Josh Grove, Vice-President of Internal Affairs
UMR-Student Council

Matt Benz, Recorder
UMR-Student Council

Co-Signed on October 24, 1995:

James Cain, External Funding Chair
UMR-Student Council

Keith Blackford, President
UMR-Student Council

Brian Harris, Vice-President of External Affairs
UMR-Student Council

Josh Lowery, Executive Committee Member-at-Large
UMR-Student Council
Andrew T. LeCren, Computing Affairs Chair
UMR-Student Council

Robert A. Babcock, External Funding Assistant Chair
UMR-Student Council

Richard C. Lee, University Relations Chair
UMR-Student Council

Karl Aaron Schmitt, Student Services Chair
UMR-Student Council

Brian Gosnell, Local Publicity Chair
St. Patrick's Committee

Mike Vincent, Campus Improvements Chair
UMR-Student Council

Adam Peterson, Parent-Alumni Relations Chair
UMR-Student Council

Ryan Pruett, Tau Kappa Epsilon Representative (for Ryan Fuhr)
UMR-Student Council

Phil Gong, Professional Societies Co-Chair
UMR-Student Council

Nancy J. Lambertson, Treasurer
UMR-Student Council

Michael Wentzel, Public Relations Assistant Chair
UMR-Student Council

Suzanne Lynch, Public Relations Chair
UMR-Student Council
MOTION

I move that Academic Council, in order to improve the quality of faculty instruction on the UMR campus and to develop a more holistic and broad-based approach to instructional evaluation, urge Vice-Chancellor Gajda, Dean Fulton, Dean Mitchell, and Dean Saperstein to review the "Policy for Evaluation of Faculty Instruction" as adopted by Academic Council on December 8, 1988. In particular we would urge the deans to communicate to their respective department chairs that, in line with Academic Council policies, annual teaching evaluations of tenure track faculty be comprehensive and "broad-based, including input from student evaluations, peer evaluations, and self-evaluation".
MEMO TO: Dr. Greg Gelles  
          President, Academic Council  
FROM: Jerry Bayless  
       Chair, Public Occasions Committee  
RE: 1997-98 Calendar, 1996-97 Public Event Dates  

On behalf of the Public Occasions Committee, I am forwarding for Academic Council consideration the 1997-98 Academic Year Calendar and 1996-97 public event dates. The 1997-98 calendar was developed by the Calendar Committee and was approved by the Public Occasions Committee. The public events dates were suggested by committees responsible for those activities and were also approved by the Public Occasions Committee. Please note that the Student Council selects the date of their free day and is included here for informational purposes only.  

I am also enclosing for information purposes a list of 1996-97 dates which we had to work around (football schedule, ACT dates, etc.) and the roster of members of the Public Occasions Subcommittee.  

Jerry Bayless was re-elected chairman of the Committee and Linda Bramel was re-elected secretary.
MEMO TO: Academic Council  
FROM: Curricula Committee  
RE: November 2, 1995, Meeting

For the information of the Academic Council, the following EC1 has been submitted by the University department for an experimental course that will be offered in the near future.

EC1's Reviewed:
EC1 641, Ceramic Engineering 401, Advanced Electroceramics II. Approved for WS96. 3 hours credit. Prerequisites: Graduate standing & Cer Eng 284.

The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1’s be approved.

CC1 4052, Chem Engr 351. Removed from table. Principles of Environmental Monitoring. Approved new course for Winter 1996. 3 hours credit. Prerequisites: Chem 51, 221, 223 and Physics 23, 24. Description reads: This course provides an overview of environmental monitoring methodologies. Discussion covers thermodynamic and kinetic processes that affect chemical transport and fate in the environment. Federal environmental regulations and remediation technologies are also covered with specific examples. (Dr. Liapis attended the meeting to approve the removal of the words, "and Environmental Remediation" from the title. This CC1 had been tabled October 5, 1995, because of conflicts with other departments over the title.)

CC1 4053, Mining Engineering. Approved change of curriculum for FS96. Department is now allowing students to choose either Econ 121 or Econ 122 in their second semester sophomore year. Econ 121 was previously the only choice.

CC1 4054, Engineering Management. Approved change of curriculum for FS96. To meet ABET requirements, Engineering Management has made specific preference areas in their department. Dr. Dagli will send a justification to go with the curriculum change.

Howard D. Pyron, Chair
REPORT OF COMMITTEE ON EFFECTIVE TEACHING
AND FACULTY AWARDS

In light of problems associated with the in-class administration of a campus-wide instrument of student evaluation of teaching, and in recognition of the way electronic communication has permeated the campus, it is intended that there be an electronic student evaluation of teaching for 1995-96.

I. The evaluation instrument is only for purposes of identifying instructors whose rating by students merits recognition for “outstanding teaching”. It is not intended that this survey be the central feature of evaluation of instruction for professional advancement and development nor as a method of feedback for individuals to improve their teaching. Those purposes are deemed to be department/school/college-based and to include “input from student evaluations, peer evaluations, and self evaluations” in accord with the Policy for Evaluation of Faculty Instruction adopted by Academic Council December 8, 1988.

II. Data from student ratings is to be distributed to the individual instructor -- a hard copy summary of the results from each class/lab with comparative statistics. (There will be a ‘release’ authorization line the instructor may use to forward the report to Student Council, or for other disclosure purposes.) A faculty member who wishes to opt out will not receive results although all student ratings will be included in the comparative statistics. CET will be given anonymous summaries of results for all faculty who do not opt out to be used in identifying those instructors to be given “Outstanding Teaching Awards”.

III. Criteria to be applied to the survey results in identifying award recipients will include: a minimum of 10 students enrolled in classes/labs per semester; a minimum of two preparations (two different classes per number designations) or four courses if the same preparation; eligible classes to be designated ‘lecture’ with attention to exceptional ratings for labs and recitations; eligible instructors to have prime teaching/faculty appointments; non-academic ROTC courses ineligible; Distinguished Teaching Professors ineligible. Instructors who do not meet the criteria but whose ratings rank them among those who do to receive a letter of commendation.
IV. Using Netscape/WWW or links the student will gain access to the instrument by use of her/his student number and PIN. Once a rating for a course or all courses has been saved there will be no access. Once the student has gained access to the survey they will encounter the following evaluation:

*This evaluation is to identify instructors who will be recognized as outstanding teachers on the basis of student responses to the survey.*

*An outstanding teacher characteristically will communicate effectively, show concern for students’ understanding of the subject, intellectually stimulate and motivate students, and be well prepared.*

**Rate the overall effectiveness of your instructor**

[instructor’s name and course -- # will appear]

0 = poor  1 = below average  2 = average  3 = above average  4 = outstanding

Each course that the student is enrolled in (at the time of the survey; @27 Nov thru 8 Dec -- FS95) will follow the first one with the “Rate the overall...” lead.

---

1995-96 CET

Jeff Cawfield  
Steve Clark  
Brian Harris  
Lenn Koederitz  
Les Koval  
Pete Schmidt  
Lance Williams

7 November 1995
7 November 1995

TO: Academic Council Members

RE: Student evaluation of teaching results policies

Council is asked to approve the following policies related to student teaching evaluations:

Student teaching evaluation results are to be distributed only to the individual instructor for her/his use and distribution.

A faculty member may choose to opt out by informing the Committee for Effective Teaching and Faculty Awards (CET) chair in writing. That person’s results will be included in the tallies gathered from the survey but not identified in any subsequent documentation, including individual reporting or results.

For purposes of recognition for awards, CET will be provided result data for instructors who do not opt out.

1995-96 Committee on Effective Teaching and Faculty Awards
Jeff Cawfield
Steve Clark
Brian Harris
Lenn Koederitz
Les Koval
Pete Schmidt
Lance Williams

an equal opportunity institution
To: UMR FACULTY

Academic Council Meeting
Thursday, November 16, 1995; 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the October 19, 1995 meeting

II. Reports and Responses
A. President’s Report (To include IFC) (5 min.) Greg Gelles
B. Chancellor’s Report (10 min.) John Park
   (10 minutes for Questions and Answers)

III. Reports of Standing and Special Committees
A. *Committee for Effective Teaching (10 min.) Lance Williams
B. Curricula (5 min.) Howard Pyron
   1. *Report No. 3
C. Personnel (No report)
   1. Dean and Chair Search Procedures
   2. Tenure and Promotion Procedures
D. Public Occasions (5 min.) Jerry Bayless
   1. *Calendar
   2. *Public Event Dates
E. RP & A (5 min.) Jerry Westphal
   1. Referral on question of authority over PS&T Committee
   2. Election of student for Student Affairs Committee
   3. IFC letter
F. U-wide Ret. & Staff Benefits Committee (5 min.) Bruce Selberg

IV. Old Business

V. New Business and Announcements
1. Staff Council
2. *Student Council

*Information distributed with agenda to Academic Council members and department chairs.
POLICY MEMORANDUM

PURPOSE:

The purpose of this policy memorandum is to establish the procedure by which faculty participation in the appointment of an academic dean is ensured. The memorandum defies, describes, and implements Section D, Article 2, Paragraph 1 of the Faculty Bylaws of the University of Missouri-Rolla (Section 300.030 of the Collected Rules and Regulations of the University of Missouri) that requires "formal consultation" by the Chancellor with a "Committee elected from and by the School or College Faculty" prior to the nomination by the Chancellor to the President of a candidate for appointment as dean.

POLICY:

When the position of Dean is vacated, a Dean Search Committee shall be elected by the School or College faculty. In the case of the College of Arts and Sciences each department’s tenured/tenure track faculty will elect one representative, and in the case of the School of Engineering or the School of Mines and Metallurgy each department’s tenured/tenure track faculty will elect two representatives. Each department electing one representative. The campus affirmative action officer, in consultation with the President of the Academic Council and the chair of the Personnel Committee of the Academic Council, will review the list of individuals elected to ensure that it meets university requirements for including women and/or minority faculty on search committees. If necessary, and as possible, the President of the Academic Council, in consultation with the Personnel Committee of the Academic Council, will then appoint up to two additional members from outside the respective school or college faculty to the Search Committee to fulfill the requirement for inclusion of women and/or minority faculty.

This Search Committee shall then 1) elect a chair from its membership; 2) confer with the Chancellor, faculty, and others as appropriate to gain a common understanding of the academic, personal, and leadership skills required of the dean; 3) search for and review select candidates for on-campus interviews; 4) the full list of applicants is to remain active until the search is complete.
The Chancellor, in consultation with a Screening (i.e. on-campus interview and evaluation) Committee, will invite selected candidates for interviews from the list of names recommended by the Search Committee. The Screening Committee, in consultation with the Chancellor, will arrange for and conduct the on-campus interviews. The committee shall ensure that all individuals and constituencies deemed appropriate by the Chancellor and in conjunction with the committee are invited to participate in the interview process.

The Screening Committee shall consist of the Search Committee plus the following members to be added; a non-academic staff member of the school or college elected by that staff; an alumnus of the school or college appointed by the Chancellor after consultation with the Personnel Committee of the Academic council; one (1) graduate representative and one (1) undergraduate representative of the student body elected by the respective student governing body; and an academic dean from another school or college appointed by the Chancellor. The chair of the Search Committee will serve as chair of the expanded committee.

From the applicants interviewed, the Screening Committee shall recommend to the Chancellor at least three candidates for the position of dean. From this list of candidates, the Chancellor shall either nominate a candidate to the President for appointment as dean or return the search to the two committees with an explanation of why the candidates as a group are either unacceptable or unavailable. The work of the committees shall not be completed until a new dean is nominated by the Chancellor from a list of candidates recommended by both the Search Committee and the Screening Committee.

**EFFECTIVE DATE:** Immediately

**RESPONSIBILITY:** Academic Council, Chancellor, Vice Chancellor for Academic Affairs, and Academic Deans

**BASIS:** Chancellor, by vote of the General Faculty and upon recommendation of the Academic Council

John T. Park
Chancellor
.0103 When the position of chairman of the department chair is vacated, a search and screen committee consisting of only individuals elected by the department tenured/tenure track faculty will search for and screen applicants (in accordance with UMR EEO/AA procedures), will select candidates to be interviewed, and will interview them along with faculty, administrators, staff, and students. Up to five candidates will then be selected by a majority vote (according to Roberts Rules of Order) of the department tenured/tenure track faculty, and the names of the selected candidates will be forwarded to the dean. The dean then shall select one of the nominated candidates to be the new department chairperson, or return the search to the committee with an explanation of why the candidates as a group are unacceptable or unavailable. The committee will operate until a new department chairman is selected.
# HEWITT BENEFITS INDEX
## SUMMARY OF RESULTS -- Attachment 1

<table>
<thead>
<tr>
<th>DETAILED INDEX ANALYSIS</th>
<th>EMPLOYER PAID VALUE</th>
<th>TOTAL VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UM Index</td>
<td>UM Rank</td>
</tr>
<tr>
<td>Retirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Retirement Death-Group Life</td>
<td>89.5</td>
<td>10</td>
</tr>
<tr>
<td>All Pre-Retirement Death</td>
<td>136.8</td>
<td>4</td>
</tr>
<tr>
<td>Long Term Disability</td>
<td>110.7</td>
<td>7</td>
</tr>
<tr>
<td>Pre-Retirement Health</td>
<td>89.2</td>
<td>9</td>
</tr>
<tr>
<td>Pre-Retirement Health</td>
<td>94.2</td>
<td>7</td>
</tr>
<tr>
<td>Post-Retirement Health and Life</td>
<td>94.2</td>
<td>7</td>
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<tr>
<td>Pre-65</td>
<td>172.1</td>
<td>3</td>
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<tr>
<td>Post-65</td>
<td>53.9</td>
<td>8</td>
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<tr>
<td>Composite</td>
<td>93.5</td>
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<tr>
<td>Death</td>
<td>652.0</td>
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<tr>
<td>Comprehensive</td>
<td>89.5</td>
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<tr>
<td>All Retirement</td>
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<tr>
<td>All Death</td>
<td>98.5</td>
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<tr>
<td>All Benefits</td>
<td>96.6</td>
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</tr>
</tbody>
</table>
## University of Missouri

**Retirement and Staff Benefits Committee**

### LONG RANGE PLANNING RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Estimated Annual Cost to UM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REirement Plan- General</strong></td>
<td></td>
</tr>
<tr>
<td>A Establish 10 year service requirement for early retirement benefits. Eliminates 5 years of service and age 60 eligibility.</td>
<td>($65,000)</td>
</tr>
<tr>
<td>B Early retirement benefits at age 55 or later with at least 25 years of service - 2.5% per year early retirement reduction factor</td>
<td>$1,205,000</td>
</tr>
<tr>
<td>C Portability - deferred vested 100%</td>
<td>$0</td>
</tr>
<tr>
<td>D Portability - partial (30%) distribution at retirement</td>
<td>$0</td>
</tr>
<tr>
<td><strong>EQUITY Considerations in Retirement Plan</strong></td>
<td></td>
</tr>
<tr>
<td>E Reinstatement of survivor's benefits</td>
<td>$151,000</td>
</tr>
<tr>
<td>F Preretirement death benefits</td>
<td>$564,000</td>
</tr>
<tr>
<td>G Deferred vested - beneficiary payment option</td>
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<tr>
<td><strong>Administrative Issues in Retirement Plan</strong></td>
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<tr>
<td>H Interruption of early retirement benefits - disability cases.</td>
<td>$0</td>
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<tr>
<td>I Prorating final benefit payment</td>
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<td><strong>Educational Assistance</strong></td>
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<td>J Educational Assistance</td>
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<tr>
<td><strong>Medical Benefits</strong></td>
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<tr>
<td>K Medical - PHP POS option</td>
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</tr>
<tr>
<td><strong>Vision Care</strong></td>
<td></td>
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<tr>
<td>L Affinity Program</td>
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### University Input into Retirement Fund as Percent of Payroll for Benefit Eligible Employees

<table>
<thead>
<tr>
<th>Dates</th>
<th>Contribution Percentage</th>
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</thead>
<tbody>
<tr>
<td>7-1-82 to 6-30-84</td>
<td>9.32</td>
</tr>
<tr>
<td>7-1-84 to 6-30-86</td>
<td>8.60</td>
</tr>
<tr>
<td>7-1-86 to 6-30-87</td>
<td>8.40</td>
</tr>
<tr>
<td>7-1-87 to 6-30-90</td>
<td>6.50</td>
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<td>7-1-90 to 6-30-91</td>
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<tr>
<td>7-1-91 to 6-30-92</td>
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<tr>
<td>7-1-92 to 6-30-93</td>
<td>7.26</td>
</tr>
<tr>
<td>7-1-93 to 6-30-94</td>
<td>7.02</td>
</tr>
<tr>
<td>7-1-94 to 6-30-95</td>
<td>6.32</td>
</tr>
<tr>
<td>7-1-95 to 6-30-96</td>
<td>5.96</td>
</tr>
</tbody>
</table>

- How Can This Decreased Input Impact Faculty and Staff?
  - What happens when the stock market falls?
  - The university will have to increase its payments to the retirement fund.
  - If this occurs during tight budget years these monies will probably come from the raise pool.
• In 1993 The University of Missouri Adopted A Managed Care Medical Plan

• Yearly rate of increase under this plan has been well below 7.5%.

• Total health insurance costs in 1996 were $1.7M less than in 1993.

• Total health insurance costs in 1996 were $13.7M below what the costs would have been if costs had risen at the health care inflation index rate since 1993.

• These Medical Savings Have Not Gone Into Faculty and Staff Benefits.
Proposed Letter to President Russell

The UMR academic council recommends your acceptance and implementation of the twelve improvements recommended by the U-Wide Retirement and Staff Benefits Committee dated November 15, 1995. Recommendation B which is for an early retirement benefit for employees with long term service is particularly endorsed. In the UMR retirement and benefit survey of September 1992, an unreduced retirement option for employees with long term service was the number two priority of the UMR employees. Seventy-eight percent of the employees requested such a benefit.

UMR employees are concerned about comments reportedly made by you that you would not approve any recommendation that costs money. We are concerned because over the last fourteen years the university contribution to the retirement fund has decreased from 9.32 percent in 1982 to 5.96 percent at the present time. While the extraordinary performance of the stock market has allowed this decrease, the funds saved by this decrease have not been put into faculty and staff benefits. Moreover, when the stock market does fall and if it occurs during a tight budget year will the university increase the percentage put into the retirement fund without tapping into the raise pool?

Also when the university switched over to a managed care medical plan in 1993 they hoped to cut the yearly rate of increase of the medical costs from the fifteen percent range to seven and one-half percent. So far the rate of increase has been well below the seven and one-half percent goal. Total University of Missouri health insurance costs in 1996 were $1.7M less than in 1993. This was $13.7M below what the 1996 costs would have been if they had risen at the health care inflation index over the three year period. The faculty and staff have sacrificed to accept managed care yet none of these medical savings have gone to benefit enhancement.

The UMR Academic Council urges you to use these retirement fund and medical plan savings to fund the recommendations of the Retirement & Staff Benefits Committee of November 19, 1995 and bring the University of Missouri benefits up to the average of the selected research AAU universities indicated in the 1995 Hewitt benefits study.

