

## State funding for UM coming up short

In the past couple of weeks, news stories about the state's financial condition have indicated that revenue shortfall will have serious impact upon the University.

Briefly, here's what is happening:

**Current year (1980-81)** — The governor's 3 percent withholding from UM's \$170 million appropriation means a \$5.1 million reduction in the current budget.

UM President James C. Olson has informed the campuses and UMca units that they are to reduce current budgets by 2½ percent. He said the other one-half percent will be covered by central administration's contingency fund, normally used to handle enrollment fluctuations and other emergencies.

The campuses were not caught off

guard by Governor Bond's recent order. Back in November UM began to make contingency plans for such possible action when it appeared that the state's financial condition was weakening.

**Next year (1981-82)** — UM presently anticipates little or no increase in state funding next year. However, since state appropriations represent only 68 percent of the total budget, UM does have some flexibility.

In the legislative hearings this month, President Olson is stressing that salary and wage increases continue to be UM's top priority, and that the state should maintain its investment in higher education.

In prepared remarks for the senate and house committees, Dr. Olson said:

"I would like to recognize that we all share a common goal — that of maintaining and improving higher education within Missouri while recognizing the constraints of limited resources.

"I would like to note, however, that higher education's share of general revenue has been declining from year to year. My hope is that your leadership will help us reverse that trend.

"Further, I want to reiterate that we understand the state's general revenue situation looks rather grim at the present time. We hope and expect it will improve as the year progresses. If the revenue situation does improve, I hope the requests for higher education will receive appropriate reconsideration."

**Down the road (1982-83)** — General

planning for the 1982-83 state appropriations request has begun. That request must be submitted to the Coordinating Board for Higher Education by next Oct. 1.

Guidelines for developing the request were approved at the Dec. 19 Board of Curators meeting.

Presently, internal meetings are being held throughout the University to develop campus and other unit data which will be submitted to central administration.

Public hearings scheduled for April on the campuses will be open to suggestions and comments from anyone wishing to attend.

The board will review the request before it is forwarded to Jefferson City next fall.

### UM to answer civil rights findings

UM has been notified by the regional U.S. Department of Education's civil rights office that it has 60 days in which to submit "a plan of corrective action" in response to review findings that UMC and UMR have an insufficient number of black students and faculty.

The civil rights office began a review in February 1978 to determine if Missouri is in compliance with Title VI of the Civil Rights Act of 1964. All of the southern and border states which once had dual educational systems have been reviewed.

The University was formally notified of review findings last week when UM President James C. Olson and the campus chancellors received copies of a letter written by regional civil rights Director Jesse High of Kansas City to Gov. Christopher Bond.

Mr. High told Governor Bond that Missouri has substantially eradicated vestiges of its formerly *de jure* racially dual system except at the two UM campuses and Southeast Missouri State University at Cape Girardeau.

President Olson said he and the chancellors would be preparing a response stating changes that have been made since the two-year-old review and outlining UM's further plan of action.

### Board okays communications purchase

The UM system Board of Curators has approved the purchase of \$800,000 worth of special equipment in the first step toward elimination of telephone lines now used for data communications between the UM campuses.

Data communications controllers, known as transmission control units (TCUs), will be installed at each campus to handle computer communications, permitting a significant reduction in the number of telephone lines used to connect the Kansas City, Rolla and St. Louis computers with the UMca Computer Network.

University officials say a new means of inter-campus communications is critically needed because of substantial rate increases announced by General Telephone Co. for voice and data communications services. Bruce Briggs, UM director of computing and information systems, said the rate increases, which became effective Dec. 15, apply to the UM system's use of telephone lines and other communications services between Columbia and the other three campuses.

Mr. Briggs said UM costs will increase \$657,400 annually, or about 240 percent. He said approximately 86 percent of the total increase is for data communications. The rest of the increase applies to voice communications services, he said.

