



04 Sep 1991

## The Missouri Miner, September 04, 1991

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# Missouri Miner



A publication of the students of the University of Missouri-Rolla

September 4, 1991

Volume 80, Number 1

Twenty-eight pages

## Performing Arts Series opens inaugural season at Castleman

### News Services SOURCE

Season tickets go on sale Monday, August 19 for the University of Missouri-Rolla Campus Performing Arts Series' premier season in Castleman Hall.

The 1991-92 season kicks off Oct. 18 with a performance by Burning Feet Dance, a modern dance company that combines inventive movements with unusual costumes, props and music. Five more events follow, and each performance will be held in Castleman Hall, the newest building on the UMR campus. Seating is reserved for all performances.

Season tickets are \$30 apiece for people age 65 or older and \$40 apiece for all others. Tickets may be purchased at the ticket office in UMR's University Center-West. The desk is open on weekdays from 8 a.m.-noon and 12:30-4:30 p.m. Call the ticket office at 341-4219 for additional information.

Season-ticket holders will receive reserved parking for all events and will attend a private reception on the night of the Burning Feet Dance performance. They also will receive advanced priority choice of seating for a performance by the St. Louis Symphony Orchestra, which is scheduled for 3 p.m. on Sunday, Nov. 10. Additional information about that concert will be available later.

In conjunction with the Campus Performing Arts Series, other events are being planned to help celebrate the series' premier season at Castleman Hall. These include a dessert with the artists in January and a box supper on the Castleman hall lawn in May.

All Campus Performing Arts Series events are free to UMR students who have valid identification cards. They will have the first opportunity to reserve seats three weeks before the date of each performance. Individual performance tickets for the general public — \$10 for adults and \$5 for people age 18 and under — go on sale two weeks before each event. Any remaining tickets will go on sale one hour before curtain time at the Castleman Hall box office.

All Campus Performing Arts Series events begin at 8 p.m. The schedule of performances is as follows:

—Oct. 18, Burning Feet Dance. This dance troupe, led by artistic director Suzanne Grace, is known for its sense of humor, inventiveness, diligent work and use of the human form to express ideas, emotion and environments.

—Nov. 22, Alan Chow, pianist. Chow has been described as a "very facile pianist with good fingers, good taste and a musical personality that tends towards the romantic side." He performed in many major U.S. cities last year and recently won first prize at the Concert Artist Guild's New York Competition.

—Jan. 31, 1992, Summit Brass.

This all-American brass ensemble includes musicians from the New York and Los Angeles philharmonics, and various university faculties. Summit Brass has performed on National Public Radio's "St. Paul Sunday Morning" and has been commissioned to perform several new works — both transcriptions and original compositions.

—Feb. 21, 1992, Ames Piano Quartet. With piano, violin, viola and cello, this group combines traditionally appealing and contemporary music in a "sandwich effect" designed to give audiences a better understanding and appreciation of contemporary music. Formed in 1976, the quartet's members are master teachers at Iowa State University who "banded together to perform not only the old masters but also our own voices, the music of our time."

—March 6, 1992, David Low, cellist. Reviewers have called Low the "master of the art of chamber music" and an "unusual musical mentor." He has soloed with orchestras in the Republic of China and Peru as well as the United States.

—May 1, 1992, The All Night Strut! This Arkansas Repertory Theatre Group adds a fresh quality to songs from the 1920s through the 1950s in an original off-Broadway musical. The performance has been characterized as "babe-ree-bopping pizzazz, high steppin' swing and slithering jive. It's sensational."

## Research may provide new planes safe for the Earth's ozone layer

### News Services SOURCE

Research at the University of Missouri-Rolla may help the aircraft industry get a plan off the ground to build high-speed passenger planes that won't pose a threat to the Earth's protective ozone layer.

UMR researchers Philip D. Whitefield and Donald E. Hagen, of the campus' Cloud and Aerosol Sciences Laboratory, have embarked on a three-year NASA study to determine how exhaust from proposed high-flying commercial transports would affect Earth's upper atmosphere. McDonnell Douglas Research Laboratories in St. Louis is assisting UMR on the project.

The UMR research is part of a national effort to develop a plane — called a high-speed civil transport, or HSCT — to carry passengers over long distances at twice the speed of sound or faster, says Whitefield, a research associate professor of chemistry, and Hagen, an associate professor of physics. The aircraft industry hopes to be flying these planes by early in the next century, Whitefield says.

Initial studies by the National Aeronautics and Space Administration found that building such an aircraft is possible. But NASA also wants to address environmental concerns — something that was not done in the 1960s, when America's aviation industry was attempting to build a supersonic transport, or SST.

"NASA is proposing a new age in aviation," Hagen says. "But they have some environmental issues to consider before they give the go-ahead for developing the HSCT."

According to the UMR researchers, to withstand the stresses of supersonic speed the proposed aircraft will have to fly in the upper atmosphere, where the air is thinner. Whitefield says the plane would be designed to fly 60,000 feet above Earth.

"That's an altitude where you don't want to inject fuel exhaust into the environment because of the ozone layer," says Whitefield. The heat of the planes' engines would produce nitrogen oxides, which could drift up to higher levels and destroy ozone, a form of oxygen that shields the Earth from potentially damaging solar ultra-

violet rays.

Whitefield and Hagen hope to find a way to keep the nitrogen oxides trapped in the jet exhaust to keep the particles from floating up into the ozone layer. They want to find the right mix of jet fuel that will produce an exhaust to act as a "sink," or an absorber, of the nitrogen oxides.

"We think the nitrogen oxides will be absorbed by the aerosols," which are produced by the combustion of jet fuels, Hagen adds. The aerosols would then condense into water droplets, which eventually would fall to Earth.

The researchers will simulate the rarefied upper atmosphere in the UMR Cloud and Aerosol Sciences Laboratory. They plan to burn various jet fuels in a special container, capture tiny particles of the exhaust and then see how the particles interact with nitrogen oxides. They also will analyze those particles under various conditions of relative humidity, time frames, air pressure and temperature — conditions jet exhaust is subject to as it enters the atmosphere.

The key to the high-speed transport's environmental acceptance ultimately lie in its design as much as its engine and exhaust nozzle configurations, says Whitefield.

"The aerodynamic design of the airframe maybe as important as the design of the engine," he says, adding that some designs may work better than others at keeping the nitrogen oxides trapped in the jet exhaust.

Whitefield and Hagen's findings will be added to the database which NASA, if it gives final approval to the plan to develop these supersonic planes, will use to draw up design specifications for the aircraft. "NASA has set a goal to acquire the data necessary to make the environmental impact assessment by 1995," says Hagen.