Thank you for considering our request.
CALENDAR-1997-98
Approved by Academic Council on February 29, 1996

FALL SEMESTER 1997

Fall Semester Opens 7:30 a.m. August 19, Tuesday
Freshman Orientation August 19, Tuesday
New Student Orientation August 20, Wednesday
Student Registration 8:15 a.m.-3:30 p.m. August 21, Thursday
Classwork begins 7:30 a.m. August 25, Monday
Labor Day Holiday September 1, Monday
Mid-Semester October 18, Saturday
Thanksgiving vacation begins 7:30 a.m. November 26, Wednesday
Thanksgiving vacation ends 7:30 a.m. December 1, Monday
Last Class Day December 12, Friday
Reading Day December 13, Saturday
Final Examinations begin 8:00 a.m. December 15, Monday
Final Examinations end 5:30 a.m. December 19, Friday
Fall Semester Closes 5:30 p.m. December 20, Saturday

SPRING SEMESTER 1998

Spring Semester Opens 7:30 a.m. January 9, Friday
Spring Registration 8:15 a.m.-3:30 p.m. January 9, Friday
Classwork begins 7:30 a.m. January 12, Monday
Martin Luther King Jr. Recognition Holiday January 19, Monday
Mid-Semester February 28, Saturday
Spring Break begins 7:30 a.m. February 28, Saturday
Spring Break ends 7:30 a.m. March 9, Monday
Spring recess begins 7:30 a.m. March 19, Thursday
Spring recess ends 7:30 a.m. March 23, Monday
Last Class Day May 8, Friday
Reading Day May 9, Saturday
Final Exams begin 8:00 a.m. May 11, Monday
Final Exams end 5:30 p.m. May 15, Friday
Spring Semester closes 5:30 p.m. May 15, Friday
May Commencement May 16, Saturday

*SUMMER SESSION 1998

Summer Session opens 7:30 a.m. June 8, Monday
Student Registration 8:15 a.m.-3:30 p.m. June 8, Monday
Classwork begins 7:30 a.m. June 9, Tuesday
Independence Day Holiday July 3, Friday
Summer Session Closes 12:00 noon August 1, Saturday

*Schedule shows the regular eight-week Summer Session. Other special course sessions may be scheduled.
<table>
<thead>
<tr>
<th>1996-97 Meeting Dates</th>
</tr>
</thead>
</table>

**General Faculty**
- September 3, 1996
- December 10, 1996
- April 29, 1997

**RP & A**  | **Academic Council**
---|---
August 27, 1996 | September 19, 1996
October 3, 1996 | October 17, 1996
November 7, 1996 | November 21, 1996
January 7, 1997 | January 16, 1997
February 6, 1997 | February 20, 1997
April 10, 1997 | April 24, 1997
June 5, 1997 | June 19, 1997
The meeting was called to order at 1:30 P.M. by President Greg Gelles. Substitutions noted were: Allison for Buckwalter; Johnson for Book; and LaBoube for Morris.

It was moved and seconded to approve the minutes of the October 19 meeting as distributed. Motion carried.

REPORTS AND RESPONSES

A. PRESIDENT'S REPORT
   1. Professor Gelles listed the items discussed at the most recent IFC meeting:
      a. Health Care
      b. Common Calendar
      c. New Strategic Plan
   2. President Gelles said that at the last Board of Curators' meeting, only two items were discussed that were of interest to UMR:
      a. Health Care merger
      b. Sale of two UMR properties

B. CHANCELLOR'S REPORT
   1. Due to the absence of Dr. Park, there was no Chancellor's report.

REPORTS OF STANDING AND SPECIAL COMMITTEES

A. COMMITTEE FOR EFFECTIVE TEACHING—Professor Lance Williams presented this report. He referred to the attachment to the agenda and to a handout distributed at the meeting.
   1. Professor Jeffrey Cawlfield made a motion for the Council to accept the recommendation of the CET Committee. There was a second.
   2. Professor Lance Haynes called a "Point of Order", stating that the alternatives offered did not call for delaying implementation for faculty to have time to consider it.
   3. Professor Cawlfield then made a motion to divide the issue into the three separate segments for individual consideration. This motion died for lack of a second.
4. Professor Haynes then made a motion to postpone consideration of Professor Cawlfield’s original motion until the next meeting in order for Faculty to consider it; and, in the meantime, the system in place would be continued. There was a second, followed by a lengthy discussion, after which motion passed.

5. Professor Haynes then moved that Academic Council urge CET to refrain from conducting electronic surveys this semester. This was seconded, followed by another lengthy discussion. Professor Haynes reminded the body that there was a motion on the floor. After further brief discussion, vote was taken and motion carried.

B. PUBLIC OCCASIONS—This report was presented by Professor Jerry Bayless.

1. The Public Occasion dates were presented. There was a motion and a second to approve them as distributed. Motion carried.

2. The Academic Calendar for 1997-98 was presented. With one minor change a day-of-the-week error, there was a motion to approve. There was a second, and motion carried.

C. CURRICULA—Professor Howard Pyron presented this report. After briefly referring to the single EC1, he moved to approve the CC1’s as distributed. There was a second, and motion carried.

D. R P & A—This report was presented by Professor Lance Haynes, in the absence of Jerry Westphal, Chair.

1. The first item was to replace Amy Johnston, student representative from the Academic Council to the Student Affairs Committee. Ms. Johnston had declined due to previous commitments. Student Council representative, Brian Harris nominated Jeff Willmouth. There was a second, and no nominations from the floor. Mr. Willmouth was elected unanimously.

2. A draft of a letter to President Russell was distributed. Professor Haynes read the letter, which would be signed by President Gelles, and it stated dissatisfaction with the idea that IFC always represents views of Faculty. There was a motion and a second to approve sending this letter. After some discussion, and a proposal from Professor Garnett Walters to change some of the wording (which was accepted as a friendly amendment), motion carried.
E. U-WIDE RETIREMENT AND STAFF BENEFITS COMMITTEE—
This report was presented with transparencies by Professor Bruce Selberg.
1. Professor Selberg explained the new PHP option. There were a few questions, and Professor Selberg explained that everyone would shortly be receiving information with more details.

.4 There was no old business presented.

.5 New Business and Announcements
A. Student Council—Brian Harris referred to the attachment containing the Resolution from Student Council concerning the idea of a Common Calendar. He asked the Academic Council to support this resolution. There was a motion and a second to do so. There were two suggestions to revise wording, which were accepted as friendly amendment. The motion carried.
1. Professor Gelles stated that he and Keith Blackford from Student Council would send their letters and resolution together.

There was a motion and a second to adjourn. Motion passed by voice vote.

Respectfully submitted,

Bruce Selberg
Secretary

*Minutes of the Academic Council are considered official notification and documentation of actions approved.*
Proposed Letter to President Russell

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The UMR Academic Council urges you to use these retirement fund and medical plan savings to fund the recommendations of the Retirement & Staff Benefits Committee of November 19, 1995 and bring the University of Missouri benefits up to the average of the selected research AAU universities indicated in the 1995 Hewitt benefits study.

Thank you for considering our request.
MEMO TO: Dr. Greg Gelles
President, Academic Council

FROM: Jerry Bayless

RE: Corrected 1997-98

A copy of the 1997-98 Academic Year Calendar in which the date of Martin Luther King Jr. Recognition Holiday has been changed from January 21, Monday to January 19, Monday is attached.

This corrected version should replace the one I submitted originally to avoid any confusion regarding the dates.

JRB:sh
November 29, 1995

Dear President Russell:

In the past year or so, you have used the IFC rather exclusively for guidance regarding two issues that we feel are the prerogatives of the various campus governing bodies. The two issues are: review of tenure alternatives; and, most recently, development of a framework for implementing a common calendar.

We are concerned that you not infer that the IFC speaks for all of the campuses. Although we have elected representatives to the IFC, these representatives may or may not be members of the UMR Academic Council, and they may or may not speak for the UMR Academic Council.

The purpose of this letter is to reaffirm that, unless they are given explicit authorization to do so, UMR representatives to IFC do not speak for the faculty; and, in our view, the IFC doesn’t speak for the faculty of the University of Missouri.

As has happened in the past, when the UMR faculty wishes to add its imprimatur to IFC positions, the President of the UMR Academic Council will provide written authorization to that effect. Otherwise, any guidance provided to you from the IFC will have no official standing with regard to the UMR faculty.

Sincerely,

Gregory M. Gelles
President of Academic Council
University of Missouri at Rolla
December 6, 1995

President George Russell
321 University Hall
University of Missouri at Columbia
Columbia, MO

Dear President Russell,

As you know, there has been considerable discussion within the IFC and between the IFC and your office about adopting a common academic calendar for all four UM campuses. It is our understanding that this move has been facilitated by the Board of Curators’ desire to see the four UM campuses share their expertise, so as to provide more cooperative academic programs.

Both the UMR Academic Council and the UMR Student Council believe that adoption of a common calendar would be an important step in facilitating the offering of cooperative classes. We are, however, concerned that as part of any common calendar, spring breaks be scheduled so as not to interfere with the St. Pat’s celebration on our campus. We believe that the St. Pat’s celebration is a very important part of the culture at UMR, and is a noteworthy event for the City of Rolla, the students, and the alumni.

Because of the concern of the students that the St. Pat’s celebration not be unduly affected by the scheduling commensurate with a common calendar, on October 24, 1995, the UMR Student Council passed resolution #9596R5 urging that any spring break associated with a common calendar be scheduled at least one week on either side of our St. Pat’s celebration.
On November 16, 1995, the UMR Academic Council passed a resolution expressing support of the UMR Student Council Resolution.

We urge you to consider the concerns of both the students and faculty at UMR in formulating any future common academic calendar for the four UM schools. Thank you.

Sincerely,

Keith Blackford
President, UMR Student Council

Gregory M. Gelles
President, UMR Academic Council

cc: Ms. Gayatri Bhatt
Professor Jean Braun
Professor Delbert Day
Curator Adam Fischer
Curator Malaika Horne
Professor Randy Moss
Chancellor John Park
Professor Patricia Plummer
Professor Vincent Roach
Vice President Richard Wallace
January 6, 1996

To: UMR Academic Council

From: Bill Wilson
Student Services Coordinator

Re: Student Affairs Committee Report For January 16, 1997 Academic Council Meeting

The Student Affairs Committee met at 1:30 p.m. on Friday, December 13, 1996. The meeting resulted in the following actions/recommendations being made:

1. Recommended the acceptance of the African Student Association Constitution by the Academic Council.
2. Recommended the acceptance of the Amnesty International Constitution by the Academic Council.
3. Recommended the acceptance of the Delta Omicron Lambda Constitution by the Academic Council.
4. Recommended the acceptance of the Russian Club Constitution by the Academic Council.
5. Recommended the acceptance of the Student Environmental Action Coalition Constitution by the Academic Council.
6. It was brought to the attention of the committee that Dr. Linda Manning would not be on campus for the 1997 winter term, and therefore, a replacement Faculty member would have to be appointed to the committee no later than the December Academic Council meeting.

Please call me at 341-4286 (email billw@shuttle.cc.umr.edu) if you need any more information. Thank you for your help.

Attachments: African Student Association Constitution
            Amnesty International Constitution
            Delta Omicron Lambda Constitution
            Russian Club Constitution
            Student Environmental Action Coalition Constitution
January 7, 1996

MEMO TO: Dr. Jeff Cawlfeld, President
Academic Council

FROM: Jerry Bayless

RE: Public Event Dates for 1997-98

As requested by the Academic Council, the Public Occasions Committee met to
discuss the possibility of combining Parents’ Day and UM-Rolla Day (open house). Also
attending the meeting were Dr. Ed Hornsey, Interim Director of Admissions, Dr. Ron
Kohser, Chair of the Open House Committee, Mr. Bill Wilson, Chair of the Parents’ Day
Committee, and Dr. Ron Fannin, Chair of the Basic Engineering Department, which
administers the Miner Scholarship Test, given on the afternoon of UM-Rolla Day.

The first item discussed was the possibility of moving both UM-Rolla Day and
Parents’ Day to November 8, which is the only feasible date if Parents’ Day is to be held on
the day of a home football game and if we are to avoid having open house on a day the ACT
test is administered. The Admissions Office believes scholarship application deadlines are
such that mid-October is the latest time UM-Rolla Day should be held. It was also pointed
out that November 8 would probably be too late in the year to bring parents of new students
to campus.

The possibility of moving Parents’ Day to September 20, when there is a home
football game, and leaving UM-Rolla Day on October 18 was suggested. This would avoid
having Homecoming, UM-Rolla Day, and Parents’ Day on three successive weekends in
October. This seemed to be an acceptable solution until it was pointed out that the Student
Union Board has already entered into a contract for Parents’ Day entertainment to be
provided on October 25, and it would be very difficult and expensive to void that contract.

Those present see no reasonable alternative to the original schedule submitted to the
Academic Council for the 1997-98 academic year. The idea expressed above certainly can
be considered for future years; however, the ultimate schedule depends on the home football
schedule, ACT test dates, and the Fundamentals of Engineering Exam dates. The
Fundamentals of Engineering Exam enters the picture because it is taken on campus by more
than 300 students on a Saturday in late October and uses some of the facilities used by other
events.
The group also discussed at length the desirability (or lack thereof) of holding Parents’ Day and UM-Rolla Day on the same date, making it possible to combine some activities and to save a weekend for faculty, staff and students. The majority of those present believe that these two events are focused on two different groups and both would receive less attention if combined and should continue to be held on different weekends. The main reason given for holding the two events on the same weekend seems to evolve around having events involving the same faculty and staff on three successive weekends. The feeling held by most of those present is that is not sufficient justification for combining these two events. As discussed above, there is a possibility of scheduling events so that they are not on three successive weekends as described above, and the Committee will try to accomplish that in the future.

JRB:sh
Home Football Schedule - 1997

<table>
<thead>
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<th>Date</th>
<th>Opponent</th>
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<tbody>
<tr>
<td>September 20</td>
<td>Central Missouri State</td>
</tr>
<tr>
<td>October 11</td>
<td>Northwest Missouri State</td>
</tr>
<tr>
<td>October 25</td>
<td>Missouri Western</td>
</tr>
<tr>
<td>November 8</td>
<td>Emporia State</td>
</tr>
</tbody>
</table>

Other Dates:

ACT Test Dates - October 25, December 13, 1997, February 7, April 4, 1998
Spring Break - February 28 - March 9, 1998
Spring Recess - March 19 - March 23, 1998
EIT Exam - Saturday, November 1, 1997 and Saturday, April 25, 1998
Easter - April 12, 1998
PUBLIC OCCASIONS DATES FOR 1997-98

Industry Career Day
Thursday, September 25, 1997

Rolla Night at the Engineers Club of St. Louis
Thursday, October 2, 1997

Student Council Free Day
Friday, October 3, 1997

Homecoming
Friday & Saturday, October 10, 11, 1997

UM-Rolla Day
Saturday, October 18, 1997

Parents Day
Saturday, October 25, 1997

Commencement*
Saturday, December 20, 1997

Spring Career Day
Wednesday, February 25, 1998

Science and Engineering Fair
Friday & Saturday, March 27, 28, 1998

Spring Open House
Saturday, March 28, 1998

Commencement*
Saturday, May 16, 1998

*Approved as part of the 1997-98 calendar
MEMO TO: Academic Council  
FROM: Curricula Committee  
RE: January 11, 1996, Meeting

For the information of the Academic Council, the following EC1's have been submitted by the University department for an experimental course that will be offered in the near future.

EC1's reviewed:
EC1 643, EE 301, Flexible Control of Distribution Systems. Approved for Fall 1996. 3 hours credit. Prerequisites: EE 205 or EE 207.

EC1 644, EE 301, Flexible Control of Transmission Systems. Approved for Winter 1997. 3 hours credit. Prerequisites: EE 205 or EE 207.

EC1 645, EMgt 301, Industrial Ecology. Approved for Winter 1996. 3 hours credit. Prerequisites: Sr/Grad. standing in engineering.

EC1 646, GeEng 301, Technical Aspects of Environmental Regulation. Approved for Fall 1996. 3 hours credit. Prerequisites: None.

EC1 647, Physics 301, Introduction to General Relativity. Approved for Winter 1996. 3 hours credit. Prerequisites: Physics 208.

EC1 648, CSci 401, Data and Image Compression Techniques. Approved for Fall 1996. 3 hours credit. Prerequisites: None.

EC1 649, EE 401, Electromagnetics Compatibility. Approved for Winter 1996. 3 hours credit. Prerequisites: EE 371.

EC1 650, CSci 301, Software Automation Environments. Approved for Fall 1996. 3 hours credit. Prerequisites: None.

EC1 651, EE 401, Crystal Optics. Approved for Fall 1996. 3 hours credit. Prerequisites: EE 273.

EC1 652, EMgt 401, Quality Engineering. Approved for Summer 1996. 3 hours credit. Prerequisites: Stat 213 or equivalent.

EC1 653, English 201, Thematic Studies in Literature and Film. Approved for Winter 1997. 3 hours credit. Prerequisites: English 20 and a semester of college literature or English 177.
EC1 654, English 201, **Genre Studies in Literature and Film.** Approved for Winter 1998. 3 hours credit. Prerequisites: English 20 and semester of college literature, or English 177.

EC1 655, English 201, **Introduction to Literature and Science.** Approved for Winter 1997. Prerequisites: English 20 and a semester of college literature.

The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1's be approved.

**CC1's reviewed:**

CC1 4055, Phil. & Liberal Arts, Russian 170, **Masterpieces of Russian Literature.** Approved for Fall 1996. Change in prerequisites from Russian 70 "TO" Russian 80.

CC1 4057, GeEng 346, **Applications of Geographic Information Systems.** Approved for Fall 1996. Change of course number from 248 "TO" 346. Change of course title from Geographic Information Systems. Change of description reads: Applications of geographic information systems and remote sensing to environmental monitoring, mineral resource exploration and geotechnical site evaluation.

CC1 4058, GeEng 248, **Fundamentals of Geographic Information Systems.** Approved new course for Fall 1996. 2 hours lecture and 1 hour lab. Prerequisites: GeEng 275. Description reads: Introduction to the fundamental, concepts and components of Geographic Information Systems. Techniques for acquiring, manipulating and analyzing digital terrain data for geological and geotechnical applications.

CC1 4059, Basic Engr 110, **Mechanics of Materials.** Approved for Fall 1996. Change in prerequisites from BE 50 and Math 22 "TO" BE 50 with grade of "C" or better and Math 22.

CC1 4060, EE 332, **Plantwide Process Control.** (Co-listed with ChE 367). Approved new course for Fall 1996. 3 hours credit. Prerequisites: ChE 261 or EE 231. Description reads: Synthesis of control schemes for continuous and batch chemical plants from concept to implementation. Multi-loop control, RGA, SVD, constraint control, multi-variable model predictive control, control sequence descriptions. Design project involving a moderately complicated multi-variable control problem.

CC1 4061, Chem Eng 367, **Plantwide Process Control, (co-listed with EE 332).** Approved for Fall 1996. Change in course title from **Systems Analysis.** Change in description to: Synthesis of control schemes for continuous and batch chemical plants from concept to
implementation. Multi-loop control, RGA, SVD, constraint control, multi-variable model predictive control, control sequence descriptions. Design project involving a moderately complicated multi-variable control problem. Change in prerequisites from ChE 261 “TO” ChE 261 or EE 231.

CC1 4062, Min Eng 218, **Mine Atmosphere Control.** Approved for Fall 1996. Change in prerequisites from CE 230, EE 282, ME 227 "TO" CE 230, EE 282, and as prereq./coreq. ME 227.

CC1 4063, EE 302, **Extra High Voltage Engineering.** Approved deletion for Fall 1996.

CC1 4064, AE curriculum change. Approved for Fall 1996. Justification reads: Aerospace industrial needs are moving towards the consideration if manufacturing requirements in the design process. The addition of an aerospace technical elective in the manufacturing area will introduce the aerospace students to manufacturing concepts. Space will be provided by dropping Physics 107, Modern Physics, as a required course. ABET no longer requires a course in modern physics.

CC1 4065, AE 231, **Aerodynamics I.** Approved for Fall 1996. Change in prerequisites from AE 161 and a grade of "C" or better in Math 8, 21, Physics 23, and ME 219 "TO" Accompanied or preceded by AE 161 and a grade of "C" or better in Math 8, 21, 22, Physics 23, and ME 219.

CC1 4066, AE 261, **Flight Dynamics & Control.** Approved for Fall 1996. Change in prerequisites from AE 180, AE 213, and AE 231 "TO" AE 213, AE 231, and accompanied or preceded by AE 180.

CC1 4067, AE 311, **Introduction to Composite Materials & Structures.** Approved for Fall 1996. Change in course title from **Composite Materials in Aircraft Structures.** Change in prerequisites from AE 251, AE 253 co-requisite "TO" BE 110. Description changes to: Introduction to fiber-reinforced composite materials and structures with emphasis on analysis and design. Composite micromechanics, lamination theory and failure criteria. Design procedures for structures made of composite materials. An overview of fabrication and experimental characterization.

CC1 4068, AE 410, **Seminar.** Approved for Fall 1996. Description changed to: Discussion of current topics. (Co-listed with EM 410 and ME 410).

CC1 4069, AE 484, **Analysis of Laminated Composite Structures.** Approved new course for Fall 1996. 3 hours credit. Prerequisites: EM 381 or ME 382 or AE 311. Description reads: An overview of isotropic beams, plates, and shells. Bending, vibration, and buckling of laminated composite beams and plates: exact and
approximate solutions. Development of composite shell theory and simplified solutions. Analysis of composite structures including transverse shear deformation and thermal effects.