The board approved the purchase of four transmission control units—one TCU for each campus—to handle data communication only. The second phase of the plan, to come later, would require

the installation of four ground stations to link the TCU equipment with commercial services from a space satellite.

Mr. Briggs estimates that the four ground stations would cost an additional \$278,000. "With these stations in place," he said, "other communication needs, such as voice and video, could subsequently be accommodated."

Mr. Briggs said that because the large rate increase is not included in this year's budget, installation of the TCU equipment at the earliest possible date is critical. Once the new system is paid for, UM data communications costs would be approximately \$118,800 annually, Mr. Briggs said, compared to \$1 million under the new telephone rates just announced. Prior to the Dec. 15 rate increase, UM's annual data communications costs were \$440,988.

He said two of the four TCUs are already in use on a lease basis. He said the equipment can be supplied only by COMTEN, Inc. of St. Paul, Minn. The other two units could be delivered by May 1.

In other action, the executive committee of the board also approved the following:

- Purchase of an IBM 3031 computer for \$338,218. The computer, which is a part of the UMca Computer Network, was being rented at an annual rate of \$403,632.

- Authorization of UM to borrow up to \$920,000 to help pay for acquisition of the computer and the data communications equipment.

### Student health insurance may change

UM is studying the possibility of seeking new bids on health insurance coverage offered to students on the four UM campuses.

Gerald Jensen, UM system director of property and risk management, said the move is being considered in view of an opinion by the U.S. Office of Civil Rights that present student health policies are discriminatory against women. Standard policies do not contain pregnancy-related benefits, although they could be purchased as an option at additional cost.

Mr. Jensen said that if the new bids

are sought, the specifications would require that maternity benefits be a part of the plan. If a new plan is obtained, the coverage would be offered to UM students at enrollment next fall.

Meanwhile, current policies will remain in effect for the rest of this school year, Mr. Jensen said.

The OCR opinion was given last fall after a student at UM's Kansas City campus filed a complaint claiming the policy was not in compliance with Title IX of the Education Amendments of 1972.

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## The student money story: a system-wide view

Closing the student palm—that's Phil Rokicki's business.

Last year he and other student financial aid professionals within the University system dispensed a total of \$59 million in the form of grants and indirect loans. What this means in human terms is that 23,000 UM students were able to close their palms around those funds in order to advance their education.

Managing that kind of money requires an organization and farsightedness of the type that Rokicki, director of student financial aid for the UM system, is known for.

Before assuming his current position in 1979, Rokicki was director of student financial aids at UMSL. Speaking of the change in viewpoint that he encountered when he moved to central administration he says, "The job of the campus financial aids officers, cashiers and student accounts people is to determine need and disburse funds. Our job at UMca is to act as a service bureau for those staff people.

"We try to help them by keeping them informed on the latest regulations and on problems that we detect. We are not directly responsible to them, nor they to us, but we do try to work together for the common good of the students."

A good example of that cooperation, he says, has to do with the reauthorization bills, also known as the Education Amendments of 1980.

This federal legislation contains nearly 150 changes that touch in some way on student financial assistance. While many of the changes may be welcome (they address funding for non-traditional students, for example), they are also complex and confusing, and Rokicki and other UMca administrators have spent hours going over various portions of the regulations with lawyers and other staff members in an effort to spot potential trouble. That process is still far from complete.

Rokicki says, "As we progress, we communicate our best guess about this legislation back to the campuses by saying, 'We think, if you do this, that it will provide the most benefit to the students.'"

The director also mentions the role of his UMca office as a lender under the Guaranteed Student Loan program. By that he means that qualified students who cannot find a commercial lender to help them finance their education may ask the University itself to serve as a lender.

The low-cost, long-term loans that the program provides are backed up by the federal government or by the state. In this academic year about 300 UM students are recipients of funds obtained directly through Rokicki's office.