Besides the potential for damage to the ozone layer, NASA is looking at other environmental issues — such as airport noise and sonic boom damage — that must be addressed before the aviation industry is given the green light to build the high-speed transport.

The last attempt to build an Ameri-

## Degree in management systems offered

### News Services SOURCE

The increasing demand for people who can manage the interaction between an organization's employees and its information systems has prompted the development of a new degree program to be offered this fall at the University of Missouri-Rolla.

The program, a bachelor of science degree in management systems, is an interdisciplinary effort by the departments of computer science, economics and psychology and is under the direction of UMR's College

of Arts and Sciences, says John T. Park, UMR interim chancellor. Students majoring in management systems will take courses already offered by those three departments, Park says. He adds that the program will not require the hiring of additional faculty.

"The faculty, courses and equipment within these already well established departments will help provide business and industry with employees who have a knowledge of interpersonal skills necessary to effectively manage information systems," says Park.

According to A. Glen Haddock, interim vice chancellor for academic

affairs at UMR, the U.S. Department of Labor has documented the nation's need for graduates with the kind of educational background the management systems program will provide.

"The department's Bureau of Labor Statistics projects a 75.6 percent increase by the year 2000 in the need for people trained in the category of computer systems analyst, electronic data processing," says Haddock.

Several unofficial projections have been made as well, adds John Fulton, dean of the College of Arts

See Degree, page 5

See Research, page 4



# Calendar of Events

## Wednesday

Juggling club meets at 5 pm at the Hockey Puck. As always, beginners are welcome.

Student Lawyer, Walnut, 2:30 p.m.

Wesley Mtg., 6:00 p.m.

ASCE, 114 CE, 7:00 p.m.

Newman Mass, 9:00 p.m.

## Thursday

The UMR Trap and Skeet Club will hold meetings every Friday at 3:30 in T2 (the white building behind the library). We will go out and shoot after the meeting if the weather permits. All interested persons are welcome to attend. For more information, contact Mike Giboney at 364-6991 or Tracy Bagwill at 364-8664.

Newman Scripture, 12:30pm

Chi Epsilon, 117 CE, 4:00pm

Toastmasters, Fulton, 4:45pm

IK, 204 McNutt, 6:00pm

APO Mtg., 6:30 p.m.

ASEM-IIE, G-3 Schrenk, 6:30 p.m.

GDI, 114 CE, 7:00 p.m.

W.T. Schrenk, 121 ChemE, 7:00 p.m.

Gaming, 208 ME, 8:00 p.m.

## Friday

SUMMERFEST

Placement Seminar, 104 ME

MSA Mtg., 1:30 p.m.

Trap & Skeet, T-2, 3:30 p.m.

## Saturday

SEPTEMBERFEST

Wesley Float trip

Open gaming, 317 CE, 9:00 a.m.

## Sunday

Student Mass, 5:00 p.m.

Wesley Chapel, 7:00 p.m.

## Monday

ROSH HASHANAH

Last day to register or add

Last day for 70% refund

GDI BOG, Maramec, 6:00 p.m.

Engineer-In-Training application deadline for their return to Jefferson City. Applications available in Room 111, Civil Engineering Building. Exam will be given Thursday, October 24.

Placement Seminar, 6 p.m., room 104 Mechanical Engineering Building.

CCF, Missouri, 6:00 p.m.

BSU Bible study, 6:30 p.m.

NSBE Mtg., 7:00 p.m.

## Tuesday

Student Lawyer, Walnut, 2:30 p.m.

Tau Beta Pi, G-3 Schrenk, 7:00 p.m.

## Next Wednesday

UMR Women's Soccer, Maryville College, 6:30 p.m., UMR Soccer Complex. Free admission.

Wesley, 6:00 pm

Blue Key, 216 ME

AICHE, G-3 Schrenk

Newman Mass, 9:00pm

## Noday

Applications are invited for enrollment as an Engineer-In-Training (EIT) are now available to qualified UMR students.

Enrollment requires passing an eight hour Fundamental of Engineering examination which will be given at UMR on Thursday, Oct. 24. Because of space limitations, this site is only available to UMR students.

UMR students who are graduating from an accredited engineering program in the fall 1991, spring 1992 or summer 1992 are eligible to apply. Applications for enrollment are available in Room 111 of the UMR Civil Engineering Building. The deadline for applications to reach Jefferson City is Monday, Sept. 9.

Further information is available from Dr. Paul R. Munger, 110 Civil Engineering, UMR phone 341-4477.

Blue Key National Honor Fraternity is now accepting applications for Fall 1991 pledging. Blue Key is an Honor Fraternity for campus leaders.

Requirements for membership are:

- (1) 60 completed credit hours
- (2) Cumulative GPA of 2.75
- (3) 40 Blue Key leadership points (see application form)

Applications to pledge Blue Key are available at the Students Activities Office in the University

Center West. Return completed applications to the Student Activities Office no later than 1:00 pm on Sept. 9, 1991.

If you have any questions please contact Doug Haney at 364-9675.

## Financial Aid

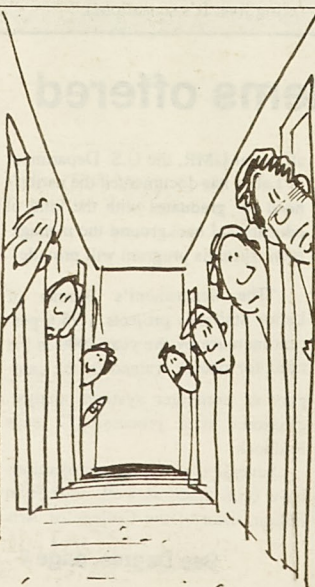
In 1975 the U.S. Congress established the Harry S. Truman Scholarship Foundation as a memorial to Missouri's native son. The Foundation grants scholarships to college students who are committed to public service. The Foundation defines public service as "government at any level, uniformed services, public-interest organizations, nongovernmental research and/or educational organizations, and public-service oriented non-profit organizations such as those whose primary purposes are to help needy or disadvantaged persons or to protect the environment."

The scholarships are monetarily generous but limited in number. Students eligible to be nominated by their colleges and universities must be Juniors who are full time students. They must be ranked in the upper third of their class. And they have to be U.S. citizens. Ninety-two scholarships will be awarded in 1992, one from each state and from other territories, and the Foundation will also select at-large winners. Students awarded scholarships will receive up to \$3,000 for their senior year of undergraduate education and as much as \$27,000 for graduate studies.