(Co-listed with EM 484 and ME 4840.)

CC1 4070, AE 485, Mechanics of Composite Materials. Approved new course for Fall 1996. 3 hours credit. Prerequisites: EMech 381 or ME 382 or AE 311. Description reads: Effective moduli of spherical, cylindrical and lamellar systems. Micromechanics of fiber-matrix interfaces and unidirectional composites. Application of shear lag and other approximate theories to interfaces and composites including fiber pull-out, debonding and matrix cracking. (Co-listed with ME 485 and EMech 483.)

CC1 4071, AE 487, Finite Element Approximation III - Nonlinear Problems. Approved new course for Fall 1996. 3 hours credit. Prerequisites: EM 408 or ME 408 or AE 408. Description reads: Formulation of nonlinear problems, iterative methods, solution of nonlinear problems, cover topics of interest to the class. (Co-listed with EMech 487 and AE 487.)

CC1 4072, EMech 160, Engineering Mechanics-Dynamics. Approved for Fall 1996. Change in prerequisites from BE 50 and Math 22 TO BE 50 with grade of "C" or better and Math 22.


CC1 4074, EMech 410, Seminar. Approved new course for Fall 1996. 0-6 hours variable credit. Prerequisites: None. Description reads: Discussion of current topics. (Co-listed with AE 410 and ME 410.)

CC1 4075, EMech 431, Theory of Plates. Approved for Fall 1996. Change in description to: General coverage of various approaches to plate problems and the application of these methods to practical problems. Special topics include applications to elastic foundations, buckling and energy methods in plate theory.

CC1 4076, EMech 432, Theory of Shells. Approved for Fall 1996. Change in prerequisites from EM 311 TO Math 325. Description changed to: General theory of stress analysis of shells based on topics in differential geometry and general elasticity theory. Theory is applicable to studies of the elastic behavior of flat
plates and shells, buckling and post-buckling behavior of shells, and provides a basis for all shell theories which account for anisotropy, plasticity, creep, thermal strains, internal reinforcements, and transverse shearing deformations. (Co-listed with ME 432.)

CC1 4077, EMech 435, Theory of Stability II. Approved for Fall 1996. Change in prerequisites from EMech 334 "TO" EMech 334 or ME 334 or AE 334. Change in description to: Buckling of plates and shells, dynamic stability of elastic systems, and nonconservative systems. (Co-listed with ME 424.)

CC1 4078, EMech 436, Advanced Fracture Mechanics. Approved for Fall 1996. Change in prerequisites from EMech 336 or 322 "TO" AE 336 or EMech 336 or ME 336. Change in description to: Mathematical theories of equilibrium cracks and brittle fracture; mathematical analysis of elastic-plastic fracture mechanics, COD, R-curve and J-integral analysis. (Co-listed with ME 436.)

CC1 4079, EMech 483, Mechanics of Composite Materials. Approved for Fall 1996. Change in course title from Mechanics of Composite Materials II. Change in prerequisites from EMech 311 or EMech 322 and EMech 381 "TO" EMech 381 or ME 382 or AE 311. Change in description to: Effective moduli of spherical, cylindrical and lamellar systems. Micromechanics of fiber-matrix interfaces and unidirectional composites. Application of shear lag and other approximate theories to interfaces and composites including fiber pull-out, debonding and matrix cracking. (Co-listed with Me 485 and AE 485.)

CC1 4080, EMech 484, Analysis of Laminated Composite Structures. Approved for Fall 1996. Change in course title from Mechanics of Laminated Composite Structures. Change in prerequisites from EM 381 "TO" EM 381 or ME 382 or AE 311. Change in description to: An overview of isotropic beams, plates, and shells. Bending, vibration, and buckling of laminated composite beams and plates exact and approximate solutions. Development of composite shell theory and simplified solutions. Analysis of composite structures including transverse shear deformation and thermal effects. (Co-listed with ME 484 and AE 484.)

CC1 4081, EMech 487, Finite Element Approximation III - Nonlinear Problems. Approved for Fall 1996. Change in prerequisites from EMech 408 "TO" EMech 408 or ME 406 or AE 408. Change in description to: Formulation of nonlinear problems, iterative methods, solution of nonlinear problems, cover topics of interest to the class. (Co-listed with ME 487 and AE 487.)

CC1 4082, ME 382, Introduction to Composite Materials & Structures. Approved for Fall 1996. Change in course title from Mechanics of Composite Materials I. Change in description to: Introduction to fiber-reinforced composite materials and structures with emphasis
on analysis and design. Composite micro-mechanics, lamination theory and failure criteria. Design procedures for structures made of composite materials. An overview of fabrication and experimental characterization. (Co-listed with EMech 381 and AE 311.)

CC1 4083, ME 410, Seminar. Approved for Fall 1996. Change in description to: Discussion of current topics. (Co-listed with AE 410 and ME 410.)

CC1 4084, ME 424, Theory of Stability II. Approved new course for Fall 1996. 3 hours credit. Prerequisites: EMech 334 or ME 334 or AE 334. Description reads: Buckling of plates and shells, dynamic stability of elastic systems, and nonconservative systems. (Co-listed with EMech 435.)

CC1 4085, ME 430, Theory of Plates. Approved new course for Fall 1996. 3 hours credit. Prerequisites: Math 325. Description reads: General coverage of various approaches to plate problems and the application of these methods to practical problems. Special topics include applications to elastic foundations, buckling and energy methods in plate theory.

CC1 4086, ME 432, Theory of Shells. Approved new course for Fall 1996. 3 hours credit. Prerequisites: Math 325. Description reads: General theory of stress analysis of shells based on topics in differential geometry and general elasticity theory. Theory is applicable to studies of the elastic behavior of flat plates and shells, buckling and post-buckling behavior of shells, and provides a basis for all shell theories which account for anisotropy, plasticity, creep, thermal strains, internal reinforcements, and transverse shearing deformations. (Co-listed with EMech 432.)

CC1 4087, ME 436, Advanced Fracture Mechanics. Approved new course for Fall 1996. 3 hours credit. Prerequisites: AE 336 or EMech 336 or ME 336. Description reads: Mathematical theories of equilibrium cracks and brittle fracture, mathematical analysis of elastic-plastic fracture mechanics, COD, R-curve and J-integral analysis. (Co-listed with EMech 436.)

CC1 4088, ME 484, Analysis of Laminated Composite Structures. Approved new course for Fall 1996. 3 hours credit. Prerequisites: EMech 381 or ME 382 or AE 311. Description reads: An overview of isotropic beams, plates, and shells. Bending, vibration, and buckling of laminated composite beams and plates: exact and approximate solutions. Development of composite shell theory and simplified solutions. Analysis of composite structures including transverse shear deformation and thermal effects. (Co-listed with EMech 484, AE 484.)

CC1 4089, ME 485, Mechanics of Composite Materials. Approved new course for Fall 1996. 3 hours credit. Prerequisites: EMech 381 or ME 382 or AE 311. Description reads: Effective moduli of spherical, cylindrical, and lamellar systems. Micromechanics of
fiber-matrix interfaces and unidirectional composites. Application of shear lag and other approximate theories to interfaces and composites including fiber pull-out, debonding and matrix cracking. (Co-listed with EMech 483 and AE 485.)

CC1 4090, ME 487, Finite Element Approximation III - Nonlinear Problems. Approved new course for Fall 1996. 3 hours credit. Prerequisites: EMech 408 or ME 408 or AE 408. Description reads: Formulation of nonlinear problems, iterative methods, solution of nonlinear problems, cover topics of interest to the class. (Co-listed with EMech 487 and AE 487.)

CC1 4091, English 000. Literature and Film Minor. Approved for Fall 1996. Justification reads: Introduces interdisciplinary courses into the humanities program, as well as cutting-edge intertextual studies for the broad cross section of students at UMR with interest in film and literature.

CC1 4092, English 177, Literature and Film. Approved new course for Fall 1996. 3 hours credit. Prerequisites: English 20. Description reads: This course will examine intertextual connections between literature and film, in terms of such things as adaptations, narrative technique and theory, genre, theme, and ideological movements.

CC1 4093, Phil.& Liberal Arts, Art Minor. Approved for Fall 1996.

CC1 4094, Phil.& Liberal Arts, Film and Literature Minor. Approved for Fall 1996.

Howard Pyro, Chair
To:                       
UMR FACULTY

Academic Council Meeting
Thursday, January 25, 1996; 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the November 16, 1995 meeting

II. Reports and Responses

A. President’s Report (To include IFC) (5 min.) Greg Gelles
B. Chancellor’s Report  (10 min.) John Park
   (10 minutes for Questions and Answers)
C. Dean’s Report       (10 min.) John Fulton

III. Reports of Standing and Special Committees

A. Curricula            (5 min.) Howard Pyron
   1.*Report No. 4

B. Personnel           (No report) Lance Haynes
   1. Dean and Chair Search Procedures
   2. Tenure and Promotion Procedures
   3. Faculty Awards (11-30-95)
   4. Faculty Compensation for Video Instruction(12-18-95)

IV. Old Business

A. Campus Environment Committee (10 min.) Toni Scott
B. Committee on Effective Teaching (15 min.) Lance Williams

V. New Business and Announcements

1. Staff Council
2. Student Council

*Information distributed with agenda to Academic Council members and department chairs.
XXV,4. The meeting was called to order at 1:30 P.M. by President Greg Gelles. There were no substitutions.

.1 It was moved and seconded to approve the minutes of the November 16, 1995 meeting as distributed. Motion carried.

.2 REPORTS AND RESPONSES

A. PRESIDENT’S REPORT
1. Professor Gelles stated that the December IFC meeting had been cancelled due to bad weather. He said the next meeting would be in early February, with several items to be discussed, including a common calendar.
   a. President Gelles discussed the subject of a possible common calendar, and referred to the letters from Academic Council and Student council that had been sent to President Russell. A very positive reply has been received.
   b. Two common calendar options have been sent out to the four campuses. Both incorporated our model.
   c. Professor Gelles said that the UMC representatives are not happy with either option, and are not sympathetic to our wishes.
2. President Gelles said there would be a General Officer’s Meeting on next Monday, January 29, and the common calendar would be discussed further.
3. Professor Gelles also mentioned that, at the January 19 meeting of the Board of Curators, there was a division of the Curators about entrance standards.

B. CHANCELLOR’S REPORT
1. Dr. Park further discussed the Board of Curator’s meeting, and the subject of access versus quality on entrance standards. He said the Curators realized UMR has already decided to remain a high quality institution.
2. The Chancellor mentioned the Governor’s budget, and he said it looks good for the University. He said his concern would be how the monies are distributed depending on how the legislature approves it. Dr. Park said we have a very education-minded governor.
3. Dr. Park then discussed the Planning Meeting that was held last week. He said it was a good productive meeting. He stated that UMR has met the goals of the 5-year Strategic Plan. He said the only two assumptions that were not achieved were: that state funding would equal the higher education index; and fee income would hold. He stated that a couple of reasons for this drop in fee income were a slightly lower enrollment, and having so many good students with higher financial aid.

Q and A—There were no questions.

C. DEAN’S REPORT
1. Dean Fulton reported on the subject of Common Cooperative Courses. He said the flurry of activity about this had been prompted by Board of Curators’ Resolution No. 6195, which says if a program exists on one UM campus, students from the other three who need it should be able to get it.
2. Dean Fulton said models had been put forth and listed some examples, and discussed ways to implement them.
3. He said that for 26 years, UMR and UMC had a cooperative program in the field of education, but that has ended.
4. The Dean elaborated on possibilities and progress toward working with the other campuses on a cooperative program for secondary education.
5. He said a committee has been formed to look at the possibility of having access to business degrees (including an MBA), and there has been some discussion on this.
6. Dean Fulton said there had been a "flurry" on the system level (especially from Vice President Richard Wallace) on having a Doctoral program in Computer Science. At present, UMR is the only UM campus that has one.

3 REPORTS OF STANDING AND SPECIAL COMMITTEES

A. CURRICULA—Professor Howard Pyron presented this report. After referring to the EC1’s presented for information only, he moved to approve the CCl’s as distributed.
1. Professor Ron Kohser stated that CCl #4059 met with disapproval in his department, and he elaborated on their reasons.
2. Professor Jerry Tien said his department had similar feelings, and they hoped that one could be withdrawn for further review.
3. There was a brief discussion, followed by a
request to have CC1 #4072 withdrawn also.

4. Professor Pyron agreed to withdraw the two courses from his motion. There was a second and motion passed.

.4 Old Business

A. Campus Environment Committee—This report was presented by Christina Madrid.
   1. Ms. Madrid explained why and how this committee was formed.
   2. She discussed the accomplishments of the committee.
   3. She thanked the Chancellor, administration, and others who attended the program "Face to Face", and announced future plans for other presentations.

B. At the November Council meeting, a motion by Professor Jeffrey Cawlfield to accept a report from the Committee For Effective Teaching was postponed. Therefore, President Gelles asked Professor Lance Williams for a further report from his committee.
   1. Professor Williams summarized what had transpired at the November 16 meeting. He reiterated the charge to the committee, and part of the motivation for their proposals, including integrity and a Strategic Action Plan item to go to electronic evaluations. He elaborated on this and other reasons for their proposals.
   2. He said—for this semester—the only sensible thing would be to retain the old "hard-copy" evaluation.
   3. Professor Cawlfield asked to withdraw his motion from the November meeting. There were no objections, and the motion was withdrawn.
   4. This was followed by a lengthy discussion from Council members and Professor Williams.
   5. Professor Richard Hall then asked to be recognized. He commended the committee on their work. He said he never meant to argue that the system should stay the same, and that the biggest problem was the way it has been administered. He said the Chairs, Deans, and Faculty need to think about this. One idea Professor Hall mentioned that had been suggested was having an outside agency to administer the evaluations. He referred to a memo from Professor Bruce Selberg that suggested that evaluations be normalized based on national data for student evaluations by disciplines.
   6. Professor Hall then made a motion that the Deans and Vice-Chancellor Gajda review the Policy For Evaluation of Faculty Instruction (See attached). The motion was seconded. Professor Lance Haynes offered a friendly amendment to add the word "annual" before the word "teaching" in the last sentence. This
was accepted.
7. Professor Jerry Westphal moved to table the motion until the next meeting. There was a second, and motion carried.

.5 New Business and Announcements

A. Staff Council-Jan Buhlinger made two announcements (Wellness Bash and Staff Recognition Day), and some brief comments.

B. Student Council-Keith Blackford announced an upcoming Open Forum on the 5-year Plan on Student Fees.

There was a motion and a second to adjourn. Motion passed by voice vote.

Respectfully submitted,

Bruce Selberg
Secretary

*Minutes of the Academic Council are considered official notification and documentation of actions approved.*
MEMORANDUM

TO: All UMR Faculty

FROM: Shirley Hobson, Academic Council Office Secretary

SUBJECT: Academic Council Agenda and Minutes

About two years ago, we discontinued the practice of mailing the agendas and minutes of the Academic Council to the entire faculty. We established a routine of putting them on Gopher and sending hard copies to Council members and department chairs only.

It has been brought to the attention of the Council President, Greg Gelles, that some faculty members are not happy that they no longer receive these items. Because of the cost of time and printing, we would like to be sure who does or does not have a need for their own individual copy.

Anyone who wants to be put back on our mailing list should return the note below to 202 Norwood, or send us email to shobson@umrvmb.umr.edu.

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Please put my name on the Academic Council mailing list for ___ agendas and ___ minutes (check one or both).

Signed ___________________________
Mail to: __________________________

February 7, 1996
February 12, 1996

Memo To: G. Gelles, President, Academic Council

From: L. F. Koederitz, Chair, Environmental Engineering/Environmental Science
Program Development Committee

Re: Modifications to Existing Environmental Engineering and Environmental Science
Program Proposal

I am attaching a copy of the modified Environmental Engineering and
Environmental Science program proposal for consideration and approval of the
Academic Council. The proposal was approved by a 7-0-0 vote of the Environmental
Engineering/Environmental Science Program Development Committee form by Vice
Chancellor Gajda. The proposal has been sent to all departments involved and to date,
I have received no comments.

Please note that the items in **bold** are new items; all others are from the currently
existing document previously approved by the Academic Council. The original program
was returned from the Board of Curators with instructions to include graduate programs
in this proposal. The committee, consisting of two members from each School or
College and from departments included in the proposal, has created this document.

enc
bc: W. Gajda

Committee Members:
  John Carstens
  Nord Gale
  Craig Adams
  Rick Stephenson
  Dale Elifrits
  John Rockaway
PROPOSAL FOR COORDINATION AND ENHANCEMENT OF ENVIRONMENTAL EDUCATION AT THE UNIVERSITY OF MISSOURI-ROLLA

OVERVIEW

The State of Missouri’s industries, consulting firms, citizenry and government currently have significant needs for high quality engineering and science graduates and for environmental research which will lead to solutions to the complex environmental issues being faced today. It is commonly recognized that the nature of today’s environmental problems and tomorrow’s solutions are truly interdisciplinary in nature.

The Faculty and programs at the University of Missouri-Rolla (UMR) possess tremendous expertise in many environmental areas of engineering and science. It is clearly recognized by the environmental faculty and administration at UMR that cooperation and coordination of UMR’s environmental efforts can significantly strengthen all of the programs and individuals involved as well as the educational training and experience we are able to offer our undergraduate and graduate students.

Coordination of the environmental research and teaching efforts at UMR involves many different aspects including: 1) research collaboration and support, 2) curriculum integration or coordination, 3) coordination of existing graduate and undergraduate degrees, 4) establishment of several new degrees in environmental engineering and science, 5) establishment of multidisciplinary undergraduate and graduate environmental seminars, and 6) coordination of publication and brochures describing environmental educational opportunities at UMR.

The purpose of this proposal is two-fold. First, we are proposing establishing an "Environmental Consortium" at UMR which will consist of faculty with environmental expertise from interested departments across campus. This consortium will be overseen by an Environmental Consortium Advisory Committee
with its directives carried out by a Director with ultimate oversight by the Vice-Chancellor of Academic Affairs. The academic departments that will initially be involved in the Consortium and its administrative details are presented below.

Secondly, we are proposing the establishment of several new degrees to serve a significant need within the state of Missouri for environmental expertise. These new degrees are B.S. in Environmental Engineering (dual major), B.S. in Environmental Science (dual major), Ph.D. in Environmental Engineering, and Ph.D. in Environmental Science. The details of these degree offerings are presented below. In addition to these new degrees, we will be expanding several existing M.S. degree programs by offering environmental emphasis within those programs.

There currently exist many strong areas of environmental expertise and activities throughout UMR. To most fully meet the needs of Missouri, however, proper coordination of environmental efforts and of degree offers must be established.

MISSION AND PLANNING

The mission of the University of Missouri-Rolla is the education of leaders in engineering and science. Specific goals include unexcelled quality in undergraduate education and excellence in selected graduate scholarly areas including environmental science and engineering. Major campus commitments indicating the priority of environmental issues include the Center for Environmental Science and Technology (CEST), the Environmental Trace Substance Research Center (ETSRC) and the Cloud and Aerosol Science Laboratory (CASL). These activities attract significant external funding from governmental agencies and corporations. For example, CEST has received a one million dollar grant from the Monsanto Corporation.

Although there exists an environmental engineering specialization within the degree program of the Department of Civil Engineering on the campus, the opportunity to earn an environmental degree has been unavailable to students choosing majors in other areas of engineering and any areas of science. To make the environmental specialization
more accessible, the campus convened an ad-hoc committee on Environmental Engineering/Science Degrees in 1993. This committee had a number of meetings in which the concepts of environmental engineering and environmental science degrees were discussed, appropriate constituencies addressed and resources identified.

The recommendations of the committee were forwarded to the Vice Chancellor for Academic Affairs in the spring of 1994. They were subsequently discussed and approved by the campus Curriculum Committee and the Academic Council.

The proposed programs fit into the mission of the campus and reflect the priorities established by the strategic plan of the institution. Environmental science and engineering is one of only five research areas spelled out in the program review document of the campus and, as such, this area is among the highest priorities of the campus.