That office also coordinates the curators' scholarship program. This program has two phases. First, qualified students right out of high school can get, through Rokicki's office, a scholarship in the amount of the incidental fees for as long as four years.

Second, the university scholars program, which is a division of the curators program, makes \$100 a year available to eligible students who have achieved a 3.60 grade point average.

Far from simply throwing out a melange of these and other funding options from which students must choose, Rokicki and the campus financial aids personnel offer individualized funding packages based on several factors.

After the campuses calculate a student's need, they begin building the gift aid portion of the package on the foundation of a Pell Grant. Recently renamed for U.S. Senator Claiborne Pell of Rhode Island (who introduced the original legislation), this source of funding was formerly known as the Basic Educational Opportunity Grant.

Missouri state and other supplemental grants are added next and, depending on the need demonstrated, a campus grant may be stacked on top of the financial aid pyramid. If funds are still needed after the gift aid options have been exhausted, work-study employment may be added, a student may be directed to a National Direct Student Loan, or both. Military and other specialized scholarships are also available to help round out the total funding package.

The most recent type of financial help that college students may qualify for is actually a loan made to their parents. Parents of undergraduate dependent students can borrow, at nine percent interest, up to \$3,000 a year, as long as they do not exceed a total \$15,000 maximum. Forms from the federal government will be available for this program in the spring through Rokicki's office.

For all its newness, the parent-loan program may not be the most innovative development on the student financial aid horizon. UMSL boasts the first work-study program in the state that provides students with federal funding while it allows them to apply the very knowledge they are gaining in the classroom. Consequently they can test how they like their chosen field of study as they deal with it in practical terms.

The program operates through work-study money that has been invested in outreach efforts. Through it, chemistry majors are placed in jobs at Monsanto, for example, and students majoring in business are referred for positions at companies such as A. G. Edwards and Son, a brokerage company.

The situation is a boon for the company as well as for the student, since it allows a business to get to know potential employees and even to have a hand in their training long before those people graduate. And all at student pay scales.

The coordinator of this program is Robert Powell, who is in charge of job development on the St. Louis campus. According to him, "The Student Work

Assignment Program (SWAP) allows students to bridge the gap between the classroom and the employer with a meaningful learning situation."

Rokicki's office is also committed to the implementation of a new type of service in student financial aids. It is purchasing a software package for the four campuses that will track student needs in a way and a length of time that was unimaginable 10 years ago.

directors spend several days a semester with admissions directors on the four campuses, at the college nights held by Missouri high schools, and at the regional college fairs. They also are in touch with high school counselors, through whom they work to present high school students with various options available for financing higher education.

Once funding for college has been granted to high school students and others, Rokicki is always careful to say to the recipients of that funding, "Why not write to your representative in Congress (or whoever is responsible for



Phillip  
Rokicki

According to Rokicki, the new system will free financial aids professionals to deal with people instead of paperwork, by providing, for instance, an automated and instantaneous calculation of each student's financial need; by computing in less than a minute the exact amount of money available; and by paying students one check through the mail, instead of several hand-processed ones for which they must stand in line.

The on-line system will be in place in approximately a year, and will be ready to process those applications that are received in January 1982.

"Recruitment, retention and resource management will all be improved once this system is operating," Rokicki says.

As far as current recruitment goes, Rokicki and the four campus aid

the money that you received), and thank that person? That's a good way of off-setting all the 'Why-didn't-you-give-us-more?' type letters that legislators constantly receive."

Engendering gratitude in students has many benefits in addition to contributing to the students' own growing sense of social responsibility.

Rokicki points to the lag time that typically exists between budget requests being submitted to Congress and allocations actually being made. Such lag time puts Rokicki and his colleagues in a never-never land of having to wait before committing money.

"Perhaps if this upcoming conservative Congress could hear directly from many of the students whose lives they influence through the granting or withholding of funds, that lag time might be diminished. And the total amount of student financial aid funding the Congress deems appropriate might actually be increased," Rokicki says.