Despite nominating some quality students over the years, the University of Missouri-Rolla student body has never won a Truman Foundation Scholarship. Perhaps this is the year.

The campus faculty representative is Donald B. Oster, Associate professor of History. He is actively soliciting possible nominations from the faculty. In addition, prospective nominees can contact Oster directly. Oster's address is: Department of History and Political Science, H-SS Building. His phone number is 341-4817.

Since any nomination package must be in the hands of the Truman Scholarship Foundation, Princeton, New Jersey, no later than Monday, December 2, 1991, names for possible nomination must be submitted to Oster no later than October 15.



## Student Ambassadors now accepting applications

### Student Ambassadors SOURCE

The University's Recruiting Services Department will begin accepting applications for the Student Ambassador group on September 1.

Student Ambassadors are a group of UM-Rolla students who work with the Admissions and Recruiting Services offices on campus to support recruitment activities. Student Ambassadors work as tour guides for prospective students and their parents. Ambassadors also assist with special programs like Fall and Spring Open House and also participate in phonathons several times a year. Ambassadors must attend monthly meetings and work training sessions into their schedule as well. Reimbursement is \$4.25 per hour (not much!!) and your own satisfaction (a lot!!).

Student Ambassadors must be

enthusiastic, highly responsible and secure enough in their academic standing to maintain grades while partici-

pating in the Ambassador program. You MUST be able to commit at least three hours per week to this project.

If you are interested, you can pick up an application in 102 or 106 Parker Hall. Applications will be accepted from September 1 to October 1. All levels from freshman to senior may apply. You must have a cumulative 2.4 GPA to apply and you must maintain that average to remain in the program.

Interviews will begin in early October. You will be notified by mail if you qualify for an interview. Five new ambassadors will be selected.

If you have any questions about the Ambassador program, call 341-4904 and ask for Lynn. All deadlines are final, no exceptions will be made.

## Missouri Miner

The **Missouri Miner** is the official publication of the students of the University of Missouri-Rolla. It is distributed each Wednesday afternoon at Rolla, Missouri and features activities of the students of UMR.

All articles, features, photographs, and illustrations published are the property of the **Missouri Miner** and may not be reproduced or published without written permission.

The **Missouri Miner** encourages comments from its readers, and will attempt to print all responsible letters and editorial material received. All submissions must have a name, student ID number, and phone number for verification. Names will be withheld upon request.

Submissions for publication must be in our drop box (first floor of the Norwood Hall, Room 103) by 3:30 p.m. on the Thursday before publication. The **Missouri Miner** reserves the right to edit all submissions for style, grammar, punctuation, spelling, length, and matters of good taste.

The **Missouri Miner** is operated by the students of UMR and the opinions expressed in it do not necessarily reflect those of the university, faculty, or student body.

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## Bolshoi Ballet first to perform at Castleman Hall

### News Services SOURCE

Ekaterina Maximova and Vladimir Vasiliev — Stars of the Bolshoi Ballet and Company, will be the first performed to set foot on the stage of Castleman Hall, the University of Missouri-Rolla's new performing arts center.

The dancers will perform there on Saturday, Sept. 21, as part of a special evening of entertainment for Castleman Hall's "premier patrons" — those who contributed a minimum of \$1,000 to sponsor seats in the building's Thomas W. and Frances V. Leach Auditorium.

The public will be invited to attend a rehearsal during the day of the performance.

The Sept. 21 event will be the first for Castleman Hall's 660-seat auditorium and coincides with the opening of a juried art exhibit sponsored by the South Central Missouri Arts Council. A public dedication for the building will be held on Oct. 5, during UMR's homecoming weekend.

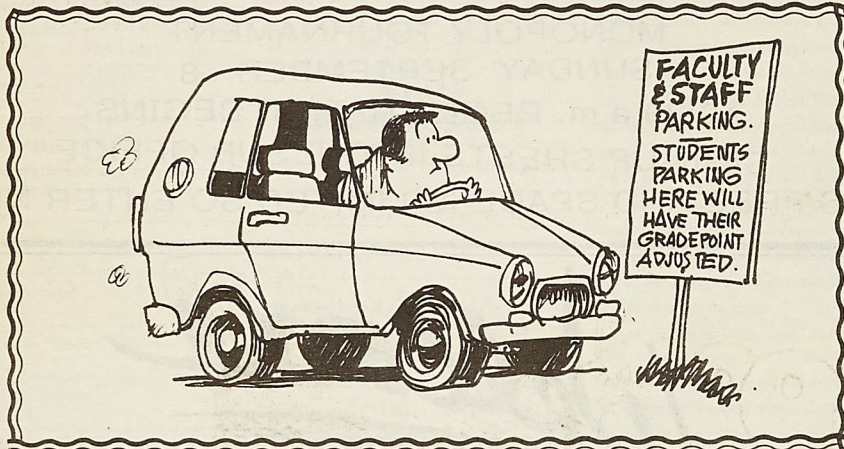
Several other events, including performances by the St. Louis Symphony Orchestra and the Ames Piano Quartet, are on tap for Castleman Hall's first season.

The 55,000-square-foot Castleman Hall also houses UMR's music, drama, alumni relations and advancement programs. Of the \$10 million it cost to build the facility, about \$3.4 million came from private contributions.

The building is named for Donald L. Castleman, a Rolla banker who gave \$500,000 of a \$1.5 million pledge to the campus for the building project.

Dancers Maximova and Vasiliev are considered the primary stars of the Bolshoi Ballet. Maximova holds the title of prima ballerina assoluta with the Bolshoi Ballet, and Vasiliev is the company's premier danseur and leading choreographer.

In addition to performing each season with the Bolshoi Ballet, they lend their talents in guest appearances with the Kirov Ballet, the Paris Opera Ballet, the La Scala Opera Ballet, the American Ballet Theatre, the National Ballet of Canada, and the Royal Ballet, Covent Garden.



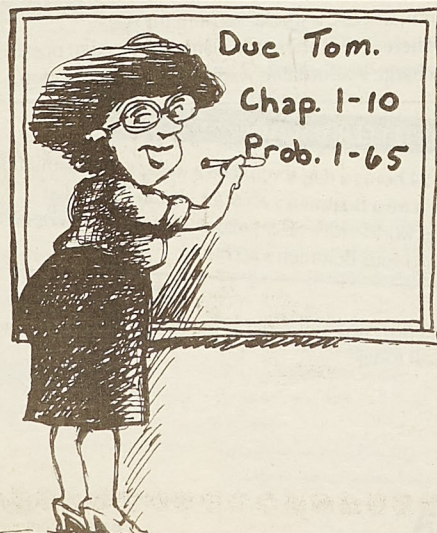
## Research

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can supersonic transport ended in 1971 when Congress eliminated the program because of environmental concerns. The only supersonic airliner in service today is the Concorde, of which only 16 were built and most have been retired.