NEED FOR THE PROPOSED PROGRAM

There has been increasing interest among students studying science and engineering in environmental issues. Questions involving climate change, cloud formation, ozone depletion, biodiversity, ecological interactions, waste handling, energy generation are omnipresent and linked to all areas of engineering and science. Environmental issues are spelled out as important in all professional ethical codes and accrediting agencies are insisting upon more inclusion of environmental concerns in the traditional curricula.

Corporations are increasing their demands for engineers with environmental expertise. The economic development of the state, and indeed the nation, is tied to successful remediation of environmental problems. For example, simply keeping up with the demand for electrical energy over the next decade will involve major improvements in reducing greenhouse gas emissions. Given the intimate relationship between economic growth, environmental concerns, engineering and science, it is evident that the need for environmentally-conscious and educated engineers and scientists will continue to expand in the future.

A survey conducted on the UM-Rolla campus in the spring of 1995 revealed that a
conservative estimate of 65 students currently enrolled would be interested in pursuing a dual bachelor’s degree within the areas of environmental science and environmental engineering.

DUPLICATION OF PROPOSED PROGRAM

Graduate Program - A Master of Science in Environmental Engineering currently exists in the Civil Engineering Department. The proposed Master of Science degrees (Environmental Emphasis) will exist in all participating departments and will not duplicate the existing Civil Engineering degree program. A Doctor of Philosophy program in either Environmental Engineering or Environmental Science currently does not exist on any of the University of Missouri system campuses.

Undergraduate Programs - The UMSL-Washington University cooperative engineering program contains an environmental option within its new Civil Engineering degree program. Given the focus of the cooperative engineering program upon non-traditional students, with courses offered in the evening and on weekends, this program cannot serve the needs of full-time, resident students who are, of course, the individuals the proposed program is intended to serve. Full-time students require a full-time schedule of courses which simply is not available within the UMSL-Washington University cooperative Civil Engineering program.

No programs exist to offer a wide array of undergraduate engineering and science students the opportunity to study for a second degree in environmental engineering or environmental sciences. Consequently, the program degree programs do not duplicate any existing programs.

FACULTY RESOURCES

The University of Missouri-Rolla has succeeded in attracting and retaining a high quality faculty in the areas of environmental engineering, environmental science and the
geotechnical area. This faculty has excellent national visibility, has successfully attracted external funding on a continuing basis and provides an excellent foundation for the proposed program. Distinguished faculty who will be involved in this program include Dr. Dan Armstrong, Curators Professor of Chemistry and the founding director of UMR's Center for Environmental Science and Technology; Dr. Craig Adams, Mathes Professor in Environmental Engineering and Associate Professor in Civil Engineering; Dr. Leonard Koederitz, Distinguished Teaching Professor of Petroleum Engineering; Dr. John Rockaway, Gulf Oil Foundation Professor of Geological Engineering; and Dr. Richard Hagni, Curators Professor of Geology and Geophysics.

Environmental engineering and science is one of only five research/scholarship emphasis areas on the UMR campus. The faculty listed above are supported by a number of distinguished colleagues and some key environmental centers: the Center for Environmental Science and Technology, the Environmental Trace Substances Research Center, the Cloud and Aerosol Sciences Laboratory, the Environmental Research Center, the Rock Mechanics and Explosives Research Center and the Graduate Center for Materials Research. In all, an excellent faculty and support infrastructure exists for the proposed program. An attached appendix contains the resumes of these and other faculty who will be involved with the proposed degree programs.

The enrollment management plan in place on the UM-Rolla campus combined with the use of existing courses combine to insure that the proposed dual B.S. degrees can be offered within the existing resource base of the University. There are no plans to add additional faculty to accommodate these degree offerings.

LIBRARY RESOURCES

Given the amount of research and teaching presently occurring in the areas of environmental science and engineering on the UMR campus, the library holdings are more than adequate for the proposed program. There are no plans and no need for a special acquisitions budget in the areas of environmental engineering and environmental science.
PHYSICAL FACILITIES

Given that all courses and laboratories in the proposed program presently exist and are taught on a regular basis, there is no need to add physical facilities.

COORDINATION OF ENVIRONMENTAL SCIENCE AND ENGINEERING RESEARCH, CURRICULUM AND INFORMATION DISSEMINATION

The departments and programs participating in the Environmental Consortium will work in close cooperation in the areas of research, curriculum and information dissemination.

Research - The benefits of integrating many existing resources and strong areas of environmental expertise campus-wide are clear. The current center structure at UMR includes the Center for Environmental Science and Technology (CEST) with its Environmental Trace Substances Lab (ETSL). CEST provides an excellent and viable means of promoting, coordinating, and executing interdisciplinary environmental research and will continue to be a center of collaborative intra and inter-campus research initiatives.

Curriculum - The Environmental Consortium faculty will work closely in coordinating and developing curriculum and courses that complement and strengthen the overall environmental education provided at UMR. For example, team teaching of specific courses will be considered to take advantage of the considerable strength and diversity of our faculty. Through an integrated approach to the environmental engineering and science curriculum, UMR can offer environmental curriculum unsurpassed by programs throughout the country.

Products - The result of coordinating the environmental programs at UMR will be to offer our constituencies graduates of the highest caliber with outstanding
environmental education. It is important that the strength and diversity of UMR’s environmental programs be made known to potential students and employers. Therefore, joint brochures and publications describing the opportunities and resources available in the Environmental Consortium at UMR will be published and disseminated.

Similarly, conferences, short-courses, seminars, and other interactions (both professional and social) should be strongly encouraged within the Environmental Consortium faculty at UMR. Finally, collaboration with other campuses and universities in areas such as research, curriculum support and joint sponsorship of conferences will also be encouraged by the Environmental Consortium Advisory Committee.

PROPOSED ENVIRONMENTAL ENGINEERING AND ENVIRONMENTAL SCIENCE DEGREES

The proposed degree programs will coordinate environmentally-oriented engineering and science degrees at the University of Missouri-Rolla. Two parallel degree structures are proposed: one for the engineering degrees and one for the science degrees. The three tiers of each degree structure are: 1) a Doctor of Philosophy (Ph.D.) degree in either Environmental Engineering or Environmental Science, 2) existing Master of Science (M.S.) degrees with environmental emphasis, and 3) a dual Bachelor of Science (B.S.) degree in either Environmental Engineering or Environmental Science. The proposed plan will clearly delineate environmental specialization requirements. It will also foster cooperative research and curricula and will maintain and significantly enhance the marketability of our graduates and our programs.

GRADUATE DEGREES

Doctor of Philosophy Degrees - The Ph.D. in Environmental Engineering and the Ph.D. in Environmental Science will be offered campus-wide. Dissertation committees will be chaired by Environmental Consortium faculty from the doctoral
faculty selected by the Environmental Consortium Advisory Committee. The Environmental Engineering and Environmental Science doctoral committees will be chaired by faculty from engineering and science departments, respectively. The specialty area of the Ph.D. graduate will be clear to employers and others from the nature of the course work, research group/advisor and dissertation topic.

Master of Science Degrees - The two existing programs are 1) M.S. in Civil Engineering (Environmental Emphasis) and 2) M.S. in Environmental Engineering (offered by Civil Engineering Dept.). The four new degree programs are 1) M.S. in Chemical Engineering (Environmental Emphasis), 2) M.S. in Geological Engineering (Environmental Emphasis), 3) M.S. in Nuclear Engineering (Environmental Emphasis), and 4) M.S. in Petroleum Engineering (Environmental Emphasis). It is proposed that a new "Environmental Emphasis" designation for the Chemical, Geological, Nuclear and Petroleum Engineering Departments will be established.

Four existing science masters degrees will be expanded to include Environmental Emphasis. Specifically, these degrees are M.S. in Chemistry (Environmental Emphasis), M.S. in Geology (Environmental Emphasis), M.S. in Geophysics (Environmental Emphasis), and M.S. in Physics (Environmental Emphasis). It is proposed that a new "Environmental Emphasis" designation for the Chemistry, Geology and Geophysics, and Physics Departments will be established.

Masters degrees are professional degrees which are recognized largely by title and university reputation. The M.S. program is built on the strength of existing M.S. degrees which are already well known by the public. Each of the different disciplines existing in the departments and programs associated within the Environmental Consortium will maintain and strengthen their strong reputation of producing high quality graduates.

UNDERGRADUATE DEGREES

Bachelor of Science Degrees - These degrees in environmental science or environmental engineering are uniquely intended to offer a student enrolled in one of the participating departments at UMR the opportunity to enhance the academic background
provided by the initial degree requirements while not becoming competitive with the pursuit of a Master of Science degree in an environmental area. The requirements for these degrees have been constructed around the stated Dual Bachelor’s Degrees as shown on page 28 of the current UMR Undergraduate Bulletin and reproduced here.

Combination curricula leading to two baccalaureate degrees can be arranged in any two fields. The amount of additional credit required for the second baccalaureate degree will be based on the student’s educational background and determined for each case by the academic department which offers the curriculum leading to the dual degree. The chairman of the department will submit a list of the specific course and credit hour requirements together with the student’s transcript to the dean of the school/college for approval. This list will then be forwarded to the registrar and constitute the official requirement for the dual degree. Since the B.A. degree is unspecified as to major there will be no dual bachelor of arts degree offerings. A student entering UMR with a baccalaureate degree must take a minimum of 30 hours to receive another bachelor’s degree.

When requirements for a degree in two departments have been completed without either degree being awarded, both degrees may be awarded at the same commencement.

These degrees are proposed as requiring that the UMR degree candidate entering such a program in environmental engineering must be making progress toward or have graduated from one of the participating accredited engineering programs on campus. This means of admission to the program allows the participating department from which the student wishes to acquire the degree in environmental engineering to establish, in concert with the Director and within the following curricular requirements, student-unique graduation requirements for the dual bachelor’s degree in environmental engineering. A similar means of admission and degree requirement determination is to be used for students wishing to acquire a dual bachelors degree in environmental science form one of the participating science departments. A graduate of science department must meet requirements for a degree in engineering from one of the participating engineering departments before the student may acquire a dual degree in environmental engineering.
Similar constraints apply to a student pursuing a bachelors degree in engineering who wishes to pursue the dual degree in environmental science. A student who can not enter the program via the dual degree mechanism must meet the catalogue requirements for bachelor's degree as stated in the UMR Undergraduate Bulletin.

PROGRAM ADMINISTRATION

The attached organizational chart summarizes the plan for initial administrative structure for the two degree programs. It is envisioned that the program can be managed by a part-time Director with the aid and advice of an advisory committee. Due to the cross-discipline composition of the coursework which will be required, it appears most appropriate that the Director report to the Vice Chancellor for Academic Affairs. No one of the three Deans has a clear position of responsibility in these programs; therefore, the present best choice of reporting and position of responsibility for these new, inter-disciplinary programs is the Vice Chancellor. It is intended that as soon as practicable, but within no longer than two years, the program will be assigned to one of the academic deans.

Environmental Consortium Advisory Committee - The composition of the Environmental Consortium Advisory Committee is intended to provide a group of interested and dedicated faculty members to give direction and reinforcement to the operation of the Environmental Consortium at UMR. It is intended that the Environmental Consortium Advisory Committee be composed of representatives of each academic unit which participates in the program. Further, it is intended that the portion of the Advisory Committee which is from engineering degree programs provide direction for the engineering programs whereas the representatives from the science degree programs provide direction for the environmental science programs.

Graduate Programs - The engineering and science M.S. degrees (environmental emphasis) will be administered by the home department with
requirements set by the home department consistent with the backgrounds of the students and needs of their constituencies. Because the M.S. in Environmental Engineering degree is offered and administrated by the Civil Engineering Department, the Ph.D. in Environmental Engineering will also be administered by the Civil Engineering Department with the aid and advice of the Environmental Consortium Advisory Committee. Administration of these programs will have ultimate oversight by the Vice-Chancellor of Academic Affairs.

Interdisciplinary thesis/dissertation committees for masters and doctoral students will be strongly encouraged. Chairing of M.S. thesis committees will be by graduate faculty from the degree's home department. Chairing of Ph.D. in Environmental Engineering committees will be by doctoral faculty designated as members of the Environmental Consortium faculty by the EEP Program Advisory Committee.

The directives of the Environmental Consortium Advisory Committee that relate to graduate programs and degrees will be executed by the Environmental Consortium Director appointed annually by the Advisory Committee with the approval of the Vice-Chancellor of Academic Affairs. The authority of the Environmental Consortium Director will be limited to carrying out the directives of the Committee. The Director will be an ex-officio member of the Environmental Consortium. Due to the cross-discipline composition of the course work which will be required, it appears most appropriate that the Director report to the Vice Chancellor for Academic Affairs.

Undergraduate Programs- The model is not significantly different from the formation activities of the Freshman Engineering Program or the Management Systems Program. It is intended that the Advisory Committee be composed of representatives of each academic unit which participates in the program. Further, it is intended that the portion of the Advisory Committee which is from science degree programs provide direction for the Environmental Science degree whereas the representatives from the engineering degree programs provide direction for the Environmental Engineering
Degree.

Status as Programs or Departments

These degrees (Environmental Engineering and Environmental Science) are to come from a campus degree granting program without the formation of a department of environmental engineering/science. This follows precedent set for the Systems Management Program on this campus as well as a number of degrees in engineering and science on other campuses. These also are granted from programs with an administrative structure of a program Director and an Advisory Committee. The choice of this status provides the opportunity for the UMR campus to develop new degree programs and, at the same time, minimize the resources required to develop the programs.

It is proposed that the B.S. Environmental Engineering and B.S. Environmental Science degrees also be managed by the Environmental Consortium Director with the aid and advice of an Environmental Consortium Advisory Committee.

It is intended that as soon as practicable, but within no longer than two years, the B.S. Environmental Engineering and B.S. Environmental Science dual degrees will be assigned to one of the academic deans.

Intention For Future and Continued Development

As the program develops, appropriate departments may be added as participants. In addition, it is understood that the list of approved electives may be amended by the Environmental Consortium Committee as new courses are developed and existing courses modified.
OUTLINE OF DEGREES OFFERED BY DEPARTMENTS IN THE ENVIRONMENTAL CONSORTIUM

Engineering Degrees

A. Ph.D. in Environmental Engineering (Proposed)
   - Core courses established based on fundamental environmental engineering principles
   - Committees chaired by members of campus-wide Environmental Consortium faculty from engineering departments
   - Administered by Dept. of Civil Engineering with aid and advice of the Environmental Consortium Advisory Committee

B. Masters of Science Degrees (Professional Degrees)
     - Offered in home department
     - Administered by home department
     - Degree requirements set by home department
     - Committees chaired by faculty from home department
   - M.S. in Environmental Engineering (Currently existing in CE)
     - Offered in Civil Engineering
     - Administered by Dept. of Civil Engineering
     - Degree requirements set Civil Engineering
     - Committees chaired by faculty from Civil Engineering

C. Bachelor of Science Degree in Environmental Engineering (Proposed)
   - Offered as Dual Degree only
   - Administered by Environmental Consortium Advisory Committee and Director, and Vice-Chancellor of Academic Affairs

Science Degrees

A. Ph.D. in Environmental Science (Proposed)
   - Core courses established based on fundamental environmental science principles
   - Committees chaired by members of campus-wide Environmental Consortium faculty from science departments
   - Administered by Environmental Consortium Advisory Committee and Director
B. Masters of Science Degrees (Professional Degrees)
  • M.S. degrees with Environmental Emphasis in Chemistry, Physics, Geology and Geophysics
    - Offered in home department - Administered by home department
    - Degree requirements set by home department
    - Committees chaired by faculty from home department

C. Bachelor of Science Degree in Environmental Science (Proposed)
  • B.S. in Environmental Science
    - Offered as Dual Degree only
    - Administered by Environmental Consortium Advisory Committee and Director, and Vice-Chancellor of Academic Affairs
Curriculum Recommendations for the Dual Degree Programs

These degrees in environmental science or environmental engineering are uniquely intended to provide the student with the opportunity to enhance the academic background of the initial degree requirements while not becoming competitive with a Master of Science degree. The requirements for these degrees have been constructed around the stated "Dual Bachelor’s Degree" as shown on page 28 of the 1993-94 UM Undergraduate Bulletin.

1. Admission to the program of environmental science or environmental engineering requires that the student be pursuing the requisite degree in either a participating engineering program or participating science program. Alternatively, a student with an awarded requisite degree may enter the program via the second bachelor’s degree means as stated in the UMR Undergraduate Bulletin.

2. The dual degree in environmental engineering or environmental science will require a minimum of 25 semester credit hours, nine of which could be earned as a part of the original undergraduate degree. The second bachelor’s degree will follow catalogue dictated requirements.

3. From 13 to 15 credit hours of core curriculum coursework will be required for all degrees.

4. Student degree programs should strive for both breadth and depth so that at least two electives should be selected from outside the student’s original degree area and at least two electives should be numbered 200 or above.
Environmental Engineering and Environmental Science Degrees Core Curriculum and Approved Electives

Core Curriculum

Courses Credit Hours

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 51 and 52, or 151, or 221, or 241 or Nuc E 204</td>
<td>3 to 5</td>
</tr>
<tr>
<td>Civil Engineering 261</td>
<td>3</td>
</tr>
<tr>
<td>Geological Engineering 50 or Geology 51</td>
<td>3</td>
</tr>
<tr>
<td>Life Science 251</td>
<td>3</td>
</tr>
<tr>
<td>Seminar in Environmental Engineering/Science</td>
<td>1</td>
</tr>
</tbody>
</table>

Total 13 to 15
APPROVED ELECTIVES -- DUAL DEGREE PROGRAMS

Chemical Engineering

ChE 143 Chemical Engr. Thermo II [Lect. 3.0] PREREQUISITES: ChE 141, Chem 51, 52, Math 204. Will allow non-majors with an introductory thermo course.


ChE 261 Industrial Instrumentation [Lect. 3.0] PREREQUISITES: Math 204, ChE 231, 233. Will allow non-majors with Math 204, fluid mechanics and heat transfer.

ChE 262 Industrial Instrumentation Laboratory [Lab 1.0] PREREQUISITES: ChE 234, accompanied by ChE 261. Will allow non-majors with fluid mechanics, heat transfer.

ChE 335 Momentum, Heat and Mass Transfer [Lect. 3.0] PREREQUISITES: ChE 235, 237, Math 204 or 209.
Chemistry

Chem 8 Qualitative Analysis [Lab 2.0] PREREQUISITES: Preceded or accompanied by Chem 3 and Chem 4 or an equivalent training program approved by UMR.

Chem 51 Elementary Quantitative Chemical Analysis [Lect. 2.0] PREREQUISITES: Preceded or accompanied by Chem 3 or to be accompanied by Chem 52.

Chem 52 Elementary Quantitative Chemical Analysis [Lab 2.0] PREREQUISITES: To be accompanied by Chem 51 and preceded or accompanied by Chem 4 or an equivalent.

Chem 221 Organic Chemistry I [Lect. 3.0] PREREQUISITES: Chem 3 or 8.

Chem 222 Organic Chemistry I Lab [Lab 1.0] PREREQUISITES: Preceded or accompanied by Chem 221 and Chem 4 or an equivalent training program approved by UMR.

Chem 223 Organic Chemistry II [Lect. 3.0] PREREQUISITES: Chem 221

Chem 224 Organic Chemistry II Lab [Lab 1.0] PREREQUISITES: Preceded or accompanied by Chem 223 and Chem 4 or an equivalent training program approved by UMR.

Chem 226 Organic Chemistry I Lab [Lab 1.0] PREREQUISITES: Chem 8, preceded or accompanied by Chem 221 and Chem 4 or an equivalent training program approved by UMR.

Chem 228 Organic Chemistry II Lab [Lab 1.0] PREREQUISITES: Chem 226, preceded or accompanied by Chem 223 and Chem 4 or an equivalent training program approved by UMR.


Chem 238 Inorganic Chemistry Laboratory [Lab 1.0] PREREQUISITES: Preceded or accompanied by Chem 237 and Chem 4 or an equivalent training program approved by UMR.

Chem 242 Physical Chemistry Laboratory [Lab 1.0] PREREQUISITES: Preceded or accompanied by Chem 241 and Chem 4 or an equivalent training program approved by UMR.

Chem 243 Physical Chemistry [Lect. 3.0] PREREQUISITES: Chem 241 or consent of department.

Chem 244 Physical Chemistry Laboratory [Lab 1.0] PREREQUISITES: Preceded or accompanied by Chem 243 or 240 and Chem 4 or an equivalent training program approved by UMR.

