University of Missouri System

October 1989 SPECTRUM

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Curators mark 150th anniversary of board

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"Resolved that a committee of five be appointed to locate the School of Mines as provided in

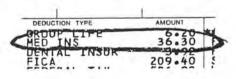
the act of the legislature," reads an original 1870

document from the University of Missouri Board of Curators. When curators met for the first time Oct. 10, 1839, their role was to make decisions regarding one campus — the Columbia campus. In 1862, federal legislation became the harbinger of today's multicampus University System.

The 1862 Morrill Act called for one college of agriculture and mechanical arts in each state. After much discussion and controversy, the board in 1870 established the University of the State of Missouri School of Mines and Metallurgy at Rolla, later to become the University of Missouri-Rolla. In 1963 the St. Louis and Kansas City campuses were added to create the four-campus University of Missouri System. More on page 4.

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Medical premiums rise. Page 1. Curator assesses role. Page 2.



Assessment results. Page 5.



Although the Board of Curators adopted a 9 percent increase in medical premiums for 1990 at the recent board meeting, there was good news surrounding the board's action: It could have been nearly twice as much.

Originally, the University's medical actuaries recommended that administrators plan on an 18 percent increase in claims costs for 1990. Based on that recommendation and with adjustments for anticipated cost containment measures, administrators budgeted for premium increases of 15 percent.

Premium increases will be reflected in December paychecks since the December deduction is applied to January coverage.

The University's actual claims growth for the calendar year, however, is slightly under 10 percent, and national projections for increases in 1990 are declining. Thus administrators recommended 9 percent rather than the heftier

rise.

"Generally, costs for selfinsured plans like the University's plan are rising in the range of 10 percent to 20 percent," said James McGill, vice president for administrative affairs.

The increase will be applicable to both employee premiums and the University's contributions to the program, which provide about two-thirds of the total. Premium increases will be reflected in December paychecks since the December deduction is applied to January coverage.

Programs designed to help control the University's health care costs are being effective, McGill said.

"The use of a preferred provider organization and mandatory utilization reviews apparently have been useful, without diminishing the quality of health care coverage," McGill said.

The program's new administrator — Lincoln National Life Insurance Co. — also may help reduce rates. "Lincoln is very aggressive in its efforts to structure programs that aid its clients in controlling health care expenses. Likewise, we will be exploring flexible spending accounts and discounted pharmaceutical arrangements in 1990, both of which offer opportunities for cost control," McGill added.

Other good news is the announcement of no premium increase for either the dental or long-term disability insurance program.

UM System Medical Benefits Plan (monthly rates)

	1989 Rates		1990 Rates	
	Employee Cost	University Cost	Employee Cost	University Cost
\$100 Deductible				
Employee	\$36.30	\$ 72.64	\$ 39.56	\$ 79.18
Employee & Child(ren)	49.14	98.32	53.58	107.16
Employee & Spouse	77.30	154.62	84.26	168.54
Family \$500 Deductible	93.20	186.44	101.60	203.22
Employee	\$18.10	72.64	19.74	79.18
Employee & Child(ren)	24.54	98.32	26.76	107.16
Employee & Spouse	38.58	154.62	42.06	168.54
Family	46.60	186.44	50.80	203.22

Data will ease transition in processing of claims

To facilitate the claims-filing process under the new administrator for the medical plan Jan. I, the University will provide information to Lincoln National to identify each individual for whom claims are to be honored.

By Dec. 1, each employee will receive two data verification sheets — one on medical and the other on dental coverage — that will show names, birthdates and Social Security numbers that will be reported to Lincoln National.

It is important that employees take the time to review this information and, if necessary, add missing information and make corrections before returning the forms to campus benefits representatives. This will avoid delays in the processing of claims.

Open enrollment begins

Employees can make choices in their University benefits plans beginning Nov. 1. They have until Nov. 15 to elect to make changes in their medical plan, such as switching from the \$100 deductible to the \$500 deductible or transferring to one of the health maintenance organizations in Kansas City or St. Louis.

This is also the time employees can enroll in the flexible benefits plan, which can increase take-home pay.

Additional details will be mailed to each employee. Employees who have questions about the enrollment change period may contact their campus benefits representatives.

News in Brief

Board topics: King holiday, computing

New procedures involve curators in ending programs

Curators expressed concern this summer that their approval was required for starting, but not for discontinuing, a program. At its October meeting the board changed University procedures to include board involvement in decisions to discontinue a University program or academic department.

Previous procedures involved the board only when personnel decisions resulting from program discontinuance were appealed.

The change in procedure does not alter the involvement of faculty, campus administrators and the president in program discontinuance decisions.

King holiday to be discussed by committee

A committee representative of faculty, staff and students will be named to consider ways the University can continue to recognize the contributions of Martin Luther King Jr. The committee will be named by President C. Peter Magrath after chancellors forward recommendations of

members.

Magrath told the Board of Curators in October of his plans to form a committee to make recommendations about observances of King's birthday, which is marked by state and national holidays the third Monday of each January.

All four campuses now have activities that recognize King, Magrath said, so the committee's charge will be to recommend ways to continue that recognition. "As an academic institution, we clearly embrace the ideals espoused by Dr. King, and it is most fitting that we recognize his life and his many contributions to our society.

"The way to proceed is not to debate whether Dr. King needs to continue to be memorialized — I think that's a given — but I think there is a need for some further discussion on the holiday issue and on the ways in which we can best recognize his memory."

An action item to make King's birthday an official University holiday was withdrawn from the September board agenda to provide more time for discussion among University groups. The withdrawn action item was a recommendation to provide an official holiday in exchange for one of staff's four personal days, but employees expressed concern about their loss of flexibility.

The board in September requested more information about the cost involved in University holidays. Adding a holiday, Magrath said, without eliminating a personal day would cost \$644,000 — the equivalent of one day's staff salaries, or the value of one day's productivity loss. Adding a holiday in exchange for a personal day would cost \$71,000 — the amount of overtime pay for employees required to work.

Magrath told curators he hopes the committee will make recommendations sometime after Jan. 1 so he can present the board with a recommendation by next spring. Implementation of any decision that affects the academic calendar would be delayed so that calendars already in place do not have to be changed. Calendars for fiscal 1990 and 1991 have been approved.

Report to curators: academic computing needs more money

The University would have to double its investment in academic computing to catch up to its peer universities, according to a University System task force. If it doesn't, projections show the University will have to triple its investment five years from now just

to stay competitive.