### On the campuses

In addition to working with many of the same factors that Rokicki's office does, the campus student financial aids officials are aware of scholarships that have been established for use on particular campuses or for very specialized purposes.

Last year UMC's director of student financial aids George Brooks and his colleagues granted a total of 34,225 awards. UMKC's Buford Baber and his staff granted 8,874; UMSL's Kay Cutler and her colleagues granted 7,629; and UMR's student financial aids director Raymond Pendergrass and his staff granted 8,038 awards. Robert Whites is acting director while Mr. Pendergrass is on leave in the state treasurer's office.

## Olson addresses graduate education in meeting of U.K., U.S. school leaders

UM President James C. Olson told an international group of university administrators, meeting in San Diego over the holidays, that in recent times the quality of graduate education has become a critical issue.

He was one of 12 U.S. university presidents participating in a joint meeting with a delegation of university principals and vice chancellors from the United Kingdom.

The topic of the joint meeting, sponsored by the Association of American Universities, was "The Preservation of Academic Quality in a Period of Financial Stringency." Dr. Olson's presentation focused on the topic as applied specifically to graduate education.

"One of the basic requirements in graduate education today," Dr. Olson pointed out, "is the establishment of a degree of stability and the eradication of the 'roller-coaster' type of past support patterns. The necessity for steady, continuing support of graduate education is implicit."

He noted that graduate education is particularly vulnerable to financial

constraints affecting library acquisitions, laboratory equipment and travel. He stressed that this problem, coupled with limited employment opportunities and a decline in fellowship support, contributes to the lessened attractiveness of graduate education.

"When graduate education was in a state of expansion, quality was less of an issue," Dr. Olson said. "However now that it is contracting, quality issues are critical to address."

Martin Meyerson, president of the University of Pennsylvania, served as moderator of the session on graduate education. Professor Paul Matthews, vice chancellor of the University of Bath, provided a perspective from the United Kingdom.

Other American participants in the Jan. 4-6 meeting included the presidents of Purdue, Cornell and Duke universities, UCLA and the University of California-system. The delegation from the United Kingdom included the vice chancellors and principals of the universities of Oxford, London, Edinburgh and Cambridge.

## UM's patent committee chairman Merilan resigns post after 17 years of service

C. P. Merilan says "an amazing array of creative projects" passed through UM's patent and copyright committees in the 17 years he was its chairman. The UMC dairy science professor recently resigned his ringside seat on the arena of University research so he could spend more time on his own research and teaching. He had been the only chairman in the committee's history.

Paul Keenan, director of UM research program services, says Merilan "has been instrumental in moving our patent program forward."

UM President James Olson presented Merilan with a plaque inscribed with a statement of appreciation during a luncheon in his honor last fall.

When a patentable item is developed by faculty, staff or students, University regulations require that a disclosure of invention be filed. The system-level committee reviews the disclosure and recommends action to Dr. Olson.

Merilan says his greatest satisfaction in the committee role has been "to participate, even if indirectly, in such a wide scope of inventions. Most people don't appreciate the ingenuity and creativity of our faculty. Almost any place you look in the University, there are people who are using their minds to contribute, to advance knowledge. Literally, there's no limit to it."

He figures the committee chairmanship required about 20 percent of his work time. Now, Merilan is

spending those hours on his own research interests, which are reproductive physiology and biological material preservation.

Earning B.S., M.S. and Ph.D. degrees from UMC, Merilan has been on the College of Agriculture faculty since the early 1950s. Several of his own disclosures of invention have gone through the committee. He and a departmental colleague hold a patent on a multi-stage freezing system for preservation of biological material. The process was developed specifically for bovine sperm cells.

Merilan also works with the St. Louis Zoo to help manage reproduction of exotic species, including elephant, chimpanzee, llama, camel and others.