Chem 251 Intermediate Quantitative Analysis [Lect. 2.0 and Lab 2.0] PREREQUISITES: Chem 151, 243 and preceded or accompanied by Chem 4 or an equivalent training program approved by UMR.


Chem 331 Selected Topics in Inorganic Chemistry [Lect. 3.0] PREREQUISITES: Preceded or accompanied by Chem 243.

Chem 355 instrumental Methods of Chemical Analysis [Lect 2.0 and Lab 1.0 PREREQUISITES: Preceded or accompanied by Chem 4 or an equivalent training program approved by UMR.


Chem 362 General Biochemistry Laboratory [Lab 2.0] PREREQUISITES: Preceded or accompanied by Chem 361 and Chem 4 or an equivalent training program approved by UMR.

Chem 363 Intermediary Metabolism [Lect. 3.0] PREREQUISITES: Chem 361.


Civil Engineering CE 230 Elementary Fluid Mechanics [Lect. 3.0] PREREQUISITES: BE 50 with grade of C or better

CE 261 Introduction to Environmental Science [Lect. 2.0 and Lab 1.0] PREREQUISITES: None
CE 265 Water and Waste Water Engineering [Lect. 3.0] PREREQUISITES: CE 261

CE 362 Public Health Engineering Lect. 3.01

CE 363 Solid Waste Management [Lect. 3.0] PREREQUISITES: CE 261 with grade of C or better.

CE 365 Sanitary Engineering Analysis [Lect. 1.0, Lab 2.0] PREREQUISITES: CE 265 with grade of C or better.

CE 367 Air Pollution Abatement I [Lect. 3.0] PREREQUISITES: None

Economics

Econ 340 Environmental and Natural Resource Economics [Lect. 3.0 PREREQUISITES: Econ 221

Engineering Management

EMgt 361 Project Management [Lect. 3.0] PREREQUISITES: Senior or graduate standing

Geological Engineering

GeE 315 Geometrics [Lect. 3.0] PREREQUISITES: None

GeE 331 Subsurface Hydrology [Lect. 2.0 and Lab 1.0] PREREQUISITE: GeE 50

GeE 335 Environmental Geological Engineering [Lect. 3.0] PREREQUISITE: GeE 50

GeE 337 Geological Aspects of Hazardous Waste Management [Lect. 3.0] PREREQUISITES: GeE 275

GeE 340 Field Operations in Ground Water Hydrology [Lect. 3.0] PREREQUISITE: GeE 331

GeE 346 Geographic Information Systems [Lect. 2.0 and Lab 1.0] PREREQUISITES: GeE 50

GeE 376 Mined-Land Reclamation [Lect. 2.0 and Lab 1.0] PREREQUISITES: GeE 50 and prerequisite or co-requisite; one of GeE 246, CE 215, or MIN 226.
GeE 381 Geomechanics of Porous Media [Lect. 3.0] PREREQUISITE: GeE Eng 50 and GeE 331.

Geology and Geophysics

Geol 52 Evolution of the Earth [Lect. 2.0 and lab 1.0] PREREQUISITES: GeE 50 or Geol 51 or LS 1 Recommended.

Geol 275 Introduction to Geochemistry [Lect. 3.0] PREREQUISITE: (Chem 1 and 3 or Chem 8.

Geol 376 Aqueous Geochemistry [Lect. 3.0] PREREQUISITES: Chem 1, 3 or 5, Geol 275 or Geol 375 or Permission.

Geol 3xx Hydrogeology [Lect. 3.0] PREREQUISITES: GeE 50, or Geol 51, Geol 223 recommended.

Geo 285 Geophysical Imaging [Lect. 3.0] PREREQUISITES: Phys 24, GeE 50 or Geol 51.

Geo 382 Mining and Engineering Geophysics [Lect. 2.0 and Lab 1.0] PREREQUISITES: Math 22, G 51 or GeE 50.

Life Sciences

LS 110 General Biology [Lect. 3.0] PREREQUISITES: Entrance requirements.

LS 112 General Biology Lab [Lect. 1.0 and Lab 1.0] PREREQUISITE: Preceded or accompanied by LS 110.

LS 115 Zoology [Lect. 3.0 and Lab 1.0] PREREQUISITES: LS 112.


LS 121 Microbes and Man -- Introductory Microbiology [Lect. 3.0] PREREQUISITES: None.

LS 122 Introductory Microbiology Lab [Lab 1.0] PREREQUISITES: Accompanied or preceded by LS 1

LS 221 Microbiology [Lect. 3.0 and Lab 2.0] PREREQUISITES: LS 211.

LS 3xx Aquatic Ecology [Lect. 3.0 and Lab 1.0] PREREQUISITES: Chem 3, LS 110, Geol 51.

Nuclear Engineering

NE 105 Introduction to Nuclear Engineering [Lect. 2.0] PREREQUISITES: Sophomore standing.

NE 204 Nuclear Radiation Measurements [Lect. 2.0, Lab 1.0] PREREQUISITES: preceded or accompanied by Engl 160 and NE 203 or Phys 107.

NE 205 Fundamentals of Nuclear Engineering [Lect. 3.0] PREREQUISITES: preceded or accompanied by NE 203 or Phys 107.

NE 209 Nuclear Environmental Engineering [Lect. 3.0] PREREQUISITES: Junior standing.

NE 301 Radioactive Waste Management [Lect. 3.0] PREREQUISITES: Senior standing.

NE 307 Nuclear Fuel Cycle [Lect. 3.0] PREREQUISITES: NE 205.

NE 333 Health Physics [Lect. 3.0] PREREQUISITES: NE 203 or Phys 107.

NE 381 Probabilistic Risk Assessment [Lect. 3.0] PREREQUISITES: NE 205.

Petroleum Engineering

Petr 131 Drilling Practices and Well Completions [Lect. 2.0 and Lab 1.0] PREREQUISITES: Accompanied by Math 21 and Physics 23.

Petr 241 Petroleum Reservoir Engineering [Lect. 3.0] PREREQUISITES: Math 22, Pe Eng 131 and 1


Petr 314 Advanced Drilling Technology [Lect. 3.0] PREREQUISITES: Pe Eng 131, Cv Eng 230, Cmp Sc 73.

Petr 316 Production Applications [Lect 2.0 and Lab 1.0] PREREQUISITES: Cv Eng 230, Pe Eng 13 preceded or accompanied by Pe Eng 241.

Petr 335 Secondary Recovery of petroleum [Lect. 3.0] PREREQUISITE: Pe Eng 241, 242 and Mc
Eng 2

Petr 341 Well Test Analysis [Lect. 2.0 and Lab 1.0] PREREQUISITES: Pe Eng 241, 316, Bas Eng 1

Petr 417 Survey of Improved Recovery Processes PREREQUISITE: Pe Eng 335

Petr Environmental Elective currently being developed by Dr. Dunn-Norman to be offered in Fall 1994.
PROPOSED ENVIRONMENTAL ENGINEERING/SCIENCE PROGRAMS ADMINISTRATIVE STRUCTURE

V-C, Academic Affairs
This reporting scheme will be re-evaluated at the end of the second year of the program’s operation.

Environmental Consortium Director

Civil Eng.
Petroleum Eng.
Geology & Geophysics

Geological Eng.
Life Science
Nuclear Eng.

Chemical Eng.

Advisory Committee
Composition:

a) One representative from each participating department/program;

b) Assistant deans for undergrad. curriculum

c) Chairman, to be appointed by VC Academic Affairs

Engineering faculty members to advise about engineering degrees;
Science faculty members to advise about science degrees, as sub-committees of Advisory Committee
February 13, 1996

Memo to: Dr. Jerry Bayless
From: Gregory Gelles
Re: Common Calendar for 1997-1998

Hi Jerry,

As a follow-up to my earlier referral to the Public Occasions Committee regarding the construction of a new calendar for the 1997-1998 academic year, I would like to suggest that the calendar presented below be considered as one possible academic calendar model incorporating the changes recommended by the IFC.

1. Leave Fall Semester 1997 identical to the one contained in the calendar approved by Academic Council on November 16, 1995.

2. Leave Summer Session 1998 identical to the previously approved calendar.

3. Consider the following Spring Semester 1998:

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
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</thead>
<tbody>
<tr>
<td>Spring Semester Opens</td>
<td>January 9, Friday</td>
</tr>
<tr>
<td>Spring Registration</td>
<td>January 9, Friday</td>
</tr>
<tr>
<td>Classwork begins</td>
<td>January 12, Monday</td>
</tr>
<tr>
<td>Martin Luther King Jr. Recognition Holiday</td>
<td>January 19, Monday</td>
</tr>
<tr>
<td>Mid-Semester</td>
<td>February 28, Saturday</td>
</tr>
<tr>
<td>Spring Break begins</td>
<td>March 9, Monday</td>
</tr>
<tr>
<td>Spring Break ends</td>
<td>March 19, Thursday</td>
</tr>
<tr>
<td>Spring recess begins</td>
<td>March 23, Monday</td>
</tr>
<tr>
<td>Spring recess ends</td>
<td>May 8, Friday</td>
</tr>
<tr>
<td>Spring recess ends</td>
<td>May 9, Saturday</td>
</tr>
<tr>
<td>Last Class Day</td>
<td>May 11, Monday</td>
</tr>
<tr>
<td>Reading Day</td>
<td>May 15, Friday</td>
</tr>
<tr>
<td>Final Exams begin</td>
<td>May 16, Saturday</td>
</tr>
<tr>
<td>Final Exams end</td>
<td>May 15, Friday</td>
</tr>
<tr>
<td>Spring Semester closes</td>
<td>May 16, Saturday</td>
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</tbody>
</table>

If this schedule is feasible, I hope it can be of some help in the committee's deliberations. I am still planning for a report on this referral from the Public Occasions Committee at the February 29 Academic Council meeting. Thank you Jerry for your help.

cc John Park
FALL SEMESTER 1997

- Fall Semester Opens 7:30 a.m.
- Freshman Orientation
- New Student Orientation
- Student Registration 8:15 a.m. - 3:30 p.m.
- Classwork begins 7:30 a.m.
- Labor Day Holiday
- Mid-Semester
- Thanksgiving vacation begins 7:30 a.m.
- Thanksgiving vacation ends 7:30 a.m.
- Last Class Day
- Reading Day
- Final Examinations begin 8:00 a.m.
- Final Examinations end 5:30 p.m.
- Fall Semester Closes 5:30 p.m.
- December Commencement

SPRING SEMESTER 1998

- Spring Semester Opens 7:30 a.m.
- Student Registration 8:15 a.m. - 3:30 p.m.
- Classwork begins 7:30 a.m.
- Martin Luther King Jr. Recognition Holiday
- Mid-Semester
- Spring recess begins 7:30 a.m.
- Spring recess ends 7:30 a.m.
- Spring break begins 7:30 a.m.
- Spring break ends 7:30 a.m.
- Last Class Day
- Reading Day
- Final Examinations begin 8:00 a.m.
- Final Examinations end 5:30 p.m.
- Spring Semester closes 5:30 p.m.
- May Commencement

SUMMER SESSION 1998

- Summer Session opens 7:30 a.m.
- Student Registration 8:15 a.m. - 3:30 p.m.
- Classwork begins 7:30 a.m.
- Independence Day Holiday
- Summer Session Closes 12:00 noon

*Schedule shows the regular eight-week Summer Session. Other special course sessions may be scheduled.

CLASS SESSIONS (EXCLUDING FINAL EXAMINATIONS)

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<th>W</th>
<th>Th</th>
<th>F</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td>15</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
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<tr>
<td>Spring Semester</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>14</td>
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<tr>
<td>Summer Semester</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

The faculty is reminded of the religious and other holidays that a substantial number of students may wish to observe.
MEMO TO: ACADEMIC COUNCIL  
FROM: CURRICULA COMMITTEE  
SUBJECT: FEBRUARY 13, 1996, MEETING

For the information of the Academic Council, the following EC1's have been submitted by the University department for an experimental course that will be offered in the near future.

EC1’s reviewed:
EC1 656, Philosophy & Liberal Arts, Art, Film and Literature 201, Genre Studies in Film & Literature. Approved for Fall 1997. 3 hours credit. Prerequisite: Art 85.

EC1 657, Philosophy & Liberal Arts, Art, Film and Literature 201, Thematic Studies in Film and Literature. Approved for Fall 1996. 3 hours credit. Prerequisites: Art 85.

EC1 658, Petroleum Engineering 401, Advanced Well Technology. Approved for Fall 1996. 3 hours credit. No prerequisites.

EC1 659, Computer Science 301, Data Mining. Approved for Fall 1996. 3 hours credit. Prerequisites: Cmp Sc 158 and Cmp Sc 253.

EC1 660, Electrical Engineering 301, Communications Circuits. Approved for Fall 1996. 3 hours credit. Prerequisites: El Eng 254, preceded or accompanied by El Eng 243.

EC1 661, Electrical Engineering 401, Computational Electromagnetics. Approved for Fall 1996. 3 hours credit. Prerequisite: El Eng 273.

EC1 662, Civil Engineering 401, Chemical Principles in Environmental Engineering. Approved for Fall 1996. 3 hours credit. Prerequisite: Graduate standing.

EC1 667, Philosophy & Liberal Arts, Speech & Media Studies 201, Leadership Communication. Approved for Fall 1996. 3 hours credit. Prerequisites: SP&M S 150, 181.

EC1 668, Philosophy & Liberal Arts, Speech & Media Studies 201, Leadership Practicum. Approved for Fall 1996. 3 hours credit. Prerequisite: Approved leadership experience or course.
The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1’s be approved.

CC1’s reviewed:
CC1 4095, Economics 323, International Finance. Approved new course for Fall 1996. 3 hours credit. Prerequisite: Econ 222. Description reads: Examination of the international monetary system, the Balance of Payments, the foreign exchange market, futures and options markets; foreign exchange and other risk management for firms, financing from a global perspective and direct foreign investment.

CC1 4096, Geological Engineering 000. Approved curriculum change for Fall 1996. Justification reads: To clarify the number of humanities and social science credit hours required.


CC1 4098, Petroleum Engineering 308, Applied Reservoir Simulation. Approved for Fall 1996. Change in prerequisites from Pe Eng 257 "TO" Co-requisite Pe Eng 257.

CC1 4099, Petroleum Engineering 232, Well Logging I. Approved for Fall 1996. Change in credit hours from 3.0 hrs. "TO" 2 hours lecture and 1 hour lab. Change in prerequisites from Math 8 "TO" Physics 24 or 25. Change in description to: An introduction to the electrical, nuclear, and acoustic properties of rocks: theory and interpretation of conventional well logs.

CC1 4100, Chemistry 000. Approved change in curriculum for Fall 1996. Justification reads: Curriculum for Chemistry/BS, for senior year, first semester and second semester, Chem 310 is being replaced by either Chem 310 or Chem 390.

CC1 4101, Chemistry 000. Approved change in curriculum for Fall 1996. Justification reads: Curriculum for Chemistry/Biochemistry, for senior year, first semester and second semester, Chem 310 or being replaced by either Chem 310 or Chem 390.

CC1 4102, Chemistry 000. Approved change in curriculum for Fall 1996. Justification reads: Curriculum for Chemistry/Premedicine, for senior year, first semester and second semester, Chem 310 is being replaced by either Chem 310 or Chem 390.

CC1 4112, Math/Statistics, curriculum change. Approved change in the emphasis area for Fall 1996. Change emphasis area "Algebra" "TO" "Algebra/Discrete Mathematics".
CC1 4113, Math/Statistics, curriculum change. Approved emphasis
area for Fall 1996. New emphasis area called, "Actuarial Science."

The two CC1's 4059, Basic En 110, Mechanics of Materials and
4072, E Mech 160, Engineering Mechanics-Dynamics, were not approved
at the Academic Council's January 25, 1996, meeting. A memo from
Ron Fannin was submitted to the curricula committee at the February
13, 1996, meeting asking us to resubmit these two CC1's to the
Academic Council's meeting of February 29, 1996.

Howard Pyron, Chair
MEMO TO: Academic Council Representatives

FROM: Daniel R. White, Council Representative, Basic Engineering

RE: Change of Prerequisite for BE 110

Colleagues, I am writing to ask for your help in assuring that the faculty responsible for teaching courses are able to establish meaningful prerequisites which lead to a reasonable probability of student success and insure that the level of the course can be maintained appropriately. As you know, the Basic Engineering faculty proposed to change the prerequisite for BE 110 from "BE 50 and Math 22" to "BE 50 with a grade of C or better and Math 22." The proposed change was recommended by the UMR Curriculum Committee, but there was objection on the floor to the effect that:

1. A service department had no right to dictate the level of achievement of a degree granting department's majors, and,

2. Such a grade requirement might cause students undue delay, since some small departments are unable to offer every course every semester and students might get "out of sync" if they have to repeat a D grade in BE 50.

The proposal was referred back to the Curriculum Committee for a compromise to be sought.

The Basic Engineering faculty approved the proposed prerequisite change after a careful study over several semesters showed that students making a D grade in BE 50 and not repeating it had only a 30% chance of making a C or better in BE 110. On the other hand, those making a C or better in BE 50 have a 70% chance of making a C or better in BE 110. The department faculty has reviewed the original proposal and again voted unanimously that it is appropriate. We feel that if the faculty responsible for teaching a course are not allowed to establish appropriate prerequisites for the course then we could have chemists establishing prerequisites for math courses, historians establishing prerequisites for economics courses, etc. This is clearly absurd. Moreover, there is a well established procedure for a student to seek a waiver of the prerequisite in the event the student's advisor feels such a waiver is warranted. Should such a waiver be sought, I believe the request would be fairly and seriously considered by the department so that a deserving student could be accommodated.

I request your support on the Council floor in this matter. Thank you.
To: UMR FACULTY

Thursday, February 29, 1996; 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the January 25, 1996 meeting

II. Reports and Responses
   A. President’s Report (To include IFC) (5 min.) Greg Gelles
   B. Chancellor’s Report (10 min.) John Park
      (10 minutes for Questions and Answers)

III. Reports of Standing and Special Committees
   A. Curricula (5 min.) Howard Pyron
      1.*Report No. 5
   B. Personnel (10 min.) Lance Haynes
      1.*Dean and Chair Search Procedures
      2. Tenure and Promotion Procedure
      3. Faculty Awards (11-30-95)
      4. Faculty Compensation for Video Instruction (12-18-95)
   C. Public Occasions (10 min.) Jerry Bayless
      1. Common Calendar
   D. U-Wide Retirement and Staff Benef. (15 min.) Bruce Selberg
      1. Recommendations to President Russell

IV. Old Business

V. New Business and Announcements
   1. Referrals
      a. Environmental Engineering Program (to Curricula)
      b. Added charge to Academic Assessment (to ByLaws)
      c. Faculty Activities Review (to Personnel)
      d. Background Checks for new faculty (to Personnel)
   2. Staff Council
   3. Student Council

*Information distributed with agenda to Academic Council members and department chairs.
XXV,5. The meeting was called to order promptly at 1:30 P.M. by President Greg Gelles. There was one substitution—Dr. Keith Stanek for Dean Mitchell.

1. It was moved and seconded to approve the minutes of the January 25, 1996 meeting as distributed. Motion carried.

2. REPORTS AND RESPONSES

A. PRESIDENT’S REPORT

1. Professor Gelles presented a report from recent IFC meetings.
   a. President Gelles said the IFC passed a resolution for a common calendar with a vote of 10 to 1, with 1 abstention. He stated that his was the lone dissenting vote.
   b. IFC also had a discussion concerning the Benefits Committee’s report.
   c. Professor Gelles stated that there was also a discussion on the infrastructure, and the plan to allocate 8 million dollars for the infrastructure on the four campuses. President Russell said that he doesn’t want more money in benefits.

2. President Gelles reported on the Board of Curators’ meeting also, stating that they approved funding for the Rolla Building renovation.