The figures were part of a report to the Board of Curators by a Systemwide task force that compiled an academic computing plan. The report was presented by the task force's chairman, John Park, vice chancellor for academic affairs at UM-Rolla.

During the past year, Park reported, the campuses have engaged in task force and committee activities to develop long-range plans for academic computing.

The past year's progress in acquiring equipment to meet academic computing needs has been accomplished through reallocation, grants, vendor partnerships and volume purchase agreements.

"Despite these aggressive initiatives, updated comparisons of the University with its peers affirm that the University continues to lag significantly behind," Park said. The University spends \$9.7 million annually while its peers annually spend an average of \$23.8 million.

To catch up to competitors, the University would not only have to increase its direct investment, but also add significant capital expenditures for facilities to meet academic computing needs. If peer universities continue to progress as expected, "at the end of five years the University would have to be spending \$37.1 million in ongoing support costs and an additional capital investment of \$13.1 million per year to be competitive.

Kummer applies business sense to curator role

A person's work can tell you a lot about the person.

Fred Kummer, a member of the UM System Board of Curators and founder and president of the HBE Corp., one of the 12 largest construction and engineering firms in the country, is a good example.

Meeting him at the HBE offices in St. Louis on a quiet Saturday morning was about the only way to ensure an uninterrupted conversation about the University. Nevertheless, the phone rang, and Kummer jumped from curator to contractor in the time it took him to reach the phone.

He works hard; he works fast. He is a leader in his industry, and he applies to the University System many of the principles that brought him to that pinnacle.

"At one time we had an automotive industry in America that told us they were the envy of the world," Kummer says. "But the Japanese started beating the daylights out of us. That's how we got better.

"The University System is also the envy of the world. But we need to push and challenge one another constantly to ensure that quality. I think Peter Magrath is an excellent leader. But I'm not nearly as passive as some of my fellow curators, and I think we need to challenge administration more. I resent being managed by administration."

My job, as a curator, is to see that we use the resources we are given in the most effective manner we possibly can.'

While Kummer will admit diversity of opinion does exist on the Board of Curators, he still sees the group as purely a rubber-stamp entity.

"We differ very greatly, but I think the ultimate outcome of most of our discussions and decisions has been what the administration wants," Kummer says. "I'm sure that's not a popular view, but I would like to see the board be much more challenging than it is right now.

"I have a very strong view, for instance, that we are not selected as curators for the University of Missouri to decide how the state should appropriate its money. I am strongly in support of the state committing far more resources to higher education. My job, as a curator, is to see that we use the resources we are given in the most effective manner we possibly can. I am most unhappy at a board meeting when we continue to berate the governor and the legislature."



Kummer's days overflow with commitments. It would seem impossible to fit another assignment, such as serving on the board, into an already hectic schedule. When the governor asked him to serve, Kummer thought long and hard. He talked to former and present curators before making his decision.

"I do not serve on this board for self-aggrandizement," he says. "I serve because I think the University is an important institution in the state. The only reason we need a University of Missouri is for the advancement of the state, to do our part toward advancement of the nation and ultimately mankind. That's why I'm a curator.

"Some people think the only job the curators have is to choose a chief executive and go to football games wearing turtleneck letter sweaters. A lot of people enjoy that. But I don't think it's necessarily healthy there be such a divergence of opinion about what our role as curators should be. We oversee a tremendous amount of money. That requires an active — not a passive — role."

Kummer says some board members see their responsibility to the University as somewhat more ceremonial and perfunctory.

"You will not see my attendance at those functions," Kummer says.

"I try to contribute in my own way. My schedule does not allow attendance at all functions. But I try to stay busy, and I greatly enjoy 90 percent of what I do. I have a great enthusiasm for my work. But if you ask me if it's fun to get up at 4 a.m. to catch a 6 a.m. plane...well, I enjoy the work I do in the intervening period, and that's the only way I can do it."

Kummer comes by his interest in the construction and hotel management business honestly. He owns the Adam's Mark hotels, and his corporation is responsible for the construction of numerous financial and medical facilities across the country.

His father was an engineer

with a hotel company in New York City. When the family moved to Boston, Kummer's father worked for the Sheraton Corp. as a vice president engaged in engineering. Kummer admits his educational background was "rocky." After attending the City College of New York, he applied to Carnegie, Georgia Tech and the University of Missouri-Rolla. UMR was willing to accept a few more transfer credits, so Kummer came to Missouri to find his vocation and, as it happened, his wife.

I think I'm probably a good example of what a solid, average, hard-working and perceptive individual can do in a demanding capitalistic world.'

"We work together," Kummer says. "As an architect, June has been a very important person in my professional development and my evolution in this industry. I've been blessed with a rather broad background. I started this business 30 years ago with nothing."

However, Kummer does not necessarily see himself as the incarnation of the American dream.

"I think I'm probably a good example of what a solid, average, hard-working and perceptive individual can do in a demanding capitalistic world. I've been very much a maverick in the construction industry. I want to be challenged. I don't want to hide behind excuses. I want to look to see if there is a better way. I won't

accept the status quo.

"We've achieved results in this industry that are unmatched. The construction industry can be an enormously inefficient industry. We do not conduct our business at all in the same way most of the industry does. The industry has generally taken all these parts and fragmented them into all these little fiefdoms. Here, in this building, we have it all, and no one is fighting to be the center of the universe. I think the same principle should apply to education."

Education should, according to Kummer, look at its bottom line — its quality of earnings. He recommends a good hard look at assessment, starting not with the idea it doesn't work, but rather with the presumption the University is going to make it work.

Fred S. Kummer

Born: New York City Education: B.S., civil engineering, UM-Rolla, 1955

President and founder, HBE
Corporation, parent company
of Hospital Building and
Equipment Co., HBE Medical
Buildings, HBE Retirement
Communities, HBE Bank
Facilities, HBE Properties,
Adam's Mark Hotels and
Adam's Rib Recreational Area

Founder in 1960, Hospital
Building and Equipment Co.,
largest division of HBE Corp.
and world's largest designer
and builder of health care
facilities

Personal interests: skiing and contemporary art collecting

And he stresses the importance of the governor's selections for the board in the future.

"I hope the governor truly understands the motivation of the people he selects," Kummer says. "They shouldn't be selected because they are good parliamentarians. The parliamentary process of our meetings is the least important thing we do.