The NASA grant to Whitefield and Hagen totals \$320,381. It is supple-

mented by a \$10,580 award Hagen received last spring from the Charles A. Lindbergh Fund. Lindbergh Fund grants, named in honor of the aviator who in 1927 flew non-stop from New York to Paris, are awarded each year to scientists whose research promotes technological progress while addressing environmental concerns.



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# ANEX laboratory helps students with structural analysis

## News Services SOURCE

University of Missouri-Rolla students studying structural engineering now have the help of a computer facility to analyze how small-scale structural models react to various loadings, which in turn gives them a better understanding of real world engineering challenges.

The ANalytical and EXperimental Test Facility (ANEX) is a portable mini-laboratory that enables students to compare their analytical calculations with measurements they make during experiments using small-scale structural models. It was developed by Dr. Richard Behr, who came to UMR in 1990 from the University of New Hampshire, and John Kasper, a UNH graduate student.

"Computers are used by engineers and university students to analyze complex civil engineering structures such bridges and buildings," explains Behr. "However, students who are computer-oriented sometimes have difficulty understanding how an actual structure will respond under various loading conditions.

"The ANEX facility consists of an aluminum test stand, carefully con-

structed models, electronic sensors, various model and sensor supports, a personal computer with an analog-to-digital input board for sensor readings, a color monitor and a printer," he says.

Behr explains that the ANEX software provides students who have little prior knowledge of computers or structures with step-by-step guide through the entire ANEX process and gives them on-line help. ANEX uses a commercially available structural analysis software package used by practicing engineers.

"Essentially, ANEX allows a student to set up computer analysis of the small-scale model to predict mathematically how it will react under various loading conditions," explains Behr. A series of software modules guide the user through the computer analysis and explains how to set up the analytical model and gather valid experimental measurements.

A student can place a scale model of a frame, for example, in the test stand and fit it with sensors which measure the response after weights have been placed on it.

"The computer then creates on-screen diagrams so that the student can see the computerized analytical and experimental results and compare them," says Behr. "At this stage, the

user has a clear image of how well the computer analysis and experimental results correlated during the testing of the mode."

He adds that the results will not always correlate well, which is an educational experience for the student. "Trying to determine what went wrong helps students learn from their mistakes," he says.

"Use of ANEX can prevent a student from falling into the naive trap of becoming an unquestioning believer of using either or experimental methods to solve engineering problems," Behr continues.

In addition to the prototype at the ANEX facility at UMR, Behr recently received a National Science Foundation grant to build three more ANEX facilities at UMR. One ANEX facility will also be built at UNH. The UMR facilities, which are scheduled to be completed by this fall, will be used by students in the "Structural Analysis" class, a junior-level course required for civil engineering majors.

Dave Vollenweider, a UMR senior in civil engineering from Cassville, Mo., is supervising the construction of the three UMR facilities.

Vollenweider says that ANEX helps students visualize what is taught. "Seeing what actually happens in the

ANEX test bed and verifying structural engineering theory by using a computer to predict the results of a real experiment helps students learn and retain information," he continues.

"The ANEX computer program also helps students learn the program language that they will need in future courses and after graduation," says Vollenweider.

At the ANEX facilities, a teaching assistant is available to help students by providing suggestions for correcting errors.

"The next enhancement planned for the ANEX facility is the development of an expert system to act as a teaching assistant to help the students detect the cause of errors and correcting the problem," he continues. Dr. Colin Benjamin, UMR associate professor of engineering management, and Azam Mirza, a master's candidate in engineering management at UMR, are working with Behr to develop this expert system.

"The expert system will not take the place of a teaching assistant," says Behr, "but will provide the assistant with additional time to address the more complicated situations that students encounter."

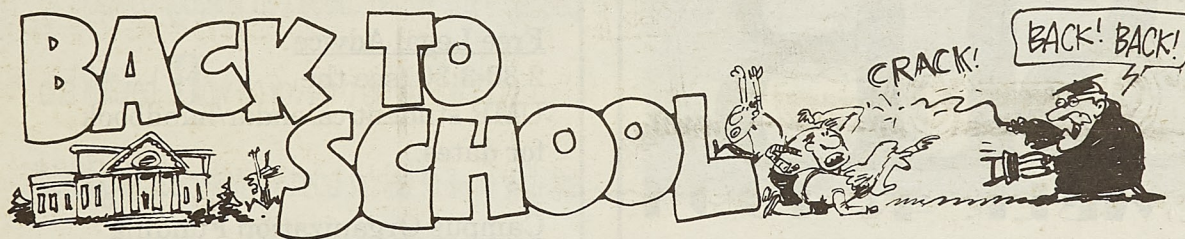
Behr adds that students in the "Structural Analysis" course used the

facility to design, build and test innovative scale-model balsa wood bridges in a semester long competition. Student response to the ANEX facility and the bridge competition was positive.

"Use of the ANEX facility will improve the way we teach structures and it will allow structural design experience to occur earlier in the curriculum," he says. "it could also be used as a training tool in industry."

Behr is also working with Dr. Robert Henry, A UNH associate professor who is developing REID, a graphics based computer program to help students learn to read and interpret actual engineering drawings. "After students are finished with ANEX, they can use REID to see how a real structure looks and become familiar with reading and interpreting engineering drawings and structural details," says Behr.

"ANEX and REID will better prepare students for careers in engineering practice and applied research," he adds. "And most important, we can achieve the benefits of ANEX and REID at relatively low cost — an increasingly relevant consideration in this time of tight educational budgets."



## UMR educators work with public television, secondary teachers

## News Services SOURCE

A group of University of Missouri-Rolla educators, working with Kansas City (MO) Public Television, has taken a cue from Oprah Winfrey and Phil Donahue. The result is "Teachers to Teachers," a talk show for educators.

The program debuts at 3:00 pm CDT, Thursday, Sept. 5, in public school classrooms throughout the nation.

"Teachers to Teachers" is a 24-week series of 50-minute programs to help junior-high and high-school teachers improve their teaching of mathematics, English, history, science and psychology. It also will help teachers meet state-mandated requirements for continued education and training.