3. Professor Gelles made four announcements.
   a. He referred to House Bill 918, concerning Faculty representatives to the Board of Curators, and urged Academic Council members to contact Representative Jerry McBride and Senator Mike Lyber, expressing their feelings on this.
   b. He reminded the members that Professor Lance Williams is chairing an ad hoc committee to amend the Bylaws, and urged those who had ideas on this to contact Dr. Williams.
   c. He announced that a public interest group has been formed to draw attention to the lack of daycare facilities on the UMR campus. This group—Campus Care for Kids Committee—is holding a Kids’ Fair on March 22.
   d. Professor Gelles stated that he had attended a meeting of the Graduate Faculty on Research Funding. He said he was concerned about the discussion, as
there seemed to be a lack of consensus between the Graduate Faculty and the Chancellor, and also among the Graduate Faculty members themselves. He said that he feels it is important that his issue be addressed by the Academic Council in a calm, unbiased objective manner, and is therefore forming a Blue Ribbon Committee to look at this. The chair will be Professor Jeffrey Cawlfield. Professor Gelles said he wants this committee to be very inclusive and urged everyone to have input.

e. Professor Gelles also said there were rumors last week about a meeting between President Russell and the Curators’ Professors on the UMR campus. He said he had confirmed that there was such a meeting, and that although he has great respect for the Curators’ Professors, they do not necessarily speak for the General Faculty. He stated that he was concerned that there was no announcement about the meeting beforehand, and no statement or minutes afterward. He said that he will ask President Russell about this at the next IFC meeting.

B. There was no Chancellor’s Report, due to Dr. Park being out of the state.

3 REPORTS OF STANDING AND SPECIAL COMMITTEES

A. CURRICULA—Professor Howard Pyron presented this report.
   1. After referring to the EC1’s presented for information only, he moved to approve the CC1’s as distributed. There was a second.
   2. Professor Ron Kohser observed that #4059 and #4072 had again been included, and that Mines and Met unanimously opposed them.
   3. Professor Keith Stanek stated that Dean Mitchell is strongly in favor of having a requirement of C or better.
   4. With no further discussion, the vote was taken and motion passed.

B. PERSONNEL—This report was presented by Professor Lance Haynes.
   1. Professor Haynes directed the Council members’ attention to the revision in the Dean Search Procedure, as included with the agenda. He moved to approve this change to Policy Memo II-70. There was a second, and motion passed.
   2. He then discussed the minor word changes in the Chair Search Procedures. He moved to approve the changes to then be forwarded to the Board of Curators. There was a second, and motion carried.
PUBLIC OCCASIONS—This report on the Common Calendar was presented by Professor Jerry Bayless.

1. Professor Bayless gave a brief statement about the four campuses now being required to have a common calendar, and that this matter had been referred to his committee.

2. Professor Bayless presented the changes from the previously approved calendar necessary to conform. He made a motion to approve these changes, and there was a second.

3. There was a lengthy discussion of this issue. Some felt that this revised calendar was acceptable, but did not like the mandate. Some stated that they thought we should not change our calendar.

4. Vote was taken on the motion, with 16 in favor and 7 opposed. Motion carried. (See attached).

5. Professor Neil Book moved to send a letter from Greg Gelles expressing that UMR does not want the approval of this calendar to be construed as agreement that UMR has to let the IFC set our calendar and spring break (which some said was really a winter break.) There was a second. Motion passed.

U-WIDE RETIREMENT AND STAFF BENEFITS COMMITTEE

1. This report was given by Professor Bruce Selberg, and included an OHP presentation (some of which is attached).

2. After the presentation, Professor Selberg distributed a letter, and moved that the Council send it to President Russell, endorsing the 12 items, and other concerns of the committee.

3. There were several questions and much discussion.

4. There was a second, and motion carried. (See attached)

5. Professor Gelles and others thanked Professor Selberg for the time and effort given to this area, and gave him a round of applause.

4 OLD BUSINESS

A. EPA Compliance Committee—Professor Vince Roach presented a report on environmental issues on campus.

1. Professor Roach elaborated on the activities of this committee and people hired to check on compliance with EPA regulations on hazardous materials and waste.

2. He stated that UMR now has a data base to enter all items into inventory, and track them from the time received until disposal.

3. Professor Roach said Environmental Management Services provided materials and "know-how" on disposal of waste.
No new business was presented.

There was a motion and a second to adjourn. Motion passed by voice vote.

Respectfully submitted,

Bruce Selberg
Secretary

*Minutes of the Academic Council are considered official notification and documentation of actions approved.*
March 6, 1996

MEMORANDUM

TO: President George Russell

FROM: Dr. Greg Gelles, President, UMR Academic Council

SUBJECT: UM-Wide Retirement and Staff Benefits Committee Recommendations

Dear President Russell:

Below is a resolution that was passed by the UMR Academic Council on February 29, 1996.

The UMR Academic Council respectfully recommends your acceptance and implementation of the twelve improvements recommended by the UM-Wide Retirement and Staff Benefits Committee dated November 15, 1995. Recommendation B which is for an early retirement benefit for employees with long term service is particularly endorsed. In the UMR retirement and benefit survey of September, 1991, an unreduced retirement option for employees with long term service was the number two priority of the UMR employees. Seventy-eight percent of the employees requested such a benefit.

UMR employees are concerned about comments made by you that you would not approve any recommendation that costs money. We are concerned because over the last fourteen years the university contribution to the retirement fund has decreased from 9.32 percent in 1982 to 5.96 percent at the present time. While the extraordinary performance of the stock market has allowed this decrease, the funds saved by this decrease have not been put into faculty and staff benefits. Moreover, when the stock market does fall and if it occurs during a tight budget year will the university increase the percentage put into the retirement fund without tapping into the raise pool?

Also, when the university switched over to a managed care medical plan in 1993 they hoped to cut the yearly rate of increase of the medical costs from the fifteen percent range to seven and one-half percent. So for the rate of increase has been well below the seven and one-half percent goal. Total University of Missouri health insurance costs in 1996 were $1.7 million less than in 1993. this was $13.7 million below what the 1996 costs would have been if they had risen at the health care inflation index over the three year period. The faculty and staff have sacrificed to accept managed care yet it appears that none of these medical savings have gone to benefit enhancement.

Academic Council
202 Norwood Hall
Rolla, MO 65401-0249
Telephone (314) 341-4972

an equal opportunity institution
The UMR Academic Council respectfully urges you to use these retirement fund and medical plan savings to fund the recommendations of the Retirement and Staff Benefits Committee of November 19, 1995 and bring the University of Missouri benefits up to the average of the selected research AAU universities indicated in the 1995 Hewitt benefits study.

Thank you for considering our request.

cc:   IFC Members
      Professor Bruce Selberg
      Vice-President James T. McGill
MEMO TO: Academic Council  
FROM: Curricula Committee  
SUBJECT: March 19, 1996, Meeting

For the information of the Academic Council, the following EC1’s have been submitted by the University department for an experimental course that will be offered in the near future.

EC1’s reviewed:
EC1 663, Ge Eng 301, Risk Assessment in Environmental Studies, approved for FS96. 3 hours credit. Prerequisites: None.
EC1 664, Math 301, An Introduction to One-Dimensional Discrete Dynamical Systems, approved for FS96. 3 hours credit. Prerequisites: Math 309.
EC1 665, Geop 301, Geophysical Field Methods, approved for FS96. 2 hours lecture and 1 hour lab. Prerequisites: Geop 384.
EC1 666, Physics 301, Transport Theory, approved for FS96. 3 hours credit. Prerequisites: Physics 24 or Physics 25; Physics 208 or Math 325 (Math 325 may be taken concurrently).
EC1 669, Educ 301, Curriculum and Instruction in the Middle School, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 670, Educ 301, Philosophy and Administration of the Middle School, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 671, Educ 301, Classroom Management and Conflict Resolution, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 672, Educ 301, Education Leadership-Covey, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 673, Educ 301, Integrating Technology in Education, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 674, Educ 301, Authentic Assessment, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 675, Educ 301, Elementary School Curriculum Design, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 676, Educ 301, Education Leadership-Covey, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.
8. D., 6. Faculty Standing Committees, a. Academic Assessment Committee, (1) {p 13} add: It will serve as the Funding for Results Committee.
** Added charge to committee per request of CBHE, and in lieu of creating a new, self-standing committee.

9. D., 6., d. Athletic Committee, (2) {p 14} The committee consists of six faculty members of professorial rank, [two] three full-time students, one of whom shall be a member of the Student Affairs Committee, and two alumni members.
** For some time it has been the view that the students needed more representation, and representation connected to active student participation in campus affairs.

10. D., 6., e. Budgetary Affairs Committee, (2) {p 14} ...the Graduate Faculty, one student chosen by the Student Council, and one administrative member....
** Student Council seeks input on this matter, where faculty have ten members.

11. D., 6., f. Campus Exigency Committee {pp 14-15} eliminate committee!
** In June 1992 Board of Curators action repealed its earlier policy on Financial Exigency.

12. D., 6., g. Campus Safety Committee, (2) {p 15} ...a representative from [the Environmental Health/Risk Management Department] Occupational Health and Safety Services.
** Reflects campus reorganization, re-titling.

13. D., 6., h. Computer Policy Committee, (2) {p 15} ...each department desiring representation, [one] two students selected by Student Council....
** Student Council believes the issues require more than one student to stay abreast of developments; there are 131 members listed currently.

14. D., 6., i. Curricula Committee, (2) {p 16} one member of the Curricula Committee of the Graduate Faculty, one student chosen by the Student Council, and one administrative ....
** Since Graduate "Council" is not defined in the Bylaws but is a subset of the Graduate Faculty -- a correction. Student Council believes policies, in contrast to course proposals, considered by the committee are of central issue to the student body.

15. H. Publication of the Bylaws {p 25 of 25} ...make available to each faculty member who requests it a current edition of these Bylaws.
** Need-to-know versus a rubric that would be extremely costly, unnecessary at most times.

11 April 1996 lw
MEMO TO: Academic Council
FROM: Curricula Committee
SUBJECT: March 19, 1996, Meeting

For the information of the Academic Council, the following EC1’s have been submitted by the University department for an experimental course that will be offered in the near future.

EC1’s reviewed:

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EC1 664, Math 301, An Introduction to One-Dimensional Discrete Dynamical Systems, approved for FS96. 3 hours credit. Prerequisites: Math 309.
EC1 665, Geop 301, Geophysical Field Methods, approved for FS96. 2 hours lecture and 1 hour lab. Prerequisites: Geop 384.
EC1 666, Physics 301, Transport Theory, approved for FS96. 3 hours credit. Prerequisites: Physics 24 or Physics 25; Physics 208 or Math 325 (Math 325 may be taken concurrently).
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EC1 673, Educ 301, Integrating Technology in Education, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 674, Educ 301, Authentic Assessment, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 675, Educ 301, Elementary School Curriculum Design, approved for SS96. 3 hours credit. Prerequisites: Graduate Standing.
EC1 676, Educ 301, Education Leadership-Covey, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.
CC1 4122, Econ 200, Special Problems. Approved new course for FS96. 1-6 hours variable credit. Prerequisite: Consent of instructor required. Description reads: Problems or readings on specific subjects or projects in the department.

Howard Pyron, Chair
EC1 677, Educ 301, Elementary School Curriculum Design, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.

EC1 678, Educ 301, Classroom Management and Conflict Resolution, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.

EC1 679, Educ 301, Integrating Technology in Education, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.

EC1 680, Educ 301, Philosophy and Administration of the Middle School, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.

EC1 681, Educ 301, Authentic Assessment, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.

EC1 682, Educ 301, Curriculum and Instruction in the Middle School, approved for FS96. 3 hours credit. Prerequisites: Graduate Standing.

EC1 683, Cv Eng 301, Intermediate Engineering Hydrology, approved for FS96. 2 hours lecture and 1 hour lab. Prerequisites: Cv Eng 233.

EC1 684, El Eng 401, Robust Control Systems, approved for FS96. 3 hours credit. Prerequisites: El Eng 435.

EC1 685, El Eng 301, Fuzzy Logic Control, approved for FS96. 3 hours credit. Prerequisites: El Eng 231.

EC1 686, Eng Mg 101, Engineering Careers in Packaging, approved for FS96. 1 hour lecture. No prerequisites.

EC1 687, Geo 301, Hydrogeology, approved for FS96. 3 hours credit. Prerequisites: Ge Eng 50 or Geo 51, Geo 223 recommended.

EC1 688, Eng Mg 201, Plant Biology Laboratory, approved for WS97. 1 hour lab. Prerequisites: Life S 112, preceded or accompanied by Life S 118.

EC1 689, English 301, Children’s Literature, approved for FS96. 3 hours credit. Prerequisites: English 20 and one semester of college literature.

The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1’s be approved.

CC1’s reviewed:

CC1 4103, Ge Eng 410, Graduate Seminar. Approved for FS96. Change in credit hours from .5 hours "TO" 1.0 hour.

CC1 4104, Ge Eng 000, curriculum change. Approved for FS96. Ge Eng 210, seminar is deleted and Ge Eng 310 is replacing it.

CC1 4106, Ge Eng 210, Seminar. Approved deletion for FS96.

CC1 4107, Ge Eng 310, Seminar. Approved new course for FS96. .5 hour credit. Prerequisites: Senior Standing. Description: Discussion of current topics.

CC1 4108, Ge Eng 343, Subsurface Exploration. Approved for FS96. Change in prerequisites from Geo 220 "TO" Pe Eng 131, Geo 220.
CC1 4109, Cr Eng 000, curriculum change, approved for FS96. Correction of total hours needed to graduate if Chem 5 is taken instead of Chem 1, 2, & 3 for Cr Eng students. Also, to correct the change in hours for Chem 251 from 4 hours to 3 hours.

CC1 4110, Stat 414, Statistical Time Series Analysis. Approved new course for SS96. 3 hours credit. Prerequisites: Stat 343 and Math 203 or Math 208. Description reads: A formal introduction to the fundamentals of statistical modeling and analysis of discrete time series. Topics include autor-regressive and moving average processes, ARMA models, second order stationarity, vector processes, auto-correlation function, Fourier representation, estimation and prediction of time series.

CC1 4115, Ch Eng 000, curriculum change. Approved for FS96. Correction of hours for first semester, Senior year. Total hours should read: 18 hours.

CC1 4116, Eng Mg 377, Expert systems in Manufacturing and Engineering. Approved for SS96. Change in catalog description to: Intelligent engineering system design using knowledge bases, knowledge based problem solving, symbolic models, knowledge representation, inferencing are the topics covered. Students develop these skills through semester projects based on a specific engineering application using an expert system shell of their choice.

CC1 4117, Chem 361, General Biochemistry. Approved for FS96. Change in prerequisites from Chem 223 "TO" Chem 223 and Life S 211.

CC1 4118, Math 465, Mathematical Programming. Approved new course for FS96. 3 hours credit. Prerequisites: Stat 213 or equivalent and Eng Mg 382 or Math 204 or Math 208. Description reads: Techniques for modeling decision making problems using appropriate mathematical models of linear, integer, combinatorial or non-linear programming. Modeling techniques will be illustrated with examples. A comprehensive treatment of applicable algorithms to solve wide varieties of mathematical programming models will be provided.

CC1 4119, Stat 438, Industrial Queuing Theory. Approved new course for FS96. 3 hours credit. Prerequisites: Eng Mg 382, Stat 213 or equivalent. Description reads: Mathematical methods for modeling and analysis of queuing systems using probability theory. topics include: counting processes, discrete-time processes, single and multiple server queues and Markovian queuing processes.


CC1 4121, Econ 100, Special Problems. Approved new course for FS96. 1-6 hours variable credit. Prerequisite: Consent of instructor required. Description reads: Problems or readings on specific subjects or projects in the department.
April 5, 1996

Professor Gregory Gelles  
President, Academic Council  
103 Harris Hall

Dear Professor Gelles:

During informal discussions among some of the chemistry faculty, a concern has emerged regarding the enforcement of the English language requirements for the international students. The current campus policy states that:

"Students who enroll in the university’s Intensive English Program must complete that program to the satisfaction of its director and academic coordinator (i.e., satisfy all graduation requirements) before being allowed to enroll fulltime in academic coursework. A student may enroll in a reduced academic load with the approval of both his/her academic department and the Intensive English Program...."

A rigid enforcement of this policy is hard on students who are sponsored by agencies in their home countries. Since the sponsoring agency support is contingent upon full-time enrollment in academic and research courses in the academic department, an extended enrollment in the intensive English program puts unanticipated financial burden on the student.

Therefore, we urge the Academic Council to consider this matter and make necessary changes in the rules which would reduce or eliminate the unanticipated hardship without compromising the integrity of the academic program at UMR.

Sincerely,

Shubhender Kapila  
Professor of Chemistry  
Member of the Academic Council

Nicholas Levêtis  
Assistant Professor of Chemistry  
Member of the Academic Council

cc. Oliver Manuel, John Fulton, John Park
MEMO TO: Academic Council  
FROM: Curricula Committee  
SUBJECT: April 9, 1996, Meeting

For the information of the Academic Council, the following EC1’s have been submitted by the University department for an experimental course that will be offered in the near future.

EC1’s reviewed:
EC1 690, Psych 301, Advanced Adolescent Psychology. Approved for SS96. 3 hours credit. Prerequisites: General Psych, and Educational Psych or Development Psych.

EC1 691, Psych 301, Advanced Adolescent Psychology. Approved for FS96. 3 hours credit. Prerequisites: General Psych, and Educational Psych or Development Psych.

EC1 692, Cv Eng 301, Low-Rise Building Design for Wind and Seismic Forces. Approved for FS96. 2 hours lecture and 1 hour lab. Prerequisites: Cv Eng 221 or Cv Eng 223.

EC1 693, Eng Mg 301, Engineering Design Optimization. Approved for FS96. 3 hours credit. Prerequisites: Math 022, Cmp Sc 74.

EC1 694, Eng Mg 401, Quality Engineering. Approved for WS97. 3 hours credit. Prerequisite: Stat 213.

EC1 696, El Eng 401, Advanced Power Electronics. Approved for WS97. 3 hours credit. Prerequisite: El Eng 353.

EC1 697, Stat 301, Statistics in the Classroom. Approved for SS96. 3 hours credit. Prerequisite: None.

EC1 698, Hist 301, Seminar in Archival Research (Missouri London). Approved for SS96. 3 hours credit. Prerequisite: None.

EC1 699, Eng Mg 301, Integrated Product/Process Development. Approved for FS96. 1 hour lecture and 2 hour lab. Prerequisite: None.
EC1 700, Pol Sc 201, International Relations. Approved for FS97. 3 hours credit. Prerequisites: Pol Sc 90 or Hist 175 or 176.

EC1 701, Psych 301, Cross-Cultural Psychology. Approved for WS97. 3 hours credit. Prerequisites: Psych 50 and Psych 155 or Psych 270.

EC1 702, Min En 301, Blasting Design and Technology. Approved for FS96. 2 hours lecture and one hour lab. Prerequisites: Min En 307.

The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1’s be approved.

CC1’s reviewed:
CC1 4114, Ae Eng 377, Principles of Engineering Materials was removed from the table and approved for Fall 1996. Change of course number from 241. Change of course title from Materials for Aerospace Engineering. Change of prerequisites from Bas En 110 "TO" No prerequisites. Change of description to: Examination of engineering materials with emphasis on selection and application of materials in industry. Particular attention is given to properties and applications of materials in extreme temperature and chemical environment. A discipline specific design project is required. (Not a technical elective for undergraduate metallurgy or ceramic majors. (Co-listed with Ch Eng 377, Physics 377, Mt Eng 377, and Cr Eng 377.)

CC1 4123, Econ 375, Labor Economics. Approved for FS96. Change in prerequisites from Econ 221 and Econ 222 "TO" Econ 221 or Econ 222.

CC1 4126, Econ 321, Finance. Approved for FS96. Change in prerequisites from Econ 221, Econ 222, Stat 115 "TO" Econ 221 or Econ 222.

CC1 4127, Econ 320, Money and Banking. Approved for FS96. Change in prerequisites from Econ 110, Econ 203 "TO" Econ 222.

CC1 4129, Physics 377, Principles of Engineering Materials. Approved for FS96. Change in description to: Examination of engineering materials with emphasis on selection and application of materials in industry. Particular attention is given to properties and applications of materials in extreme temperature and chemical environment. A discipline specific design project is required. (Not a technical elective for undergraduate metallurgy or ceramic majors. (Co-listed with Ch Eng 377, Ae Eng 377, Mt Eng 377, and Cr Eng 377.)