They should philosophically reflect the direction the governor perceives, with the consent of the legislature, that he wants the University to go. And I maintain fiercely that the University of Missouri can be better than it is and that all of American higher education can be better than it is. Missouri could be a leader, but we need constantly to be challenging the administration. And the administration is not going to be any stronger in terms of looking at itself unless the curators say, firmly and clearly, 'We're going to be better than we are. Let's be about it."

Above all, Kummer recognizes that tough decisions may have to be made. He says the University is engaged in some unnecessary enterprises.

"When I mention these specific activities, I'm charged with being demoralizing," Kummer says. "But we do not serve a student well when we allow to exist in our midst a school that is not the best for that student to attend."

(Continued on page 7.)

Comparing state, University retirement

Board committee: Stay with University's plan

After two consecutive reports on University retirement benefits — current and proposed — compared with state retirement benefits, a Board of Curators committee has decided not to pursue the possibility of the University System joining the Missouri State Employees Retirement System.

John Lichtenegger, chairman of the board's Resources and Planning Committee, requested the September and October board reports. At the conclusion of the October report, Lichtenegger said the board enjoys the independence and flexibility it has with the University's plan.

"We certainly would not want to give that up without some measurable cash benefit to the University. At this point, it doesn't appear that it's worth pursuing," Lichtenegger said.

In September, Vice President for Administrative Affairs James McGill gave the board a report on the University's current retirement benefits compared with the state program. In October, the board heard a report on the comparison of the University's proposed retirement improvements and the state's benefits.

A special faculty and staff committee has made proposals for changes in benefits programs, including significantly improved retirement benefits.

It is useful to compare not only the University's current plan with MOSERS but the proposed plan as well.'

The University's proposed retirement benefits would be superior to the state's provisions in basic pension levels and in the vesting schedule, while the state's plan is superior in provisions for early retirement and cost-of-living adjustments, McGill told curators.

Overall, the improvements in the University retirement benefits would make the University's plan comparable to the state's plan.

"In considering alternative plans," McGill said, "it is useful to compare not only the University's current plan with MOSERS but the proposed plan as well."

The major differences between the proposed plan and MOSERS:

• The University would provide a higher basic pension (64 percent of final salary, compared with 45 percent for a state employee retiring at age 65 after 30 years of service).

 The University would not guarantee post-retirement cost-ofliving adjustments, as the state plan does.

STATE RETIREMENT	VS. PROPOSED UNIVERSI	
	Missouri State	University
	Employees'	System
	Retirement	Proposed
T	System	
Income Replacement*		
(% of ending salary)		1000
Age 65, 30 years service	45%	64%
Age 60, 15 years service	22.5%	26.7%
Age 55, 30 years service	45%	42%
Vesting	Graded vesting;	Full vesting at 5 years
-	50% at 5 years	
	increasing to	
	100% at 10 years	
Disability	Unreduced retirement benefit;	Eliminated from
	15 years to qualify	current plan
Survivor Benefits		
Pre-retirement	50% of unreduced	Two times annual
	retirement benefit	pay plus actuarial
n de la companya de l	0 1	excess, if any
Post-retirement	0, unless survivor	0, unless survivor
	option is elected	option is elected
Cost-of-Living Adjustment		Based on fund
	5% maximum	performance
*Based on \$25,000 average	salary	

 The University's incentives for early retirement would be relatively less.

"The proposed changes to the University's retirement plan," McGill said, "respond directly to the structure of plans of other universities. More importantly, in the judgment of the special committee, the proposed plan follows a set of principles for structuring University of Missouri System benefits that are sound."

If the University were to join MOSERS, the University would probably be asked to transfer its retirement trust fund to the state fund and the state would need to add about \$11 million to the University's budget to close the gap between the University's current contribution to retirement benefits (6.5 percent) and the contribution required by MOSERS (9.9 percent.)

The salary windfall regional university and college faculty received when they joined MOSERS would not be realized by University of Missouri System faculty and staff if the University were to join the state retirement program, McGill explained to curators in his October report.

Before faculty from regional universities and colleges joined MOSERS, McGill explained, they participated in a state teachers retirement program by contributing 6.3 percent of their salary to finance the program. Faculty contributions were matched by contributions from their employers. Faculty and staff retirement contributions under the University's plan are paid entirely by the University.

When faculty at the regional institutions joined MOSERS, they increased their pay by 6.3 percent because they were no longer required to contribute to the program. They were also given a rebate from the state teachers retirement program equal to the amount they had contributed to the teachers plan.

Curator Peter Raven said one argument for keeping the Univer-

sity's retirement benefits independent of the state plan is the early retirement issue. In light of an expected faculty shortage next decade, the University's control of retirement benefits would enable the University to "alter it or change it or manipulate it as the years go by in ways that are sensitive to the peculiar requirements of a university system, which may not be the requirements of a state retirement program at all. That's one of the real arguments for having control."

Board president Edwin S.
Turner commended Lichtenegger
for bringing to the board the
discussion of University retirement
benefits compared with state
benefits. "We need to continually
be looking at our programs to see
if we can improve ourselves and the
other options that are available to
us."

If the retirement plan is improved as recommended by the special benefits committee, Lichtenegger said, "We will not only be competitive with MOSERS but competitive with most of our peer institutions."

Board to consider changes in benefits

The president's recommendations for changes in faculty and staff benefits are scheduled for board consideration at the Dec. 7-8 meeting in Columbia. The president is considering a special committee's recommendations outlined for curators in July.

The committee has recommended improvements in some benefits and reductions in other benefits. The retirement program, which would have the greatest improvements, has not been modified for 31 years. The recommended changes would improve the basic pension for faculty and staff who retire at the traditional retirement age.

The president's recommendations in December should include a method of financing the improvements.

CBHE votes to recommend higher funding

The state Coordinating Board for Higher Education Oct, 20 voted unanimously to recommend that the state pay 70 percent of the University's operating costs in 1990-91.

In the past, the state has paid only 68 percent of UM System's operating costs while paying between 70 percent and 78 percent of other higher education institutions' operating costs. University officials have been encouraging a change in the formula used to determine the distribution of state funds, and UM System President C. Peter Magrath earlier had persuaded CBHE's fiscal affairs committee to recommend the increase. Each percentage point represents about \$4.5 million for the University System, assuming full funding of the recommendations.

"This is a very important step, and I am gratified by the level of support for our position," Magrath said following the CBHE vote.

The full coordinating board voted to recommend the University receive \$336.9 million in 1990-91. The University has requested \$357.1 million, a 24.4 percent increase over 1989-90 state funding.