In the early 1970s, Merilan served on an ad hoc task force that resulted in changes in the University's patent regulations and a significant increase in the committee's work. The new regulations gave faculty incentive to channel invention disclosures through the committee because the University took on the responsibility and expense of patent research, filing and license negotiation.

In addition, some materials to be copyrighted were added to its responsibilities. The committee reviews musical compositions, artistic works, computer programs, videotapes and film productions, as required under the policy on University-sponsored educational materials.

Robert Wolf, UMR professor of metallurgical engineering, is the committee's new chairman.

Cedric Messina



## BBC producer Messina to lecture on all UM campuses this spring

Shakespeare will come to life this semester at UM as internationally-known British television producer-director Cedric Messina brings his masterwork to the system's four campuses.

Mr. Messina is producer of "The BBC Television Shakespeare," broadcast in the U.S. on Public Broadcasting System (PBS). He has been working on the series the past four years, and was a principal speaker in a Mid-America Shakespearean Chautauqua last spring.

He will lecture in the state through the end of March, in conjunction with videotapes of his work. Free public programs are being scheduled at the four UM campuses. Mr. Messina will also work with UM students and faculty in an effort to accent their studies in the humanities.

Mr. Messina and his family will reside in Columbia during the semester.

He will begin his tour at UMC with public showings of his productions "As You Like It," "Twelfth Night" and "Measure for Measure" Jan. 22, Jan. 29 and Feb. 5 respectively in the Arts and Science building's Allen Auditorium.

The showings will be followed by discussions Jan. 27, Feb. 3 and Feb. 10 respectively, from 7 p.m. to 9 p.m. The Jan. 27 discussion was scheduled for the Memorial Union Auditorium. The Feb. 3 and 10 discussions are scheduled in Memorial Union S-203.

On Feb. 11 Mr. Messina will speak on "Producing Shakespeare for Television" at 7:30 p.m. in UMR's Miles Auditorium, Mechanical Engineering Building.

Other Rolla presentations are scheduled for Feb. 12, 18, 19, 25 and 26, and videotapes of some of his productions will be shown in the UMR library at times to be announced.

Mr. Messina's visits to UMSL and UMKC are still in the planning stages.

## NPR, musicians, UMSL radio join to broadcast symphony concerts

KWMU-FM and the Saint Louis Symphony Orchestra have arranged to produce and distribute the symphony's broadcast concerts through National Public Radio beginning in April.

The orchestra's 1980-81 season, being recorded in performance in Powell Symphony Hall, is under the direction of music Director Leonard Slatkin and Associate Conductor Gerhardt Zimmermann. Among the guest conductors featured are Erich Leinsdorf, Max Rudolf, Erich Bergel, Reynald Giovaninetti, Raymond Leppard and Robert Shaw.

Host for the broadcasts will be Richard Freed, music critic and program annotator for the orchestra.

The collaborative effort, which will provide the sound of St. Louis to some 230 National Public Radio stations throughout the country, will be

co-produced by KWMU, the Saint Louis Symphony and NPR.

The orchestra is making further news through an UMSL-sponsored eight-week program entitled "Know the Score." The course, which is produced through UMSL continuing education in cooperation with the Saint Louis Symphony, is designed to increase symphony-goers' understanding and enjoyment of symphonic music.

It will cover eight different styles or periods of orchestral music, highlighted by musical examples demonstrated by principal players and guest artists from the symphony.

The course will be offered Tuesday evenings from Jan. 20 through March 10, at Plaza Frontenac. Leonard Ott, UMSL assistant professor of music and music department chairperson, will lead the discussions.



The rank of the UMC libraries among the 99 academic members of the Association of Research Libraries (ARL) has improved from 53rd to 46th in the past year, according to figures the association released recently.

"A jump of several positions in one year represents a significant improvement in the overall library picture," according to John Gribbin, director of libraries.

He attributes UMC's improved ARL Library Index to increases in the library budget. Specifically, he points to a quarter of a million dollar increase in the acquisitions budget, to improvements in the serials budget and in library salaries, and to additional professional and non-professional staff.