Lee Allen, director of KCPT's

Educational Services Department, will produce and host the weekly program. Allen's guests will be UMR faculty members who will discuss teaching methods for a variety of topics — from mathematical modeling to Mark Twain. Experts from across the nation will join the discussions via satellite, and teachers watching the program will be able to phone in comments during the show.

The series will be distributed nationally via satellite by Satellite Education Resources Consortium, a 23-state partnership of educators and public broadcasters, including KCPT. In Missouri, the program will be available free of charge to members of the Missouri Consortium of Instructional Program Providers, which serves most Missouri school districts.

"Teachers to Teachers" is a great idea. I'm surprised it wasn't conceived of earlier," says John D. Fulton, dean of UMR's College of Arts and Sci-

ences. "Most secondary schools these days emphasize teacher learning through in-service programs, and 'Teachers to Teachers' fits in well with that format."

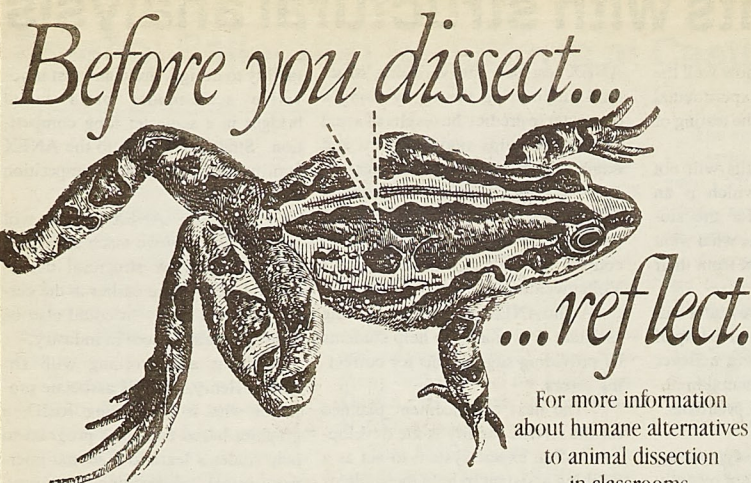
## Degree

from page 1

and Sciences. "For example, U.S. News & World Report describes what it calls the new 'chief information officer' — the person who can make the entire system — human and electronic — operate efficiently," says Fulton.







DISSECTION HOTLINE 1-800-922-FROG  
A student outreach project of the Animal Legal Defense Fund

NEW MEMBERS

WELCOME

**STUB**

SEPTEMBER 4, 1991  
7:30 P.M..

218 UNIV. CTR. WEST

INFO: 341-4220

ROCK'N ROLL

NEW WAVE  
BLUES ROCK CONCERTS  
CONCERT  
REO SPEEDWAGON

# SidNicks Nightclub

AND ITALIAN RESTAURANT

THE BEST IN  
LIVE ENTERTAINMENT

WED., THURS., FRIDAY, & SATURDAY

BIG SCREEN MONDAY NIGHT FOOTBALL

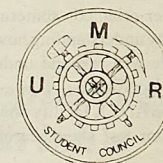
\* PROPER DRESS & I.D. REQUIRED \*

Hwy 63 North, Rolla Missouri (314) 341 - 3441

## STUCO

WELCOME BACK, UMR!

StuCo provides you with the following services:



### Free Legal Advice

2:30-3:30 (see the UMR student calendar/handbook for dates.)

### Campus Organization Funding

Coming soon...keep watching the Miner for more info!

### Campus Blood Drives

1st one: September 17-18, 11am-5pm

### Student Activity Fee Recommendations

More than 1 million dollars is allocated each year-by StuCo. Tell us how you want your money spent!

### A Voice in Administrative and Governmental Affairs

StuCo represents your interests on and off campus.

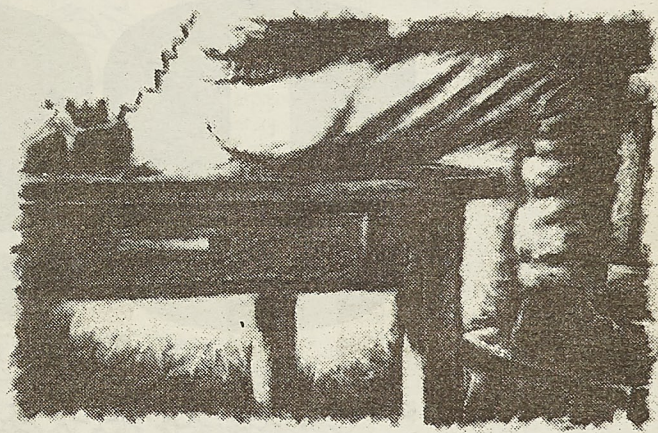
and more.....

UMR Student Council 202 UC-West 341-4280



“‘I really want my mom to find me face-down in my own blood on the floor of her bathroom. The woman deserves it’

The hair on the back of my neck stood on end. My forehead went wet. ‘I hate my pathetic life,’ she said. It was the first call I got working at the suicide hotline, a volunteer thing I did because a friend said she got so much out of it. **B**efore I got too nervous, I stood up and spoke into the phone with as much compassion as I could. But my voice skipped and fluttered. **H**ow do you tell a girl like this it’s going to be alright? Just when my head started to swim with the idea that I might be the reason she kills herself, it hit me. She doesn’t want me to have the answers, she just wants a friend. She wants me to understand because no one else wants to. I never felt so alive. **A**nd that feeling is what brings me back here to the phones. Everyone reaches a point where they need help. If all it takes is listening for a few hours, I can do that. ”



This is Chris Suffredini's real-life story. He is one of the little answers to the big problems facing every community in America. And because there are more people than problems, things will get done. All you have to do is something. Do anything. To find out how you can help in your community, call 1 (800) 677-5515.