The CBHE vote will help improve the equity of its recommendations for allocation of state funds for public higher education, Magrath said, but the state's foremost problem is insufficient state funding for all public higher education institutions. "We intend to continue working on solutions to that problem for Missouri's sake," he said.

Travel tips

I understand that if I charge my airline ticket to my Diners Club card, I automatically receive baggage insurance. However, the approved University travel agencies charge my tickets to a central campus Diners account. Do I still receive the insurance?

Yes. Liability coverage up to \$1,250 is provided in case of the theft, disappearance or damage of baggage and their contents. This applies to both checked and carry-on luggage aboard a common carrier. There are some exclusions and restrictions,

What hotels provide discounts to University employees? I am especially interested in the Kansas City and St. Louis areas.

The University receives discounts from most major hotel/motel chains. Since the rates vary and ID numbers are sometimes required, a printed summary can be obtained from travel coordinators. Campus and System coordinators were listed in the July issue of Spectrum.

From small beginnings, UM System came forth

By Karon Speckman

University Relations

From its beginnings as a struggling one-campus university to a multicampus system, the University of Missouri has been faithfully governed by a Board of Curators. The October board meeting in Columbia was the 150th anniversary of the first meeting of the University of Missouri Board of Curators.

In the initial meeting Oct. 10, 1839, curators met in Columbia with the dual purpose of constructing a building and hiring a president. Those humble beginnings resulted in a four-campus system that includes 55,000 students and a reaching and research staff totaling nearly 8,000 systemwide. Today's University System resulted from three milestones - the 1839 establishment of the Columbia campus, the land-grant provision that resulted in the Rolla campus and the 1963 addition of two urban campuses.

Early curators were required to have a more "hands-on" approach to governing than is practical in 1989. Since travel and communication were problems, an 1840s resolution required curators to either attend meetings or resign. Desperate for better attendance, the board made a request in 1866 to the railroad to furnish free tickets for curators to travel to meetings.



During the Civil War, curators were required to sign a loyalty oath to "support the Constitution of United States and the state of Missouri." A March 19, 1862, letter from President Benjamin Minor assured the board that he also had signed the loyalty oath. "I have sent the said resolution to the other professors and expect to have their responses also before you, at the time indicated.'

Soldiers billeted on campus caused much wear and tear on university buildings. President Daniel Read wrote the curators in 1866, "I called upon Major General Hancock, commander of the military department of Missouri, in person in order to press upon his attention the serious damages done this University by its military occupation and the importance of remuneration by the federal government." He encouraged the curators' prompt attention since "such claims are weakened by lapse

In spite of the troubled times, the University continued to move forward to a two-campus system. Provisions of the Morrill Act of 1862 called for federal land grants to support at least one college of agriculture and mechanical arts in each state. The legislature almost lost the state's land grant because of a disagreement about location and whether it should be part of

the University of Missouri. Finally, the land-grant college was incorporated into the University, and the curators established a school of mines and metallurgy in Missouri's southeastern mining district.

An 1870 curators resolution, pictured on the cover, appointed a committee to locate the school of mines. In 1871, the University of the State of Missouri School of Mines and Metallurgy was located at Rolla with the General Assembly confirming the curators' decision. Classes began on Nov. 7, 1871, with an enrollment of 13 and a director heading the school.

The addition of the School of Mines was a challenge for the curators. In 1890 the local committee that directed the School of Mines was abolished, and a curator representing the school was added to the board. George Ladd, director of the School of Mines from 1897 to 1907, found that neither the curators nor the Columbia administration showed much enthusiasm for governing the school through its financial and enrollment difficulties.

Much of the Rolla school's history centered on attempts to become a separate university. Prior to World War II, the curators changed the title of the director to dean. A bill designed to free the campus from the control of the University president failed in the

In 1875, the state constitution required that no more than one curator could reside in a single congressional district.

Professors gave lectures in St. Louis, Kansas City and smaller cities in the early 1900s. By then, nearly two-thirds of the on-campus students came from Kansas City and St. Louis. The University Extension movement, started in 1914, assured Missourians that the University was indeed a university for all citizens.

Just as in the beginning, curators in the early 1900s wrestled with lack of funding. In a 1906 letter to curators, President Richard Henry Jesse urged the curators to concern themselves with a professor who had received an attractive offer from the University of California. Jesse feared the professor would accept California's

"I want the Board of Curators to make him, if it will, an offer substantially equivalent to that of California, which includes an increase in his salary, and also certain pledges for the College of Agriculture. California has determined to make her College of Agriculture very great. I want the Board to make a similar pledge, if it will," Jesse's letter said.

Jesse's letter continued with concerns about the whole University: "Are we going to have a really great University of Missouri, or a moderately great one? Will Missouri, the fourth state in the Union, declare herself inferior to California in her interest in Agricultural Education, and in her ability to maintain it, and in her ambition for it? If the University of Missouri is going to obtain and retain the best men, she must be

hould be called at Columbia immediatoly, and that the of the State should, by all moune, be asked to attend I bec. therefore, if my proposition com you appoint a day of meeting just , to the Unit eraity of

which includes an increase in his salary, and also certain pledges for the College of Agriculture. California has determined to make her College of Agriculture very great. I want the Board to make a similar pledge, if it will. If the Bourd holds that Missouri is not able to do what California can de for Mr. Waters and for the College of Agriculture, then I want the Board to release Mr. Waters, and let him go to California, with our blessing and our friendship. I am not willing to build up the University of Missouri by robbing a man through his sense of honor. Now, that he understands the situation Mr. Waters says that, without the consent of the full Board of Curators, he "Will not leave Columbia for the next two years for all California. He made me this statement yesterday. I reminded him of this promise again this morning, and he reiterated it again. You may be sure that he will stand by it.

This is not a case of one man. In this case is involved

(1) Are we going to have a really great University of Missouri, or a moderately great one?

(2) Will Missouri, the fourth state in the Union, declare herself inferior to California in her interest in Agricultural Education, and in her ability to maintain it, and in her ambition for it?

(3) If the University of Missouri is going to obtain and retain the best men she must be willing to pay far gres salaries than she has been willing to pay in the past.