The ARL Library Index incorporates ten categories of raw data in a statistically scientific manner to arrive at the rankings.

The leaders among American universities by the ARL Library Index are Harvard, University of California at Berkeley, Yale and Stanford.

UMKC won three of five awards received by various University units at this year's Mid-America district meeting of the Council for the Advancement and Support of Education (CASE) held in Omaha.

The Kansas City campus received an excellence award for the School of Dentistry's continuing education catalog prepared by Lois Hightower, and won merit awards for the dental school's slide show produced by Dianne Beard and William A. Marse, and for special promotion of UMKC's theatrical production of "Kismet" conducted by Patricia Moore and Sandy Appleoff.

UMC's College of Engineering won an exceptional achievement award for the internal editorial content of "Micro Computer Course Program" prepared by Candance Louis. The film "Mack Jones: Cocktail Shakespeare" produced by UMca's David J. McAllister received an excellence award.

James M. Zahnd, director of UMKC university communications, served as chairman of the eight-state district. Anne Robinson, UMca coordinator of special assignments, was elected chairman for 1981.

For the fourth year in a row, the UMR student chapter of the American Institute of Aeronautics and Astronautics (AIAA) has been named an "Outstanding Student Branch" by the national AIAA professional engineering organization.

UMR's chapter is one of 13 from among more than 100 nationally to receive the honor.

Faculty from universities in Michigan, Tennessee and North Carolina have been visiting the UMSL campus this year, and UMSL faculty will be returning the visits in months to come as part of a new program called the Revolving Institutional Exchange (RIE).

"The purpose of the program is to bring to each institution, through the medium of exchanges of a carefully chosen team of faculty and administrators, the renewal that comes from learning about new and different ways of doing things," says UMSL vice chancellor for academic affairs, Arthur C. MacKinney.

Eight faculty from the University of Tennessee at Chattanooga, eight from the University of North Carolina at Charlotte, and 10 from Oakland University in

Rochester, Mich., visited the UMSL campus for four days in November.

"I felt it was an excellent exchange," Dr. MacKinney says. "Just sharing how other people think and do things can be very beneficial. The educators who visited UMSL were unanimously impressed with our faculty, our campus and our students. They also were very complimentary of our campus beautification program that is underway."

Six or more UMSL faculty took their first trip as part of the RIE program Jan. 21 to UT-Chattanooga.

## People

The Rolla campus' **Nolan Aughenbaugh**, professor of geological engineering, will be a Fulbright Scholar later this year at the University of Otago, Dunedin, New Zealand, where he will have a double assignment: to appraise problems relating to the expansion of coal mining in New Zealand and to be a visiting lecturer in the department of mineral technology.

This won't be Dr. Aughenbaugh's first trip to New Zealand. He spent time there as a member of the U.S. team in the Antarctic during the International Geophysical Year in the late 1950s. If possible, this time he will take his son with him to visit Mount Aughenbaugh, the highest peak in the Dufek Mountains, which was named for him as co-discoverer of the mountain range.

**O. H. Calvert**, UMC professor of plant pathology, has been named senior editor of *Plant Disease*, an international journal of applied plant pathology. The publication is an official journal of the American Phytopathological Society. Dr. Calvert will serve a two-year term in his new capacity.

**Yudell L. Luke**, Curators' Professor of Mathematics at UMKC, has recently had his volume, *Mathematical Functions and Their Approximations*, Academic Press, New York, 1975, translated into Russian and published by Izdat. Mir (World Publications), Moscow, 1980.

**George Viele**, UMC professor of geology, has been designated by the Geological Society of America as one of two authors of a volume on the Geology of the Appalachian/Ouachita Folded Belts. This volume is one in a series of 11 summarizing the geology of North America in commemoration of the centennial of the Geological Society of America.