POINTS OF LIGHT  
FOUNDATION

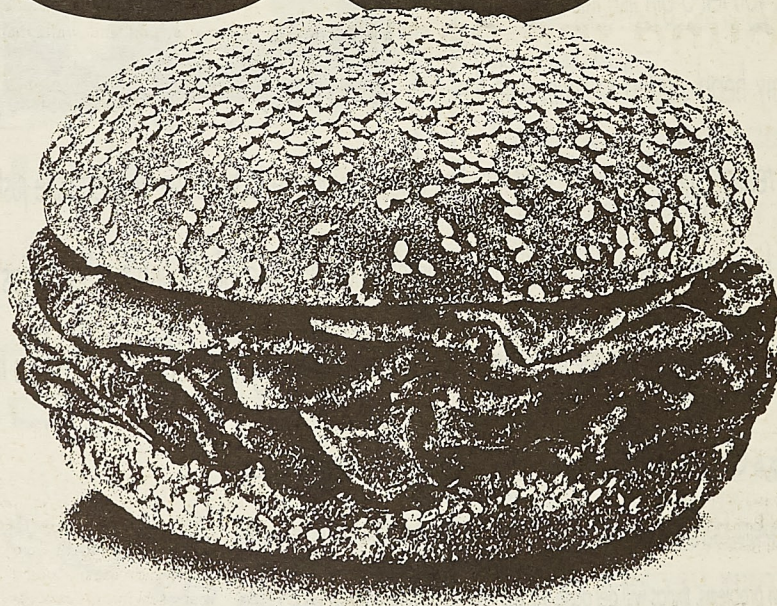


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Regular Roast Beef Sandwich  
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# Features

## St Pat's Board guarantees fun in the sun at Septemberfest

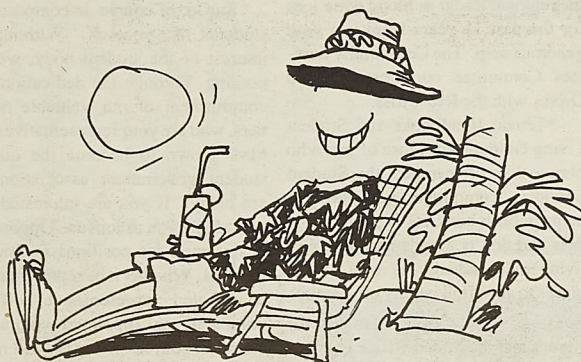
By Shawn Michael  
STAFF WRITER

If you haven't already noticed the excitement of St. Pat's is already in the air. That's right it's time for Septemberfest! The annual half way to St. Pat's party put on by the St. Pat's Board will be held this Saturday at Lions Club Park. It will mark the 187th day 'til St. Pat's '92 and already things are starting to FADE TO GREEN.

This year's party promises to be one of the best ever as there will be a homecoming of sorts. That's right you heard correctly, our old friend B\*\*R is back and has promised to stay and party with us all day. The cups, which are your tickets in the door are on sale now at the Hockey Puck for \$5.00. Not only do the cups get you in but they also entitle you to all the free soda and other beverages you want. So, hurry and get yours because the price at the door is \$6.00.

But the refreshments aren't the only attraction. The SATURN CATS are coming straight from the club scene of St. Louis to provide you with their own brand of Rock -n- Roll. There will also be contest for all. The volleyball nets will be set up and the

aren't you calling your out of town friends and telling them to come down for the best party of the semester right now? And when you put down the phone be sure and buy them all cups so that they don't get left out. Because there are certain mistakes in life you



traditional sexy legs contest is guaranteed to fulfill every school boy's dream.

So what are you waiting for? Why

can make and get away with—like giving an import your real name, but missing Septemberfest is not one of them.

## SUB presents a full line of activities

SUB  
SOURCE

So, you're back for another fine semester of books, beer and boredom. Oh woe, oh woe, what will you do? Another party and more of the same old, same old? What you need is some real entertainment. Hold it, wait! What is this? It's the Student Union Board to the rescue!! SUB, the guys responsible for bringing quality, ecstatic, mind-numbing entertainment to you, the weary, stressed UMR student. SUB is responsible for acts such as REO Speedwagon, hypnotist Jim Wand, international stars such as Mahlahini and the Mahotella Queens, the great Second City Touring Company and comedian Scott Jones. Don't forget that the SUB film series is presenting hit movies every Friday and Saturday, look for the big blue posters!

Things to do? You need to keep active to be entertained?? SUB has the solution: tournaments, tournaments, tournaments. These include triathlon, spades, golf and walleyball! Don't like that answer? How about camping, canoeing, picnicking, and hiking. A complete line of outdoor equipment is available at On the Loose, a tiny rental division of SUB.

OK, OK so what can you do NOW? Brace yourself because September 8-

14 is SUB Week. This is a week where the Student Union Board desperately tries to attract attention by bombarding the campus with activities.

Sunday, Sept. 8 Monopoly tournament, winners could go to Florida! Centennial Hall

Wed. Sept. 11, Campus Showcase. University Center-West.

Thurs., Sept. 12, Vince Andrews Band, contemporary jazz, mixture of Marvin Gaye and Kenny G.

Campus Showcase, University Center-West.

Friday, Sept 13, Holiday Ranch, a sturdy acoustic guitarist and an inspired singer join for some fresh folk music. 7:00 p.m. at the Hockey Puck, (Centennial Hall in case of rain.)

Movies: Pump up the Volume, 7:00 p.m. Heathers, 9:00 p.m., ME 104.

Sat., Sept. 14, Mud Volleyball Tournament, Sign up by Sept. 11, in the SUB Office.

Movies: Pump up the Volume, 7:00 p.m. Heathers, 9:00 p.m., ME 104.

SUB is here for everyone, no matter what you are interested in. As a young philosopher once said, "Uncle Steve, people are all the same, but different." So always keep SUB events in mind because SUB makes life more bearable, and you deserve a break.

## Notes from around the campus

### GDI invites everyone to take part

By Tom Hart  
GDI

GDI would like to invite everyone to our first and meeting of the semester. The meeting is at 7:00 pm on Thursday, September 5 in CE114. The party is immediately afterward at Lions Club Park.

GDI is a social organization for UMR students who are looking for more excitement than the usual UMR routine provides. We have open parties like the one Thursday every two or three weeks with free refreshments for members. GDI participates in intramurals, has a float trip each semester, and publishes the infamous magazine the "St. Pat's Sixty Miner."

We have no pledging, hazing or even attendance requirements. More than anything, GDI is great way to get out, make new friends, and have a good time. There's no commitment so stop by our meeting or party Thursday and check us out. We think you will like what you see.

### Theta Tau Omega to host Summerfest

Theta Tau Omega  
SOURCE

The time has once again come for Theta Tau Omega's annual Summerfest party, this Friday, September 6, at Lion's Club Park from 2:30 to 6:30. The cost will be \$5 per cup in advance

at the Hockey Puck and \$6 at the gate. This will include live music, bus rides to and from Lion's Club Park, and beverages. (Be sure to bring your ID!) Music will be provided by the band "Frontrunner" who will be playing

your favorite classic rock and roll music. Busses will be leaving from the Quad, Fraternity Row and the EE building at 2:30, 3:00, and 3:30. Come on out and end the summer right with some good tunes and cold BEVERAGES.