Let not this last remark mislead vounanimously raised my salary
tempted to day's decided to let the thing be,
the Board I finally decided to let the thing be, Let not this last remark mislead vo. If the legislature had growled at all I determined to srite to the legislature a letter renouncing the increase in my sulary. There was no grown and I let the thing stand. The President There was no Erosa and 1 100 who white source. He doesn't want any more Thenever the Board feel justified in giving to a Doan as such salary as they are giving to the President of the University, let them so shead, without any thought for the President. But if you are going to keep the best men for Deans And more and home minds to hely them \$2'000'00 and a pores. These salaries are jaid in all great institutions to the best These salaries are jaid in all grown interest an are going to enter

A 1906 letter to curators from President Jesse urges an emergency meeting to discuss the potential loss of a professor to the University of California — for a higher salary. Jesse tells curators "this is not a case of one man" and states that the University of Missouri has to be willing to pay better salaries to all faculty "if we are going to enter the ranks of the best Universities." (Letter courtesy of University Archives)

willing to pay far greater salaries than she has been willing to pay in the past."

Two more campuses were added to the system in 1963 when the financially troubled, private University of Kansas City became a UM campus and a new UM campus was created in St. Louis. President Elmer Ellis' first annual report after creation of the system in 1963 cited the need for metropolitan expansion to give St. Louis citizens low-cost undergraduate facilities "so that thousands of young people in that area can live at home and still obtain a college education."

Ellis cited the same need in Kansas City, in addition to a critical need for advanced professional and graduate work, "Formation

of the University System was a logical solution for multiple problems," Ellis said. With the creation of the UM System in 1963, the Missouri School of Mines no longer was a subordinate division of the Columbia campus and became the University of Missouri-Rolla.

(Information for this article came from "The University of Missouri" by James and Vera Olson; the October 1989 Missouri Historical Review; "UM-Rolla: A History of MSM/UMR" by Lawrence O. Christensen and Jack B. Ridley; A New Horizon, The 1964 University of Missouri President's Report: and original curator documents courtesy of the University of Missouri Archives.)

Reprinted here are excerpts from the president's presentation to the Board of Curators in October, the 150th anniversary of the first board meeting.

By C. Peter Magrath

President

Little more than a quarter of a century ago, the University of Missouri became the four-campus University of Missouri System. The president was Elmer Ellis, whom we cherish and remember for his accomplishments and tireless dedication to the total University of Missouri and to the state.

Elmer Ellis' report to the public for the year 1963 spoke of the University of Missouri System with excitement, with hope, with the view that, as established by the Board of Curators, it was not to be "a loose confederation of divided programs," but "neither will it comprise a main university with sectional branches. It will be a fully coordinated system of four distinctive campuses operating within policies laid down by the Board of Curators and the President."

Allow me briefly, but from the bottom of my heart, to convey my vision of the University of Missouri System 11 years from now, in the year 2000. I want the University as a system to be prized and sought after as a place of excellence on all fronts

- teaching, research and service. Because all four of our campuses will be strong and vibrant, energetic and exciting, our statewide extension programs will



be, even more than they are today, the envy of the nation and perhaps the world as a model of what a university system can do to meet the needs of its people.

The great University that is situated here in Columbia, that works throughout the state of Missouri, will be even greater. As the original campus of the University, it has established its position as a leader in many fields within the national and international scholarly communities. Clearly, it is and will remain the largest and most diverse campus within the University of Missouri System.

The University of Missouri-Rolla will also be sustained as a special campus, with a special role in the future of our state. It will build upon its longstanding reputation as a leader in American engineering and scientific education, and it will continue to excel as a national technological university of distinction. Through a growing

awareness of the needs for engineering and the engineeringrelated sciences in economic development, UMR will play a central role as it extends educational opportunities in new and imaginative ways, through technology, to businesses and industries throughout the state and beyond.

Beyond the special pride and historic missions of our campuses in Columbia and Rolla, in the year 2000 our campuses based in the state's largest urban communities will stand as models of quality, opportunity and service. Our urban campuses will be distinguished by their success in linking comprehensive metropolitan university research and teaching programs to meet the diverse and challenging

150 vears

needs of the St. Louis and Kansas City regions.

The University of Missouri in Kansas City will continue to be, as all four campuses already are, diverse and unique in many important ways. It, too, will be known as a place where quality education is the guiding principle. Its excellence will derive both from a strong commitment to excellent arts and sciences undergraduate programs and its solid graduate and professional programs — focused selectively and imaginatively on the special needs of the Kansas City

metropolitan area.

The University of Missouri-St. Louis will also be a shining model of excellence and indeed will be seen as even more relevant to the economic and cultural well-being of the greater St. Louis region. It will serve, with excellence, students of all ages, many young, but many being men and women in career transitions. It will continue to expand its effective partnership with the St. Louis metropolitan region, and it will advance knowledge as part of its role as a research university - as is true of all of the University's campuses.

Each campus is a special place, with a special mission, providing special benefits to the state. As the curators' mission statement said so well, the University of Missouri System is the only public research institution in the state, and it has a major and expanding commitment to research, scholarly work and creative activity. It is a university system that is collaborative, complementary and not narrowly or needlessly competitive. Indeed, the University of Missouri System will be recognized for its deliberate diversity and for its commitment to quality and the pursuit of excellence.

We are good, but we will be an even better, stronger University in the year 2000. . . if we work together motivated by the pursuit of excellent education. . . unified by the joy of learning and teaching and serving. That is a dream worth dreaming and worth working together to achieve.

University assessment reflects national trends

Fine-tuning the curriculum is one example of educational change attributed to assessment, according to a report sent to the Board of Curators by Richard Wallace, UM System vice president for academic

The report stated that assessment efforts at the University of Missouri System reflect two national trends. Nationally, assessment activities increasingly focus on specific disciplines and individual majors. Findings then can be used to improve specific curricular programs. (See accompanying story.)

A second national trend is a questioning of the value of general education assessment. "The fact that standardized assessment instruments for general education tell little more about a student's achievement than was known at the time of admission makes the expenditure of time and money questionable in the eyes of many observers," the assessment report said.

General education assessment has proved to be the least valuable of the academic assessment efforts throughout the University System. "The problem is quite simple," the report continued. "There are not yet any national assessment instruments whose value is generally accepted. Consequently, many faculty believe that forcing

students to take examinations that provide little if any new data is an unnecessary expenditure of scarce campus resources.'

The report cites a state of Washington pilot study that showed the present general education tests measure verbal and quantitative aptitude rather than academic skills. That information essentially reiterated what was already known from admissions test data and student grades, but projected costs for administering tests were approximately \$24 to \$31.50 per student.

Weaknesses in general education tests show why 55 percent of 500 colleges surveyed last spring have turned to "home-grown" assessment tools.

The national concern about the value of general education testing explains why the University of Missouri System campuses use a variety of assessment instruments.

In spite of educational misgivings about general education tests, each campus is undertaking some form of general education assessment.