**John M. Sharp, Jr.**, UMC associate professor and chairman of the geology department, has been awarded an Alexander von Humboldt Fellowship for study in West Germany. The von Humboldt Foundation awards these Fellowships to outstanding young scientists in a wide variety of fields. The scholars are selected by a panel of distinguished West German scientists. Dr. Sharp will be studying at the Institut für Allgemeine und Angewandte Geologie der Universität München in Munich, West Germany from January to August of 1981.

**Erwin Epstein**, UMR professor of sociology and chairman of the division of social sciences, has been elected executive secretary of the World Council of Comparative Education Societies, the planning organization for the 1983 World Congress of Comparative Education Societies.

**Christopher J. Lucas**, UMC professor of education studies, has been named as one of five U.S. representatives to plan that congress, which will be hosted by the University of Monterrey, Mexico. It is expected to attract delegates from countries throughout the world.

## Bond resolutions filed

Resolutions have been filed in both the Missouri House of Representatives and Senate providing for bond issues to support capital improvements in Missouri.

Should either or both pass the General Assembly, they would be placed before the voters in November, 1982, or at

a special election called by the governor.

House Joint Resolution 30, introduced by Rep. E. J. Cantrell and Rep. Sue Shear, calls for issuance of \$600 million in bonds over a period of several years. Issuance of bonds would be "triggered" when unemployment in the state exceeded a certain percentage of the state work force.

Senate Joint Resolution 9, introduced by Sen. Harry Wiggins, would

authorize issuance of \$275 million in bonds.

## Education bills heard

Several bills of interest to higher education received hearings by the Higher Education Committee of the House as the legislative session got off to a rapid

start.

Among bills heard Jan. 19 were: HB 326, which would create a "Higher Education Loan Authority" to purchase and make loans to college students and which would be operated by the Department of Higher Education; and HB 482, which would regulate out-of-state educational institutions and businesses which offer degree programs, the so-called "diploma mill" bill.

# SPECTRUM

is published every other week during the academic year and monthly during the summer session by UMca University Relations, 400 Lewis Hall, Columbia, in cooperation with the Columbia, Kansas City, Rolla and St. Louis information offices.

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The following administrative/professional and academic vacancies were listed with *Spectrum* as of Jan. 23. Those interested in a position should contact the appropriate academic department or personnel office.

**UMC:** Accountant; administrative associate I (2); asst. director, athletics (MASA); asst. director, multipurpose building; asst. manager, central processing office; asst. supervisor, paint shop; chemist; computer programmer/analyst I and II; continuing education coordinator; institutional research analyst; management analyst; manuscript specialist (2); nurse practitioner (2); police captain; research design engineer; research specialist (3); staff physician; supervisor, ac-

counting services; supervisor, broadcast engineering-KOMU-TV; **UMca:** Assistant radiation safety officer; associate director, facilities management—physical plant and energy conservation; computer project manager; sr. research scientist;

**UMCHospital:** Asst. manager, housekeeper; computer programmer/analyst II; head nurse; managers, computer center, hospital purchasing, outpatient clinic III, patient referral service, personnel; occupational therapist; registered medical technologist; social worker; sr. computer programmer/analyst; sr. systems analyst; sr. systems programmer; supervisor, hospital stores; supervisor, housekeeping (2); supervisor, social workers; training coordinator;

**UMR:** Postdoctoral fellow, Graduate Center for Materials Research; lecturer, mathematics; lecturer, instructor, research associate, electrical engineering; sr. research aid, physics; instructor, geological engineering; asst. professor, rock mechanics (2);

**UMKC:** Sr. continuing education coordinator;

**UMSL:** Academic advisor; visiting instructor, physics; instructors, speech (3), quantitative management; asst. professors, art, economics, mathematics (2), physics, psychology, speech (2), accounting, finance, optometry (3); assoc. professors, administration of justice, finance, management; director of clinics, School of Optometry; nurses (4).