### Improve speaking skills with Toastmasters

By Kay SCHILLI  
UMR Student Toastmasters

Are you afraid to speak before a group? Do you envy people who are able to express themselves effectively? If so, then the Student University Toastmasters can help you.

Toastmasters is a global organization made up of men and women dedicated to improving their ability to communicate orally and to improving their listening and thinking skills. The student chapter meets every Thursday at 4:45 p.m. in the University Center-East.

Join your fellow students at an Open House on September 12, at 8:00 p.m. at the Phi Kappa Theta fraternity house (707 State Street) and learn how you too can become a dynamic communicator. The event is free and open to the public. For more information call Kay at 341-5987.

## StuCo welcomes all to UMR

STUCO  
SOURCE

Greetings and welcome back to school! Whether you are new in town or returning for another round, the UMR Student Council hopes this year is one of the "best ever" for you. We want to help you enjoy UMR; there are many services that we provide to you as an individual student as well as many services we provide for you as a member of the student body.

Student Council, informally known as StuCo, is a legislative body composed of five officers and approximately 70 representatives from participating organizations. The full assembly meets once every two weeks to discuss "hot" issues on campus, introduce new issues, and pass motions on significant issues. Furthermore, throughout the year special meetings are held to distribute funds to campus organizations, non-varsity sports, and Student Activity Fee Groups. Upwards of 1 million dollars of the Student Activity Fee is distributed by StuCo each year. All our meetings

follow parliamentary procedures to insure no bias or discrimination. In other words, your interests are protected.

However, it's what goes on "behind the scenes" that makes StuCo an effective tool for you. We work hard to provide you with services ranging from free legal consultation (by a certified lawyer) to courtesy telephones to open forums on controversial issues. Most of our work is done through committees. Through these we are able to offer an excellent variety of services:

\* Student Activity Fee Appropriations—more than 1 million dollars is distributed each year through the efforts of the Student Activity Fee Board (a StuCo committee) and the full Council to the designated groups. Some of these groups include KMNR, the Missouri Miner, SUBS, non-varsity sports, and the RollaMO. An open forum is held before these monies are appropriated.

\*Campus Organizations Appropriations—funds are provided every

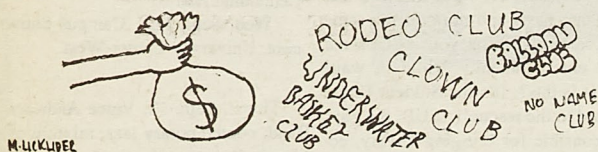


# StuCo offers funds for new clubs

By Ronald Platz  
STUCO

Each year student Council distributes about a sixth of its budget to various clubs in need. This process is called Club Appropriations. The appropriations are used to help start new clubs or restart old clubs which have been inactive for several semesters or

up in the Student Council Office, 202 University Center-West. The applications are due back to Student Council no later than 4:30 Tuesday, 10 September 1991. During the week following receipt of the applications, an individual Student Council member will meet with the officers of each club which applies to make up the budget to be submitted to Student Council. These budgets must be finished by



to help fund special, normally one-time, projects (like hosting a national conference). All Student Council recognized organizations except Student Activity Fee-funded groups are eligible.

The applications for appropriations for Fall '91 funds can be picked

Friday, 20 September. Student Council will be reviewing all requests and voting at the regular meeting on Tuesday, 15 October at 6:30 in McNutt 204. For any questions, contact Ronald Platz, STUCO Campus Organizations Chair, at 341-8632.

semester to any campus organization that demonstrates sufficient need and is willing to use the funds to benefit as much of the UMR student body as possible. Approximately 1/5 of our entire budget supports this use. The Campus Organizations Committee oversees this enormous task.

\*Equipment Funding—organizations needing to make a one-time purchase of expensive equipment are encouraged to seek help through the Student Council External Funding Committee anytime during the year.

\*Blood Drives—UMR has been the regional leader in blood donations for the past 11 years thanks to your generous help. The Community Services Committee coordinates Blood Drives with the Red Cross.

\*Tenant Handbooks and Student Living Guides—for those of you who plan to live off campus, the Student Services Committee publishes or helps publish booklets explaining the do's and don'ts, how's and why's of living independently as well as the places to go to find quality off-campus housing. Copies are available in the library and the StuCo Office.

These are only a sampling of the services offered to you by StuCo. Others include Student Council Free Day (no school) in October to break up the school daze between Labor Day and Thanksgiving, governmental relations at the city and state level with the help of the Associated Students of the University of Missouri (ASUM) to protect your interests, and direct opportunities for you to become involved with administrative decisions through a wide variety of campus-wide committees. WE are committed to representing and serving you as best we can.

StuCo, of course, is composed of students like yourself. Without the interest of the student body, we are nothing. Through the dedication and commitment of our valuable members, who are your representatives, we have grown to become the quality student government association we are today. If you are interested, we would like you to join us. Opportunities abound for positions in Student Council. Whether it be representative, unaffiliated representative, officer, volunteer, or appointed committee member, your involvement will make

a difference. For more information on how to become a part of StuCo, stop by our office. Or keep your eyes open for ads and articles in this newspaper or signs and banners around campus. Or call us. If you're interested, we want you!

So where do you find us? It's easy. Our office is Room 202, located in the University Center-West directly above the Butcher Baker, Ice-cream Maker. We welcome you Monday through Friday 9:00-3:30. Our telephone number is 341-4280. Our campus computer account address is StuCo@umrvma.umn.edu. Stop by and talk to us or drop us a line—we'll listen.

Student Council is the student voice on campus. What does that Mean? Simple. You tell us your problem, and we do our best to find a solution. It's that easy. We have many resources, experienced people, and well established connections with the administration, faculty, staff, and other student groups to assist you. The bottom line is we want to help you resolve your differences. Our voice is your voice—shouldn't you use it?

## Classifieds

### Miscellaneous

Please submit all classifieds on an 8 1/2 by 11 inch piece of paper. They should be placed in the drop box outside of 103A Norwood Hall. The deadline is Thursday, 3:30 p.m. prior to publication.

**Blue Key** is now accepting applications for Fall 1991 pledging. Applicants should be students of good character who have demonstrated leadership capabilities in their extracurricular activities. Applicants must also meet the following membership requirements: 1) 60 completed credit hours 2) Cumulative GPA of 2.75 3) 40 Blue Key leadership points (see applications). Blue Key National Honor Fraternity is an Honorary which not only recognizes campus leaders for their outstanding accomplishments, but is an active organization which serves the UMR campus and Rolla community. The local chapter of Blue Key traditionally has done several projects for UMR such as the Student Directory, Miner of the Month, and the Blue Key Leadership Forum. Applications to pledge Blue Key are available at the Student Activities Office in the University Center West. Return applications no later than 1:00 p.m. on Sept. 9, 1991. If you have any questions, please contact Doug Hancy at 364-9675.