UMC is concentrating its general education assessment on the use of samples of students in specific colleges. This practice recognizes that curricular changes usually occur within colleges rather than campuswide. The Columbia campus is steadily enlarging the

size of the sample. According to the report, UMC is a leader in national research of assessment in general education through its work with the College BASE instrument.

UMKC requires graduating seniors to take the ACT College Outcomes Measures Project test. A sample of 213 freshmen also took the COMP test, and the results will be compared with other data as those students progress through the University.

Students at UMR are required to participate in assessment each year. All sophomores and juniors took general education assessment examinations in the spring of

All incoming freshmen at UMSL in fall 1988 took a pilot year-one prototype of the Educational Testing Service's Academic Profile.

In addition to nationally prepared major and general education tests, assessment tools used Systemwide include locally developed examinations, capstone courses, practicums or internships, portfolio reviews and transcript and exit analyses. Assessment of writing skills is handled separately. UMC's Campus Writing Program uses papers written for classes as part of an assessment of students' writing and critical thinking abilities.

UMKC is testing English

(Continued on page 8.)

Assessment helps fine-tune education

Examples of the outcomes of assessment in students' major fields, 1988-89:

UM-Columbia

- The animal science department added a genetics course.
- A course on polymer materials was added to the chemical engineering curriculum.
- The School of Forestry, Fisheries and Wildlife added a senior capstone course and three writing intensive courses and established an internship program.
- Journalism students in the editorial sequence will benefit from standardization of the syllabus for editing courses.

UM-Kansas City

- The School of Nursing has identified a need for additional leadership and administrative content in the nursing curriculum and is modifying its "Nursing Leadership" course. The school is not satisfied with the knowledge test component and will review it fully this fall.
- The sociology department has added requirements in theory, methods and statistics for its majors.

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Lichtenegger perspective: Funding, extension

Editor's note: The following condensed remarks by John P. Lichtenegger are part of our series of reprints of the curator's perspective presented at each Board of Curators meeting.

My remarks today will focus on University Extension, but I'd like to make some brief observations that are my perception of the University as an institution today and the prospects for a strategy that may permit a resurgence toward even higher quality in the future.

Today, our campuses continue to graduate well-trained and well-educated young men and women. By almost every measure our graduates equal or exceed the test scores of other peer institutions and other institutions in this state in law, medicine, engineering, nursing, pharmacy, dentistry, education, graduate entrance exams and a variety of other licensure examinations.

Our graduates receive and in some cases command some of the highest starting salaries in physical therapy, nursing, learning disabilities education, law, business and many other fields. Our chancellors, faculty and staff should be congratulated for doing such a fabulous job.

A quality education from the University of Missouri is still a bargain. In 1987-88, the Big Ten public universities' average tuition, room and board was \$5,241. At the University of Missouri-Columbia, it was \$4,228, or \$1,013 less, per year.

Higher education is facing and will continue to face a very chaotic period over the next 25 years. Over this period it is estimated that we will need to replace almost the entire professoriate. Such issues as cost, quality teaching, access, performance assessment and accountability will play prominent roles in shaping, and reshaping, higher education.

Some view this situation as an opportunity to improve quality education, and I agree. The Kansas City Star editorialized Sept. 27, 1989, "One of these approaches is adequate funding, another is a supportive focus on innovation."

Our governor, John Ashcroft, who headed the governor's task force on quality education, in the report "Time for Results," the governor's 1991 report on education, stated: "We need not just more money for higher education; we need more education for the money."

I believe that the calls from our governmental leaders and political leaders for reform, program improvement, demonstrable quality, assessment and accountability are sincere and must be met. Even if one asserts our leaders are using these terms as excuses or a guise for not providing requested funding, we must nevertheless address them and eliminate them as either obstacles or benefits in obtaining our goals.

These ideas, proposals and initiatives, or just "things," as we sometimes call them, must be addressed in a meaningful manner yet in a way that is simply and easily transmitted to the general public. We must constantly and effectively communicate to all Missourians results of our efforts in education at the University in teaching, learning and research.

From our own governor, Sen. Wilson, former Commissioner for Higher Education Shaila Aery and other legislative leaders, we have seen the call for innovation, reform, initiative and assessment — in short, a call for quality assurance in the teaching-learning experience.



Lichtenegger

The University needs the additional resources and funds to compete on an international basis. The president of the Regional Commerce and Growth Association in St. Louis, Mr. Ned Taddeucci... recently said: "We may not agree on where we rank in support of higher education as compared to other states, but we can agree that the support of higher education in Missouri is inadequate."

We need additional funds to do the things that we're doing now better, regardless of any program elimination or reallocation. In a competitive world, top wages for faculty can almost be synonymous with top faculty. The best quality teaching-learning experience must be our goal. It will take a lot of money, and it will take a lot of innovative, creative leadership to assure the continual achievement of this goal.

If we are to achieve top 10 status as (CBHE) Commissioner (Charles) McClain has stated, it will take an all-out effort. I believe that a quality assurance plan that encompasses many of the concepts previously mentioned goes hand in hand with requests for both public and private funds. This requires an attitude that meets head on the various calls for reform, accountability, demonstrable quality, performance assessment and "more education for the money."

Our attitude and direction must be responsive, not with a "we're already doing that" or "we're already doing those things," but rather with a "yes, we agree, and here's what we're going to do."

Quite frankly, the skepticism that surrounds the administration and governance of institutions is an affront to me as a curator and probably is to you all as administrators, but nevertheless we must bury our defensive attitude and statements because we all work for the skeptics and critics as well

as our admirers. We work for all Missourians.

With that said, I believe there is an opening in increased funding beyond the traditional incremental funding we have been receiving. First, the president of our University and the Board of Curators have worked hard along with the chancellors to secure a beneficial increase in the formula used by CBHE for the University. If this funding is secured, it could result in an annual increase in our appropriation of approximately \$12 million.

Second, Curator (Eva Louise)
Frazer and the administration have made their case for desperately needed maintenance and repair funds. Last year the governor announced a tax plan that would raise \$60 million annually, of which two-thirds was designated for maintenance and repair funds for higher education facilities. If such a tax measure were enacted, it would produce approximately \$18 million for the University.

I believe we should explore the possibility of supporting such a tax proposal. This was a proposal that apparently has overwhelming taxpayer support in Missouri and is in an area where Missouri lags national tax averages.

We need to totally inform the legislature and our own support groups and the citizenry of this need for maintenance and repair funds. I believe that we should utilize the legislature rather than our own initiative petition.