CC1 4130, Mt Eng 377, Principles of Engineering Materials. Approved for FS96. Change in catalog description to: Examination of engineering materials with emphasis on selection and application of materials in industry. Particular attention is given to
properties and applications of materials in extreme temperature and chemical environment. A discipline specific design project is required. (Not a technical elective for undergraduate metallurgy or ceramic majors. (Co-listed with Ch Eng 377, Physics 377, Ae Eng 377, and Cr Eng 377.)

CC1 4131, Cr Eng 377, Principles of Engineering Materials. Approved for FS96. Change in catalog description to: Examination of engineering materials with emphasis on selection and application of materials in industry. Particular attention is given to properties and applications of materials in extreme temperature and chemical environment. A discipline specific design project is required. (Not a technical elective for undergraduate metallurgy or ceramic majors. (Co-listed with Ch Eng 377, Physics 377, Ae Eng 377, and Mt Eng 377.)

CC1 4133, Env En 365, Environmental Engineering Analysis Laboratory. Approved for FS96. Change in prerequisites from Cv Eng 265 with grade of "C" or better "TO" Cv Eng 265 with grade of "C" or better; or graduate standing.

CC1 4134, Env En 367, Introduction to Air Pollution. Approved new course for FS96. 3 hours credit. Prerequisites: Cv Eng 230 or equivalent; or graduate standing. Description reads: Introduction to the field of air pollution dealing with sources, effects, federal legislation, transport and dispersion and principles of engineering control. (Co-listed with Cv Eng 367.)

CC1 4135, Env En 368, Air Pollution Control Methods. Approved new course for FS96. 3 hours credit. Prerequisites: Cv Eng 230 or equivalent; or graduate standing. Description reads: Study of the design principles and application of the state-of-the-art control techniques to gaseous and particulate emissions from fossil fuel combustion, industrial and transportation sources. (Co-listed with Cv Eng 368.)

CC1 4136, Env En 461, Biological Principles in Environmental Engineering Systems. Approved for FS96. Change in title from Sanitary Microbiology. Change in description to: Course covers the fundamental biological and biochemical principles involved in natural and engineered biological systems.

CC1 4137, Env En 462, Physicochemical Operations in Environmental Engineering Systems. Approved for FS96. Change in course title from Water Treatment. Change in prerequisites from None "TO" Cv Eng 230 or equivalent. Change in description to: A detailed study of the theory of water treatment with applications to design and operations. (Co-listed with Cv Eng 462.)
CC1 4138, Env En 463, Biological Operations in Environmental Engineering Systems. Approved new course for FS96. 3 hours credit. Prerequisites: Cv Eng 230 or equivalent. Description reads: Course covers biological operations and design in water, wastewater and aqueous hazardous waste treatment systems including modeling of biological treatment processes; and design of activated sludge systems, trickling filters, rotating biological contractors, lagoons, nitrification and denitrification, and digestion process. (Co-listed with Cv Eng 463.)

CC1 4139, Env En 464, Industrial and Hazardous Waste Treatment. Approved new course for FS96. 2 hours lecture and one hour lab. Prerequisites: None. Description reads: Course covers fundamental of industrial and hazardous wastewater treatment systems and characterization including physical, chemical and biological processes and laboratory pilot plant investigations. (Co-listed with Cv En 464.)

CC1 4140, Cv Eng 261, Introduction to Environmental Engineering and Science. Approved for FS96. Change in course title from Introduction to Environmental Science. Change in description to: Course provides an introduction to fundamental chemical, physical, and biological principles in environmental engineering and science. Topics include environmental phenomena, aquatic pollution and control, solid-waste management, air pollution and control, radiological health, and water and wastewater treatment systems.

CC1 4141, Cv Eng 265, Water and Wastewater Engineering. Approved for FS96. Change in course description to: A study of the engineering design principles dealing with the quantity, quality and treatment of water, and the quantity, characteristics, treatment and disposal of wastewater.

CC1 4142, Cv Eng 365, Environmental Engineering Analysis Laboratory. Approved for FS96. Change in course description to: Environmental Engineering analytical principles and techniques applied to the quantitative measurement of water, wastewater and natural water characteristics, and application of advanced instrumental methods in environmental engineering. (Co-listed with Env En 365.)

CC1 4143, Cv Eng 367, Introduction to Air Pollution. Approved for FS96. Change in course title from Air Pollution Abatement I. Change in prerequisites from None "TO" Cv Eng 230 or graduate standing. Change course description to: Introduction to the field of air pollution dealing with sources, effects, federal legislation, transport and dispersion and principles of engineering control. (Co-listed with Env En 367.)

CC1 4144, Cv Eng 368, Air Pollution Control Methods. Approved for FS96. Change in course title from "Air Pollution Abatement II." Change in credit hours from 2 hours lecture and 1 hour lab "TO" 3
hours lecture. Change in prerequisites from None "TO" Cv Eng 230; or graduate standing. Change in description to: Comprehensive study of air pollution abatement with emphasis on sampling, measurement and control. (Co-listed with Env En 368.)

CC1 4145, Cv Eng 461, Biological Principles in Environment Engineering Systems. Approved for FS96. Change in course title from "Sanitary Microbiology." Change in description to: Course covers the fundamental biological and biochemical principles involved in natural and engineered biological systems. (Co-listed with Env En 461.)

CC1 4146, Cv Eng 462, Physicochemical Operations in Environmental Engineering Systems. Approved for FS96. Change in course title from "Water Treatment." Change in prerequisites from None "TO" Cv Eng 230 or equivalent. Change in description to: A detailed study of the theory of water treatment with applications to design and operations. (Co-listed with Env En 462.)

CC1 4147, Cv Eng 463, Biological Operations in Environmental Engineering Systems. Approved for FS96. Change in course title from "Wastewater Treatment I." Change in prerequisites from none "TO" Cv Eng 230 or equivalent. Change in description to: Course covers biological operations and design in water, wastewater and aqueous hazardous waste treatment systems including modeling of biological treatment processes; and design of activated sludge systems, trickling filters, rotating biological contractors, lagoons, nitrification and denitrification, and digestion processes. (Co-listed with Env En 463.)

CC1 4148, Cv Eng 464, Industrial and Hazardous Waste Treatment. approved for FS96. Change in course title from "Wastewater Treatment II." Change in prerequisites from none "TO" Cv Eng 230 or equivalent. Change in description to: Course covers fundamentals of industrial and hazardous wastewater treatment systems and characterization including physical, chemical and biological processes and laboratory pilot plant investigations. (Co-listed with Env En 464.)

CC1 4149, Eng MG 324, Fundamentals of Manufacturing. Approved new course for FS96. 2 hours lecture and 1 hour lab. Prerequisites: Eng Mg 282 or instructor approved equivalent. Description reads: This course provides a comprehensive treatment of topics of concern to the Manufacturing Engineer. The effect of manufacturing processes on product design and cost is discussed, and an introduction to inspection and quality control is presented.

CC1 4150, Eng Mg 438, Industrial Queuing Theory. Approved new course for FS96. 3 hours credit. Prerequisites: Eng Mg 382, Stat 213 or equivalent. Description reads: Mathematical methods for modeling and analysis of queuing systems using probability theory. Topics include: counting processes, discrete-time processes, single and multiple server queues and Markovian queuing processes. (Co-listed with Stat 438.)
CC1 4152, Eng Mg, Quality Engineering 475. Approved new course for WS97. 3 hours credit. Prerequisite: Stat 213. Description reads: This course is an examination of the theory and practice of quality engineering with particular emphasis on the work of Genichi Taguchi. The application of the quality loss function, signal to noise ratio and orthogonal arrays is considered in-depth for generic technology development; system, product and tolerance design; and manufacturing process design. The emphasis of the course is off-line quality control.

CC1 4153, Ae Eng 000. Curriculum change. Approved for FS96. The justification reads: The number of the course previously taken (Ae Eng 241, first semester junior year) has been changed to Ae Eng 377.

CC1 4154, Ae Eng 282, Experimental Methods in Aerospace Engineering I. Approved for FS96. Change in credit hours from 1 hour lecture and 1 hour lab "TO" 2 hours lab.

CC1 4155, Me Eng 000. Manufacturing Processes Emphasis area. Approved for FS96. Justification reads: The number of faculty in the area and the strong student interest in the area necessitate definition of this pre-existing emphasis area.

CC1 4156, Me Eng 240, Mechanical Instrumentation. Approved for FS96. Change in credit hours from 1 hour lecture and 1 hour lab "TO" 2 hours lab.

CC1 4157, Me Eng 242, Mechanical Engineering Systems. Approved for FS96. Change in credit hours from 1 hour lecture and 1 hour lab "TO" 2 hours lab.

CC1 4158, Me Eng 323, Transport Phenomena in Manufacturing Processes. Approved new course for FS96. 3 hours credit. Prerequisites: Me Eng 225 and Me Eng 231. Description reads: A study of the important role that transport phenomena (heat and mass transfer and fluid flow) play during various manufacturing processes including metal casting, joining and welding extrusion, forging, crystal growth, chemical deposition, and thermal spray deposition.

CC1 4159, Cv Eng 363, Solid Waste Management. Approved for FS96. Change in prerequisites from Cv Eng 261 with "C" or better, CV Eng 215 "TO" Cv Eng 261 with grade of "C" or better; or graduate standing.

CC1 4160, Env En 363, Solid Waste Management. Approved for FS96. Change in prerequisites from Cv Eng 261 with grade of "C" or better "TO" Cv Eng 261 with grade of "C" or better; or graduate standing.

CC1 4161, El Eng 312, Digital Systems Design Laboratory. Approved for FS96. Change in credit hours from 1 hour lecture and 2 hour
CC1 4162, Mi Eng, curriculum change. Approved for FS96.


CC1 4164, Mi Eng 218, Mine Atmosphere Control. Approved for WS97. Change in description to: Fundamentals of mine ventilation, including the principles of airflow, control of gases, dust, and temperature, methane drainage, mine fans, network theory, computer network simulation, and economics of airflow, with emphasis on analysis, systems design and practical application.

CC1 4165, Mi Eng 231, Rock Mechanics I. Approved for WS97. Change in description to: Rock as an engineering material; elastic and non-elastic properties; Mohr’s criterion for failure; slope and highwall stability; field stresses; elastic design of underground openings, pillars, and roof beams; principles of roof-bolt design; surface subsidence; and rock testing methods.

CC1 4166, Mi Eng 270, Mining Industry Economics. Approved for WS97. Change in prerequisites from Econ 121 or 122, accompanied or preceded by Mi Eng 221 "TO" Econ 121 or 122, accompanied or preceded by Mi Eng 221. Change of description to: Importance of the mineral industry to national economy, uses, distribution, and trade of economic minerals, time value of money, mineral taxation, economic evaluation utilizing depreciation, depletion, and discounted cashflow concepts, social and economic significance of mineral resources.

CC1 4167, Mi Eng 307, Principles of Explosives Engineering. Approved for WS97. Change in credit hours from 3 hours lecture "TO" 2 hours lecture and 1 hour lab. Change of description to: Theory and application of explosives in the mining industry; explosives, initiating systems, characteristics of explosive reactions and rock breakage, fundamentals of blast design, drilling and blasting, regulatory and safety considerations.

CC1 4168, Mi Eng 322, Mine Management. Approved for WS97. Change in credit hours from 3 hours "TO" 2 hours. Change of prerequisites from Mi Eng 270 "TO" Completion of 120 credits in Mi Eng curriculum. Change of description to: Theory and practice of mine management, including basic managerial functions, management
theories, communication skills, motivation, leadership, organization, maintenance management, managerial decision making, cost control, labor relations, government relations, ethics, with emphasis in presentation skills.

CC1 4169, Mi Eng 325, Mining Methods for Metal and Industrial Minerals. Approved new course for WS97. 4 hours credit. Prerequisites: Mi Eng 221, 270. Description reads: The process of developing metallic and industrial mineral deposits into productive entities. Principles of planning, constructing, and operating economically viable underground and surface mines. Cost effective mining methods and equipment selection. Principles of operation and coordination of mining projects. Stoping methods, benching methods.

CC1 4170, Mi Eng 343, Coal Mine Development and Production. Approved for WS97. Change of description to: An in-depth study of all aspects of coal mining, including an overview of coal industry, reserves and geology, planning and development of coal mines, surface and underground mechanized methods of face preparation, equipment, coal extraction, handling and preparation as practiced in the United States.

CC1 4172, Mi Eng 376, Mined-Land Reclamation. Approved for FS96. Change in description to: Permitting: the legal environment of reclamation and environmental impact assessment; post-mining land-use selection and mine planning for optimum reclamation of all mines: metal, non-metal, and coal; unit operations of reclamation: drainage, backfill, soil replacement, re-vegetation, maintenance, etc.

CC1 4173, Mi Eng 393, Mine Planning and Design. Approved for WS97. Change in credit hours from 2 hours lecture and 1 hour lab "TO" 2 hours lecture and 2 hours lab. Change in description to: Selection of a mining design project that results in the preparation of a comprehensive engineering report and oral presentation for the economic exploitation of the selected geologic deposit. The course includes instruction and student guidance that integrates and applies engineering economics, sciences, use of commercial software and principles to develop a minable deposit.

CC1 4174, Eng Mg 465, Mathematical Programming. Approved new course for FS96. 3 hours credit. Prerequisites: Stat 213 or equivalent and (Eng Mg 382 or Math 203 or Math 208.) Description reads: Techniques for modeling decision-making problems using appropriate mathematical models of linear, integer, combinatorial, or non-linear programming. Modeling techniques will be illustrated with examples. A comprehensive treatment of applicable algorithms to solve wide varieties of mathematical programming models will be provided. (Co-listed with Math 465.)
CC1 4175, Ch Eng 377, Principles of Engineering Materials. Approved for FS96. Change of catalog description to: Examination of engineering materials with emphasis on selection and application of materials in industry. Particular attention is given to properties and applications of materials in extreme temperature and chemical environments. A discipline specific design project is required. (Not a technical elective for undergraduate metallurgy or ceramic majors.) (Co-listed with Ae Eng 377, Physics 377, Mt Eng 377, and Cr Eng 377.)

CC1 4176, Physics 008, Laboratory for Environmental Physics. Approved for FS96. Change in prerequisites from Co-requisite: Physics 006 or 007 "TO" Co-requisite: Physics 007. Change of description to: A laboratory course to accompany the Environmental Physics lecture course as an option. A set of experiments will be performed related to environmental impacts studies in Environmental Physics 007. To be taken simultaneously with Environmental Physics 007.

CC1 4177, Physics 021, General Physics I. Approved for FS96. Change of prerequisites from Preceded or accompanied by Math 21 "TO" Math 008.

CC1 4178, Physics 022, General Physics Laboratory. Approved for FS96. Change in prerequisites from Must be accompanied by Physics 021 "TO" Preceded or accompanied by Physics 021.

CC1 4179, Physics 023, Engineering Physics I. Approved for FS96. Change in prerequisites from Preceded or accompanied by Math 21 "TO" Math 008.

CC1 4180, Physics 024, Engineering Physics II. Approved for FS96. Change in prerequisites from Physics 023, preceded or accompanied by Math 22 "TO" Physics 023, Math 021.

CC1 4181, Physics 025, General Physics II. Approved for FS96. Change in prerequisites from Physics 021, Math 22 "TO" Physics 021, Math 021.

CC1 4182, Physics 026, General Physics Laboratory. Approved for FS96. Change in prerequisites from Accompanied by Physics 25 "TO" Preceded or accompanied by Physics 025.

CC1 4183, Physics 027, General Physics Laboratory. Approved for FS96. Change in prerequisites from Accompanied by Physics 021 or 23 "TO" Preceded or accompanied by Physics 021 or 023.

CC1 4184, Physics 028, General Physics Laboratory. Approved for FS96. Change in prerequisites from Accompanied by Physics 024 or 025 "TO" Preceded or accompanied by Physics 024 or 025.
CC1 4185, Physics 107, Introduction to Modern Physics. Approved for FS96. Change in description to: An elementary survey of the modern concepts in physics and their applications; relativity, quantum mechanics, atomic physics, solid state physics, nuclear and particle physics.

CC1 4186, Physics 207, Modern Physics I. Approved for FS96. Change in description to: An introduction to quantum mechanics, atomic physics, and solid state physics. Topics include historically important experiments and interpretations.

CC1 4187, Physics 221, Electricity and Magnetism I. Approved for FS96. Change in description to: A study of electric and magnetic fields, leading to Maxwell's equations. Topics covered include the electrostatic field, the electric potential, and the electrostatic field in matter.

CC1 4188, Physics 307, Modern Physics II. Approved for FS96. Change in description to: A continuation of Physics 207. An introduction to nuclear and particle physics. Topics include nuclear models, decays, and reactions, and elementary particles and fundamental forces.

CC1 4189, Physics 311, Thermal Physics. Approved for FS96. Change in description to: A study of the equilibrium states of matter as governed by the first and second laws of thermodynamics. Emphasis is placed on the microscopic approach with an introduction to statistical mechanics. Topics include the kinetic theory of (uniform) gases, phase equilibria in pure systems, and an introduction to quantum statistics.

CC1 4190, Physics 321, Electricity and Magnetism II. Approved for FS96. Change in description to: A continuation of Physics 221. Topics covered include the magnetostatic field, the magnetic vector potential, the magnetostatic field in matter, electrodynamics, and electromagnetic waves.

CC1 4191, Physics 357, Subatomic Physics. Approved for FS96. Change in description to: An introduction to elementary particles. Topics include particle properties, nuclear forces, particle interactions, the Standard Model for quarks and leptons, fundamental forces in gauge field theory models, and the role of elementary particle interactions in cosmology.

CC1 4192, Physics 361, Introduction to Quantum Mechanics. Approved for FS96. Change in prerequisites from Math 204 or 229; and either Physics 107 or 207 "TO" Physics 107 or 207, 208. Change in description to: The fundamental concepts, postulates and methods of quantum mechanics and their applications to physical systems. Topics include solutions of the Schrodinger equation for simple systems and operator methods.

CC1 4193, English, Literature Minor. Approved change in
description for the curriculum effective FS96. It reads: To complete this minor, students must take 12 hours of Literature courses offered by the English department; at least nine of those must be at the 200 or 300 level.

CC1 4194, English, Writing Minor. Approved change in description for the curriculum effective FS96. It reads: To complete this minor, students must take English 281, Theory of Written Communication, plus nine hours selected from the following courses: English 60, 65, 70, 160, 165, 260, 302, 305, or 306.

CC1 4195, English, Technical Writing Minor. Approved change in description for the curriculum effective FS96. It reads: To complete this minor, students must take English 65, 160, and 260 plus three additional hours of electives selected in consultation with their minor advisors in the English department. B.A. students must elect, in consultation with their minor advisors, nine hours of courses in science and/or technology in addition to the B.A. General Education science requirement.

Howard Pyron, Chair
Survey of Student Involvement
UMR Residential Life Department
Initial Review of Results

April 16, 1996

The Residential Life Department has developed programs and activities intended to create a sense of community, invite student involvement, and foster student initiatives for programs and policy review in campus residence halls. The theoretical foundations of our program include M. Scott Peck's (1987) model for community development and Charles Schroeder's (1994) Theory of Student Involvement.

In the Fall, 1995 our department addressed strategies for assessing the impact of our programming efforts. We wanted to identify the extent to which student's perceived our performance in provision of programs and identify program outcomes. We provided 1250 surveys to students living in the residence halls and reviewed 542 (n=542) surveys which were completed and returned.

Here are the initial highlights of this survey. Please understand that a more complete and detailed report of this investigation will be provided later this spring. It appears that the theoretical foundations of our program will be supported by our findings. Included with our initial review of the results we compared students (Group A) who indicated that they would be returning to the residence halls next year to those students (Group B) who indicated that they would be returning to UMR but not to the residence halls next year. The Following Questions require further analysis in our investigation:

3. Within my residence hall community, most people appreciate the talents of others and accept and appreciate their own limitations:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Group A</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>Group B</td>
<td>75%</td>
<td>25%</td>
</tr>
</tbody>
</table>

4. The people in my community know their strengths and weaknesses:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>Group A</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Group B</td>
<td>69%</td>
<td>31%</td>
</tr>
</tbody>
</table>

5. I am willing to plan programs for my community:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>Group A</td>
<td>58%</td>
<td>42%</td>
</tr>
<tr>
<td>Group B</td>
<td>47%</td>
<td>53%</td>
</tr>
</tbody>
</table>

6. I feel that I can influence the policies in the residence halls:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>61%</td>
<td>39%</td>
</tr>
<tr>
<td>Group A</td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>Group B</td>
<td>54%</td>
<td>46%</td>
</tr>
</tbody>
</table>

*On questions asking for students to identify the extent to which they are involved in residence hall programs those students in Group A appear to be slightly more involved than those students in Group B.