Lastly, a substantial tax increase for all of higher education in Missouri must be approached in step with some type of quality assurance plan, or give it some other name. The University of Missouri should be an innovative and creative leader in this area rather than have accountability, reform, etc. and whatever else people want to call it legislated upon us. And we must be willing to examine our own administration and governing systems both internally and externally.

We must contain the consensus of the governor, legislative leadership and CBHE in formulating a tax increase proposal, as well as have their input and advice on a total quality assurance plan. We should then make every effort to seek passage of such a tax plan and fully implement our quality assurance plan.

Again, I strongly urge using the legislative process rather than starting an initiative petition drive. We must convince the legislature of our need and of our ability to spend our resources wisely.

If sought, we must not fail, for failure to pass such a measure could impair our ability to seek such funds in those amounts for a decade or more.

One last word relating to program reallocation: I believe we should consider recommending that the Coordinating Board for Higher Education have the power after appropriate hearing to eliminate programs at the public universities and colleges in this state. This power would, of course, be concurrent with the power of any university to eliminate its own

programs. I have never sought, nor do I know of, a program that should be eliminated. I could speculate, but that's not my job.

In order to have a rational approach to academic programming in this state, the coordinating board probably needs this power. I am convinced that the University, political, alumni and special interest groups and student interest would be considered and heard by the coordinating board in exercising such power.

I'm not welded to that idea; my opinion could change. But this may have many beneficial effects for our state University.

I'd like now to address extension. For a long time I felt that extension, in some cases, has been misunderstood — or not understood — by many. I do believe that University Extension has been perhaps the most questioned, and most misunderstood, activity at the University. Yet as a unit extension has been more responsive to change than any other segment of the University.

University Extension, our agriculture experiment stations, and our University have discovered, taught and transferred agricultural information faithfully and with remarkable results.

Change, retooling and focus have been bywords of extension. The purpose of my remarks is not to review all of the extension activities for the past 75 years. I want to review changes over the past 10 or 12 years.

We get a lot of questions as to why extension is engaged in some of its activities. Almost 20 percent, or \$2 million, of the federal appropriation requires that we engage in some specific programs.

One of the most common topics to come up in curator meetings since I've been on the board is, "Why is extension engaged in lots and lots of trivial programs, such as cake decorating?" The answer is that it is not.

Yes, that same refrain has been heard over and over again; I probably even asked some of those questions several years ago. The answer is that these programs, many of which were targeted for elimination in the 1984 curators' long-range plan, have been eliminated. In fact, more have been eliminated than we've approved for elimination.

How many people are engaged in extension work? There's literally thousands. There are over 30,000 volunteers in extension. University Extension presently has field staff professionals of 346, University field staff paraprofessionals of 164 and University campus-based professionals of 134.

The number of field-based professionals has declined from 424 persons in 1977 to 346 in '89. The number of paraprofessionals and support staff has declined from 210 in 1980 to 164.7 in '89. The total picture shows a net reduction of 149 persons, or a 17 percent decline in full-time positions.

I don't mean to express an opinion as to whether these reductions have been good or bad for extension, but it has resulted in

(Continued on page 7.)

Kummer applies business sense to curator role

(Continued from page 2.)

(Continued from page 6.)

downsizing of staff.

a lean, very focused, efficient

decisions to accomplish this

organization. It has taken well-

founded but difficult leadership

Some of those tough decisions may have been part of the discussion at the meeting Kummer attempted to hold at the Adam's Mark Hotel in St. Louis.

"I have been accused of having private meetings," Kummer says. "But I don't have any problem saying anything in public that I would say in private. A lot of people seem to think I'm a pretty direct guy.

Lichtenegger perspective

"But when the administration states later they are not aware of any meeting of members of the Board of Curators in the past to which the administration has not been invited, I find it appalling. We are charged with overseeing an efficient administration and evaluating whether or not we are spending the money of the people of this state well. And we have to do it in a context in which we're not being led by the nose. I refuse to be led

by the nose. I refuse to be told how good we are. There is the opposite of self-flagellation - of telling yourself how good and effective you are. The world is strewn with those people."



the areas of continuing education in

What about the future of extension? I believe it's bright and progressive, ever changing in research, transfer of information and the methods of delivery. Many of you have received the latest major planning document, "Staffing and Funding for the 90s." It is a first draft of the continuing effort by extension officials to address the program needs of extension in light of flat federal funding and modest incremental funding by state and local governments. It is the type of review and planning that should occur regardless of funding levels.

This document recognizes, in light of funding, the need to eliminate an additional 30 permanent positions. The plan is much more than an employee reduction plan; it again provides continuing focus and direction. I applaud extension officials for providing leadership policy and direction to its endeavors.

Extension is extending the research base of the University to all Missourians. The University has installed 50 satellite receiving dishes in locations around the state, opening up unlimited opportunities in the education-learning experience. Video cassettes and audio tape libraries now offer volumes of educational materials to every part of the state from cooperative extension programs around the

Through the use of the satellite network, the most prominent educators and speakers can deliver information to the citizens of Missouri at relative low cost. Educational programs from around the nation and the world are now available to local citizens as a result of this network.

This gives promise of a bright future in Missouri, but let's not stop there. Consider a national cooperative extension television network. Consider public television, the utilization of local cable access channels. And consider a national cooperative extension satellite and production facilities. The opportunities are limitless.

Extension is looking to other means of funding to ensure the delivery of information. Grants and private contributions now account for 111/2 percent of funds for extension. Participant fees generated \$11.9 million, or 23.3 percent of the funds utilized by extension

in the continuing education arm of extension in 1988. These fees, however, are primarily generated in law, medicine, engineering and other professional trades.

I suggest the implementation of participant fees in certain areas of agriculture extension. Rather than eliminating some of the one-on-one farm visits or personal service calls, which have been the hallmark of extension for years, a set of nominal charges could be established. As an example, when the extension agronomist makes a personal farm visit, there would be, in my opinion, nothing wrong with charging for his expenses, his mileage and a small charge for that visit. In essence, he is an expert plant doctor.

The extension service assists in designing and drafting plans for buildings of various types — farm storage buildings etc. — and there would be nothing wrong, in my opinion, for a small nominal charge for those services.

My perspective of extension is based in part on the four and a half years I've spent as a curator as well as a consumer of extension services over the past 10 years. I can report that both before and after my appointment, the service, knowledge, advice and assistance have been excellent and been provided in a friendly, professional manner.

Extension in the 90s: It can and will continue to make America first in agriculture. Extension can and will provide water quality programs, re-forestation programs and other environment-related programs to sustain and improve life for our citizens.

Food and nutrition and other nome economics programs would continue to provide a better diet and life for all of our citizens. To further enhance the quality of life, particularly for youth through a program funded by the Kellogg Foundation, extension will involve faculty in the development of community-based program models that will have a great impact on our kids.

Extension is extending the resources of the University to all; indeed, it's probably extending the basics - life, food, nutrition, agriculture, water quality and a quality environment. This is extension for the 90s.

Although Kummer states he recognizes how important educational employees are to the success of the country, to assume they are the only professionals who are not motivated by money is absurd.

"If anybody believes Fred Kummer does what he does strictly for money, that person doesn't know me," he says. "I'm motivated by a lot of things, but it sure isn't greed. Rather, it's how best to use the resources I'm given.

"I have an average daily rate of \$85 at the hotels. If I thought the people who visited St. Louis would be willing to pay an average daily rate of \$110, I could give them roses in their room and many other things. But the realities are I can't get \$110, and I have to do the best with my resources. I've got to have people waiting at the counter periodically. I have to have four or five rings on the phone sometimes. I can't afford the largest array of products in my gift shops.

"What I'm really saying here is that the University has been unwilling to make those kinds of

According to Kummer, the only way the University is going to be effective in the use of its resources is to apply the principles of the Knight report - a strong Board of Curators that will give the administration a strong mandate.

"Unless Peter Magrath moves out within his organization with the strong support and clear direction of the curators, he cannot be an effective administrator," Kummer says. "The curators haven't spoken clearly. We continue to say we have followed the Knight report when in essence all we have done is gone in and moved a few people from central administration out to the campuses. And we've said that's the essence of the Knight report. Nonsense. The Knight report says there are tough calls to be made, and it takes a strong leader and a strong board. I think Peter Magrath can provide that leadership, but his life may be a lot less comfortable than it is

Kummer says the board has placed the president in a position where he walks a narrow road,

"battered by the University family and weakly supported by the curators.

Competition breeds improvement, Kummer says. The good companies are good not because they are managed by better people, but because they are constantly pressured, pushed and kicked.

"I get beaten," he says. "I get beaten a lot. I lose a lot. The University doesn't lose enough. The University never loses. It's bad not to lose. The only place we lose is on a football field that we spend too much time on. That is not the

measure of a great university."

Much of Kummer's philosophy is reflected in the HBE headquarters. The building, although first class in terms of design, construction and materials, is devoid of frills. It is a working environment with an efficient atmosphere. Parceled throughout the building are some 350 pieces of Kummer's vast art collection.



Kummer admits he rarely stops working, and he doesn't plan to retire. He is now developing Adam's Rib, a ski area in Colorado, where he also owns a 9,000-acre ranch and runs "a few head of cattle." He envisions a few more years at the helm of HBE before moving to Colorado to oversee his operations there.

"It's something to really do things," Kummer says. "I'm proud of the hotel downtown, for instance. I'm proud it's an important part of St. Louis. I like to try to make things better if I can and stir people into seeing greater opportunity - looking for the maximum instead of the minimum. We sometimes fail to recognize the opportunities to challenge ourselves. You can always find a standard to justify what you are doing.

"I don't think there has been an effort to impose a standard on the educational industry. And it is an industry. The customer is the state. We have to convince them the University is a good place to put their resources. And we have to take our work seriously.'

A sign above Kummer's desk reads: "Show me a good loser, and I'll show you a loser."

Kummer's goal is to prevent the University of Missouri System from becoming a good loser.

Assessment reflects national trends

(Continued from page 5.)

proficiency for upperclassmen and is assessing freshman writing. A course has been added to help students acquire skills needed to pass the Written English Proficiency Test.

UMSL has assessed writing twice prior to 1988-89 by comparing writing samples of freshmen and juniors in required writing classes.

Assessment involves both money and time. Direct expenses last year exceeded \$630,000: UMC spent \$275,000; UMKC, \$140,000; UMR, \$84,000 and UMSL. \$134,000. Direct expenses do not include the substantial cost of diverting faculty time from research and other activities to assessmentrelated activities.

In a report on UMC assessment, Susan Taylor, a faculty member in the School of Nursing, said the Columbia campus has taken a leadership position in assessment nationally.

The College BASE examination, developed by UMC's Center for Educational Assessment, was created originally to meet Missouri requirements that students in colleges of education be assessed in their knowledge of English, mathematics, science, social studies and writing before beginning professional study programs.

"College BASE is a test more closely related to expected knowledge and skills or achievement than are the other standardized or norm referenced tests, which are less subject-specific and tend to measure aptitude," Taylor said.

UMC administrators told curators the College BASE test is being copyrighted and marketed to other universities, which already have shown an interest in using the test both experimentally and in its final form.

"There are no institutions of our scope and our diversity which are as involved in assessment as we are," Taylor said. "We are approaching the charge of this board in a manner that is logical, cost-effective and responsible."

Curator Peter Raven said he is impressed with UMC's refinement of assessment. "The kind of effort at UMC is precisely the kind of effort that you would expect of a general research university with a diverse and scholarly faculty as opposed to a college or smaller university of more limited scope."

He added that the efforts at UMC are entirely in line with the governor's charge on assessment and the state's desire to apply assessment widely throughout the system to improve the quality of education.

Gov. John Ashcroft has commended state higher education institutions for their progress on assessment. "Assessment is crucial to inform educators on the effectiveness of instruction, to inform students on the quality of their learning and to recognize the worth of self-assessment and self-reflection.

"I commend the Coordinating Board for Higher Education and our state colleges and universities for their assessment efforts," Ashcroft says, "With early and

regular feedback, our institutions will improve quality. They will also improve their relationship with the public."

Assessment helps fine-tune education

(Continued from page 5.)

UM-Rolla

- The civil engineering department is focusing more on problem formulation and adding a capstone engineering design course.
- A senior-level design course is being added to geological engineering department requirements.
- Nuclear engineering has reduced the technical electives by three hours and added a design course.
- Chemistry students benefit from the addition of a laboratory to the inorganic chemistry course.

UM-St. Louis

- The English department is requiring majors to take three courses in literary history, an area that caused difficulty on the examination.
- Economics students will take a required course in statistics, the area in which graduating seniors were the least above the mean in testing.
- The art department has modified the required senior seminar course to reflect a greater emphasis in research and writing exercises.

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