31. Student use of CLCs:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>use 7 or more times</th>
<th>used less than 3 times or not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>56%</td>
<td>32%</td>
</tr>
<tr>
<td>Group A</td>
<td>60%</td>
<td>29%</td>
</tr>
<tr>
<td>Group B</td>
<td>50%</td>
<td>35%</td>
</tr>
</tbody>
</table>

52. The extent to which I have benefited from involvement in the residence halls is:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Almost none</th>
<th>Benefited</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>20%</td>
<td>56%</td>
</tr>
<tr>
<td>Group A</td>
<td>17%</td>
<td>62%</td>
</tr>
<tr>
<td>Group B</td>
<td>25%</td>
<td>42%</td>
</tr>
</tbody>
</table>

56. The extent to which I have benefited from interactions with faculty and professional staff is:

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Almost none</th>
<th>Benefited</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Student Response</td>
<td>17%</td>
<td>59%</td>
</tr>
<tr>
<td>Group A</td>
<td>13%</td>
<td>65%</td>
</tr>
<tr>
<td>Group B</td>
<td>22%</td>
<td>50%</td>
</tr>
</tbody>
</table>

*One last interesting note, initial review finds that those students in Group B appear to have more contact with faculty than Group A.
To: UMR FACULTY

Thursday, April 18, 1996; 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the February 29, 1996 meeting

II. Reports and Responses

A. President’s Report (To include IFC) (5 min.) Greg Gelles

B. Chancellor’s Report (10 min.) John Park
   (10 minutes for Questions and Answers)

III. Reports of Standing and Special Committees

A. *Ad Hoc Bylaws Committee (15 min.) Lance Williams

B. Curricula (15 min.) Howard Pyron
   1. *Reports No. 6 & 7
   2. Program in Environmental Engineering Len Koederitz

C. Personnel (No report) Lance Haynes
   1. Tenure and Promotion Procedures
   2. Faculty Awards (11-30-95)
   3. Faculty Compensation for Video Instruction(12-18-95)

D. Ad Hoc Committee on Research (5 min.) Jeff Cawlfield

IV. Old Business

V. New Business and Announcements
   1. Update on the functions of Academic Assessment Office
      (10 min.) Carl Burns
   2. Society of Women Engineers (5 min.) Nanette Courey
   3. Staff Council
   4. Student Council

*Information distributed with agenda to Academic Council members and
department chairs.
XXV, 6. The meeting was called to order at 1:30 P.M. by President Greg Gelles. There was one substitution noted—Liz Cummins for Dennis Perry.

1. It was moved and seconded to approve the minutes of the February 29 meeting as distributed. Motion Carried.

2. REPORTS AND RESPONSES

A. PRESIDENT’S REPORT

1. Professor Gelles announced the Board of Curators would meet on the UMR campus on April 25, and extended an invitation to Academic Council members to a breakfast with the Curators on that date.
2. President Gelles gave a brief report from the last IFC meeting and the last General Officers’ meeting.
   a. He said that the General Officers discussed Health Care issues, but no decisions were made.
   b. Professor Gelles said that the General Officers also discussed project requiring line-item funding.
   c. Jim Schnieder, the U-wide representative to the legislature, made a report to the General Officers concerning the considerable discussion that has been taking place about faculty members who are not literate in English. He said a large number of legislators were in favor of a bill to test foreign teachers for English proficiency. He said it had been put aside for now, but campuses will have to deal with the issue soon.
   d. President Gelles said the new president of the Board of Curators met with IFC on March 28, and that he said some very positive things about faculty relations.

B. CHANCELLOR’S REPORT

1. Dr. Park mentioned that the Board of Trustees, along with some other groups, were here last week. He said that the Board of Trustees is a new thing, and is rapidly becoming effective.
2. The Chancellor said they have been reviewing UMR’s mission, and concluded that dramatic steps have been made toward implementing the vision.
3. Dr. Park announced an open meeting to be held at 8:30 A.M. on April 19, to discuss progress or lacks toward attaining the mission.
4. Q & A-There were no questions from the floor.

President Gelles announced a change in the agenda as to the order of committee reports, to accommodate a prior commitment of Dr. Gajda.

.3 REPORTS OF STANDING AND SPECIAL COMMITTEES

A. CURRICULA-Professor Howard Pyron presented the first part of this report.
1. After a handout was distributed to be reviewed with previously distributed Curricula Committee material, Professor Pyron moved to approve the CCI’s. there was a second and motion carried.
2. President Gelles read a statement from Dr. Leonard Koederitz on Environmental Engineering, followed by a brief report from Dr. Gajda about the possibility of a PhD program in Environmental Engineering.
3. Professor Pyron then stated that the Curricula Committee recommended that the Academic Council approve this program, and he so moved. There was a second, followed by some discussion from the floor.
4. Professor Jerry Westphal then moved to postpone action on the motion until the June meeting, because the proposal for the PhD program had not been circulated in his department. There was a second, and motion carried.

B. AD HOC BYLAWS COMMITTEE-Professor Lance Williams presented this report, and referred to the material that was distributed with the agenda.
1. Professor Williams elaborated on the procedures that the committee had used to put together these recommendations to amend the bylaws, and the procedures necessary to amend.
2. In lieu of a petition with the required 20 faculty agreeing to recommend the changes to the General Faculty, there was a show of hands. There were 25 faculty members who raised their hands, and the changes will now be presented to the General Faculty for a vote.

C. AD HOC COMMITTEE ON RESEARCH-This brief report was presented by Professor Jeffrey Cawlfield.
1. Professor Cawlfield said that he had chosen five members for this committee, in addition to himself, and that their first meeting had been a good one.
2. Professor Cawlfield read the charge to the committee, and stated that they plan to get input from all voices, and see what the perceptions and complaints are. He stated that he hoped to have one more meeting before the end of the semester.

3. There was a comment from the floor about redundancy, referring to another similar committee. Professor Cawlfield said his committee is working with that group, chaired by Dr. Frank Blum.

4 OLD BUSINESS—There was no old business presented.

5 NEW BUSINESS

A. Carl Burns presented a brief report on the activities of the Academic Assessment Office.
   1. He stated that the primary reason this office was created was to meet state mandates to indicate that students’ are achieving at required levels.
   2. He elaborated on the information available in their office, and said he hoped everyone would consider them an important resource.

B. President Gelles stated that the report from the Society of Women Engineers will be rescheduled.

C. STUDENT COUNCIL—Rich Lee, the new Vice President for External Affairs of the Student Council, introduced himself, the new STUCO president, Josh Grove, and other officers present.

There was a motion and a second to adjourn. Motion carried.

Respectfully submitted,

Bruce Selberg
Secretary

*Minutes of the Academic Council are considered official notification and documentation of actions approved.*
A number of faculty have contacted the officers of Academic Council concerning faculty salary recommendations, the UMR 5-year Plan, and statements by President Russell. President Greg Gelles is out of town for two weeks but is aware of the issues and supports the submittal of this memo to you. We ask that you reconsider your proposed budget as regards the faculty salary increases.

We are concerned because the budget plan you have submitted calls for an approximately 4.7% average faculty salary increase. Statements in the SPECTRUM attributed to President Russell indicate that all employee groups will be given a minimum of 3.8% average salary increase which, in combination with $500,000 additional faculty salary money called for by the UMR 5-year plan, have lead the faculty to anticipate an approximately 6% average faculty salary increase. Your budget plan would provide for about a 2.5% base average faculty salary which, when combined with the 5-year plan’s $500,000, would provide only about a 4.7% average increase.

In the interest of maintaining faculty morale as well as being competitive in recruiting and retaining quality faculty to the campus you need to reconsider your decision.

The faculty realizes that you must often make difficult decisions in your position as Chancellor, but it appears you have made this decision regarding faculty salaries without seeking any faculty input or without even informing the faculty of your reasoning behind the decision. Such an approach is counter to the teachings of Total Quality Management and certainly is discouraging to those who support an open, honest, and straightforward exchange of information between administrators and faculty.
Final Report

from

Committee to Evaluate Administrator Review Process

presented to Vice Chancellor Walter J. Gajda

May 23, 1996

Committee Members:

Jamie Archer
Keith Blackford
Lawrence George
Glenna Grisham
Len Koederitz
Michael Meagher
Winona Morgan
John Molchan
Wendell Ogrosky
Catherine Riordan (Chair)
Joan Singley
Paul Stigall
Garnett Walters
Recommendations Offered by the Committee

Current Policy
We recommend elimination of portions of the current Personnel Policy I-25 and certain practices that have emerged in the implementation of that policy. We recommend elimination of: 1) conducting a review [only] every five years; 2) the requirement that committees be responsible for the review; 3) the practice of mailing surveys to individuals on and sometimes off campus who have limited interaction with or knowledge of the administrator being evaluated; 4) the practice of conducting the reviews without objective performance data regarding how the unit is performing relative to the unit’s specific goals as well as with limited information from the supervisor and important constituents.

General Recommendations For a New Administrative Review Policy
A formal review should be conducted annually.

The review should include: (1) general expectations for all administrators; and (2) expectations specific to each administrator’s position/functions.

Expectations should: (1) be in writing; (2) be relative to other campus units; (3) include campus initiatives; and (4) be discussed frequently between the administrator and his or her supervisor.

Feedback provided as part of the review process should be kept confidential. Individuals asked to provide feedback about an administrator’s performance should know the extent to which their feedback will be held in confidence. Strict confidentiality should apply whenever possible.

A record that the review has been conducted should be included in the administrator’s official personnel file.

An annual review policy should apply to all administrators, including Assistant and Associate Deans and Directors.

Supervisor’s Responsibilities
Supervisors of the administrators being reviewed should lead in establishing performance expectations for the administrators and units they supervise. Feedback relative to the administrator’s progress relative to expectations, and the accumulation of information relative to the annual evaluation of the administrator should be on-going, and not limited to the time period immediately surrounding the formal annual review.

All supervisors should be trained in determining responsibilities, setting performance expectations, collecting input from constituencies and data regarding critical processes for which the administrator shares responsibility, as well as effective methods for giving constructive performance feedback.
Feedback should be focused on performance relative to the mutually established expectations and goals, and the future development of the administrator. Feedback should be clear, constructive and designed to motivate and guide continuous improvement.

The review should include at least some standardized components so that comparisons of the administrator's performance across time can be made.

**What is reviewed**
Reviews should have as their primary purpose the continuous improvement of the administrator's performance. To accomplish this end, the review process should include both the supervisor and the administrator in setting clear expectations for the administrator's performance and evaluating the administrator's achievements relative to those expectations. These would include expectations for the performance of the unit for which the administrator is responsible. At least some expectations should be stated in the form of goals that have measurable outcomes and which can be accomplished within a year.

**Who Should Be Involved in the Formal Administrative Review**
The review process should be initiated and lead by the individual to whom the administrator reports. Information for the review should be solicited in a manner consistent with a 360 degree format (see attached description). The supervisor, in consultation with the administrator being reviewed, will determine which individuals and constituent groups are asked to provide feedback.

We recommend the administrator being reviewed be asked to provide a written self-evaluation each year.

**Review Instrument**
We recommend a professionally developed methodology, using 360 degree feedback-type instruments, be used to carry out the evaluations. The instruments should allow for consistent feedback across time, and the elicitation of feedback relative to that administrator's unique responsibilities and goals.
To: UMR FACULTY

Thursday, June 20, 1996; 1:30 P.M.; G-5 H/SS

I. Approval of minutes of the April 18, 1996 meeting

II. Reports and Responses
   A. President's Report (To include IFC) (10 min.) Greg Gelles
   B. Chancellor's Report (10 min.) John Park
      (10 minutes for Questions and Answers)

III. Reports of Standing and Special Committees
   A. Curricula (5 min.) Howard Pyron
      1. Report No. 8
      2. Referral-Intensive English Courses (6-6-96)
   B. Personnel (No report) Lance Haynes
      1. Tenure and Promotion Procedures
      2. Faculty Awards (11-30-95)
      3. Faculty Compensation for Video Instruction (12-18-95)

IV. Old Business
   A. Environmental Engineering PhD Program (Postponed 4-18-96)

V. New Business and Announcements
   1. Faculty in Residence Report (10 min.) James Seville
   2. Staff Council
   3. Student Council

*Information distributed with agenda to Academic Council members
and department chairs.
MEMO TO: Academic Council
FROM: Curricula Committee
SUBJECT: June 4, 1996, meeting

For the information of the Academic Council, the following EC1’s have been submitted by the University department for an experimental course that will be offered in the near future.

EC1’s reviewed:
EC1 703, Arts & Science 101, Arts & Sciences Student Success. Approved for Fall 1996. 1 hour credit. No prerequisites.

EC1 704, Electrical Engineering 301, Digital Network Design. Approved for Winter 1997. 3 hours credit. Prerequisites: EI Eng 213 or computer hardware competency.

EC1 705, Philosophy & Liberal Arts, Internet Server Technology. Approved with a 4-1 vote Fall 1996. 1 hour credit. Prerequisites: Graduate standing.

The Curricula Committee recommends to the Academic Council that the curricula changes on the following CC1’s be approved.

CC1’s reviewed:
CC1 4196, Computer Science 000. Approved change in curriculum for Fall 1996. Justification reads: Specifying what is acceptable for Humanities, Literature, Social Science, and Laboratory electives.

CC1 4197, Chemical Engineering 020, Introduction to Chemical Engineering. Approved deletion of course effective Fall 1996.

CC1 4198, Chemical Engineering 321, Petroleum Refining Engineering. Approved for deletion of course effective Fall 1996.

CC1 4199, Geological Engineering 376, Mined-Land Reclamation. Approved for Fall 1996. Change of description to: Permitting the legal environment of reclamation and environmental impact assessment; post-mining land-use selection and mine planning for optimum reclamation of all mines: metal, non-metal, and coal; unit operations of reclamation; drainage, backfill, soil replacement, revegetation, maintenance, etc. (Co-listed with Mi Eng 376.)
Minutes of the Academic Council Meeting
June 20, 1996

XXV, 7. the meeting was called to order at 1:30 P.M. by President
Greg Gelles. There were no substitutions.

1. It was moved and seconded to approve the minutes of the
April 18 meeting as distributed. Motion carried.

2. REPORTS AND RESPONSES

A. PRESIDENT’S REPORT

1. Professor Gelles informed the members that Dean
Fulton is leaving UMR to accept the position of
Vice Provost at Virginia Tech. He said that Dean
Fulton has been a wonderful asset to the College
of Arts and Sciences and to UMR as a whole.
2. President Gelles mentioned the administrative
shakeup at UMC, and elaborated briefly. He read
the new Executive Order relating to this.
3. Professor Gelles reported from the General
Officers’ Meeting about the discussion of Senate
Bill 667, concerning the issue of English Language
proficiency for faculty. He said UMR needs to
address this issue, and asked for comments.
Professor Jeff Cawlfield suggested referring the
matter to the Personnel Committee. President
Gelles said he would consider that or possibly an
ad hoc committee.

B. CHANCELLOR’S REPORT

1. Dr. Park expressed his appreciation to the
Academic Council for "taking on" the Faculty English
matter. He said UMR has to deal with it before it is
imposed by the legislature.
2. The Chancellor said the process is ongoing on the
recommendations received for the Strategic Action Plan.
July 22 and 23, the Chancellor’s Staff will be taking
all the recommendations and fitting them into an
overall plan, and hopefully will have a report early
in the fall.
3. The Chancellor then referred to the 5-year Budget Plan. He said it basically refers to items that are critical to UMR’s future, and elaborated on these. He said there is no slack left in the system, and the goals must be realistic. He also announced the first of a series of "brown-bag luncheons" for input on this matter to be on July 23 from 11:30 to 1:00.

4. Q and A
   a. There was a comment from the floor that we need to develop a way to factor the 5-year Budget Plan into the Strategic Action Plan. The Chancellor addressed this idea briefly.
   b. President Gelles asked how much impact the U-wide planning process has on our plan. The Chancellor replied that U-wide goals are good, but not necessarily in the order of priority UMR would have.

3. REPORTS OF STANDING AND SPECIAL COMMITTEES

A. CURRICULA-Professor Howard Pyron presented this report.
   1. After referring to the EC1’s presented for information only, he moved to approve the CC1’s as distributed. There was a second and motion carried.
   2. Professor Pyron then presented Engineering Mgmt. 324 for approval for the fall. He moved to approve. There was a second, and motion carried.
   3. Professor Pyron mentioned the referral sent to the Curricula Committee on Intensive English Courses. He said he does not feel it would be within the scope of his committee. President Gelles said he will now send the referral to the Graduate Council.

4. OLD BUSINESS

A. President Gelles brought up the motion that had been made at the April meeting on modifications to the Environmental Engineering and Science Program.
   1. There was a question from the floor as to why action on this motion was postponed. It was explained that Professor Patterson had some questions, and also that the faculty from Civil Engineering felt that they were not sufficiently informed on this matter.
   2. Vote was taken, and motion carried.
.5 NEW BUSINESS

A. A report was presented by Jim Murphy and James Seville, Director and Assistant Director of Residential Life, respectively.

1. Mr. Murphy talked about the residency program and passed out literature on opportunities for Faculty Involvement in Residential Education and a survey of Student Involvement.

2. Mr. Seville talked about the possibilities for faculty involvement and the attempt to formalize the overall program in residence halls. He also referred to a new plan developed to rearrange the program. He said the Residence Education Program has 2 components: (1) to provide Fundamental Learning Community Experience and (2) Professional Development. He said that they would like to have 30 hours of faculty time next semester for this program, and elaborated on ways to do this.

3. In "wrapping up" the presentation, Mr. Murphy said that this is an effective conduit for UMR to achieve some of its mission.

There was a motion and a second to adjourn. Motion carried.

Respectfully submitted,

Bruce Selberg
Secretary

*Minutes of the Academic Council are considered official notification and documentation of actions approved.*
CC1 4200, Geological Engineering 315. **Statistical Methods in Environmental Geology and Engineering.** Approved for Fall 1996. Change in course title from Geometrics. Change of description to: Study of statistical methods applicable to geologic investigations in environmental protection studies. Topics include design of test programs to meet regulatory guidelines, statistical procedures for analysis of test data and applicable statistical techniques for comparing test conclusions with regulatory criteria.

CC1 4201, Metallurgical Engineering 303, **New Developments in Chemical Metallurgy.** Approved for Winter 1997. Change in credit hours from 2.0 "TO" Variable.

CC1 4202, Geophysics 285, **Geophysical Imaging.** Approved for Fall 1996. Change in description to: A study of the major geophysical methods applicable to shallow engineering and environmental geoscience. Topics include the background theory and practical application of gravity, magnetics, radiometrics, resistivity, induced polarization, spontaneous potential, reflection and refraction seismics, ground penetrating radar, electromagnetics, and borehole logging methods.

CC1 4203, Geology 056, **Earth Science.** Approved deletion effective Fall 1996.

CC1 4204, Geophysics 281, **Geodynamics.** Approved for Fall 1996. Change in credit hours from 2 hours lecture and 1 hour lab "TO" 3 hours lecture. Change in description to: A study of an integrated view of the Earth’s structure and compositions. Topics include seismology, density structure, formation and elements of the solar system and terrestrial planets, and the dynamics and evolution of the Earth’s core, mantle, oceanic and continental crust.

CC1 4205, Mining Engineering 224, **Underground Mining.** Approved for Winter 1997. Change in curriculum. This course was changed from a required "TO" an elective course.

CC1 4206, Mining Engineering 226, **Surface Mining.** Approved for Winter 1997. Change in curriculum. This course was changed from a required "TO" an elective course.

CC1 4207, Engineering Management 330, **Industrial Ecology.** Approved for new course Fall 1996. 3 hours credit. Prerequisite: Senior or graduate standing. Description reads: Effective Managerial decision making in manufacturing or service sectors required familiarity with industrial activities, their impacts on environmental processes and societal interactions. This course will describe interactions between environment and economy.

Howard Pyron, Chair
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Respectfully submitted,

[Signature]

Bruce Selberg
Secretary

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