The Men of Alpha Phi Alpha Fraternity, Inc. will be sponsoring their third annual 3-on-3 Basketball Tournament. The tournament will be held September 21st and the 22nd at the UMR Intramural Basketball courts. The tournament will be sponsored by Brown's Pro Motion, located 1203 C Forum Drive. We're asking for everyone over the age of 17 to come out and participate in the fun. The cost is \$10.00 per team and the entries must be in by September 18th. The tournament is for the community as well as the University. Each team should have three players plus an alternate. Entries should be sent to: Alpha Phi Alpha, 600 W. 7th Street, Rolla, MO 65401.

**Student Organizations:** Every student organization has a mailbox in Student Activities, 113 University Center West. Check your mailbox regularly for mail and notices.

**Blue Key Applications** available in Student Activities, 113 University Center West.

**Student Organizations:** Turn in your membership forms as soon as possible. They go to Linda Martin, 218 University Center West.

**Cheerleader Clinics and Tryouts:** September 10, 11, 12th from 5:30 - 7:30 p.m. in Miner Rec Building. We need girls and guys!!

**Are you interested in planning programs on campus? P.E.A.K. Week** (People Encouraging Alcohol Knowledge) held in conjunction with National Collegiate Alcohol Awareness Week is held every October on the UMR Campus. Student input and energy is critical to the success of this series of fun, educational, and entertaining events. Students who are interested in serving on the P.E.A.K. Week Steering Committee should contact Dr. Camille Consolvo, 204 Norwood Hall, 341-4211.

**\*NEEDED\*** members for the Gold Miner Dance Squad here at UMR! Try outs are being held Monday, Sept. 9, through Thursday, Sept. 12, from 7:00 p.m. - 9:00 p.m. in Miner Rec. If you have questions or cannot attend the first session call Cindy at 341-9749.

**WANTED:** used books, particularly science fiction and westerns. Call 364-5446 and ask for Gail. call after 7:00 p.m. Will pay cash.

**Aggressive sorority and/or fraternity member** to sell custom imprinted sportswear on your campus. Set your own hours, earn excellent pay. Please inquire - Prairie Graphic, Lawrence, KS (913) 841-1166. Please ask for John.

**For sale:** Gameblaster for IBM XT/AT. Works fine. \$40. Call 341-3951. Ask for Tim.

### Personals

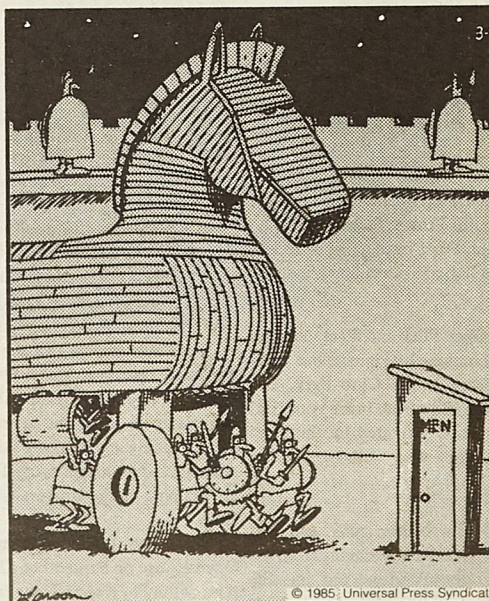
Gerard, Doug, and Norm,

Only one more semester to go. Keep up the Lush House tradition for us!

Lush #1

### THE FAR SIDE

By GARY LARSON



Dan at Sig Tau,

Do you miss her a lot?

Curious

Becky and Paul,

Congratulations! Good luck in grad school!

Lush #1

Becky, Gerard, Doug, Norm, and Paul,

Well there will be no more Lush house parties or dancing on the table, but it was fun while it lasted. We'll miss you.

Bind,

Nice to see you home again. We missed you! Guess Who!

Pat,

Just checking to see if you were checking.

K

Lush #1

Andy,

Remember we love you!

Love in KD

Spring,

We will come over and see you even though you do live out in the middle of nowhere.

J & B

**KD** has the most awesome new pledges! Congratulations Jana, Dawn, Rebecca, Tina, Susan, Chrissy, Leigh Ann, Laura, Cheryl, Julie, and Polly! Your guys are groovy!

Lori,

Are you STILL a freshman!?!?!?

Giggles,

Now that we're living under the same roof, let's party down together sometime!

J

Beth, Andy, Jenny, and Tracy,

Get psyched for next week! I sure am!

Luv Ya,  
Janet

Hey Studmuffin,

100 night was sooo awesome! Can't wait until the next one! I love you!!

Babydoll

Lori and Dawn,

You've been great roomies! Congratulations on graduating and Good luck out in the real world!

Lori,

Where were you until 3:30 a.m. when the party ended at 1:00 a.m. Where do you go at night?

Guess Who!



## collegiate camouflage

D E N Y D R E I R O L A C M W  
E A M A A F T N C N L O F A A  
G N P D N E U K E O E A O R N  
T G I A E O N W N W N M K G T  
O A C R E F I A T G T I U I S  
N C G A M A M T S N L O B L U  
K E W F A T H T U O N U N L R  
D N K N O H R N M L C C H I A  
Y T R E W O P E S R O H S M E  
L U M H M M T E M U W V L R Y  
E R A T C E H P L F A T E E T  
N Y D N R K N O O N T P A R H  
A N C O U L M I F U M A G O G  
F O O M U B Y B L A N F U R I  
T R N O T G N O L G E D E C L

Can you find the hidden units of measure?

ACRE	HORSEPOWER
AMPERE	KILOMETER
ANGSTROM	KNOT
CALORIE	LEAGUE
CENTURY	LIGHT YEAR
COULOMB	LONG TON
CUBIT	LUMEN
DEGREE	MILLIGRAM
DYNE	MINUTE
FARADAY	MONTH
FATHOM	NEWTON
FOOT-POUND	RADIAN
FURLONG	REVOLUTION
HECTARE	WATT

Solution on page 12

J O C A S T A J A C Q U E S  
E J E C T E D A N O U N C E  
T O E H O L D M A T A D O R  
E L S A S G T S  
S P I R I T R E H A S H  
P A G O D A S B A R E T T A  
A R U N R E A L M D E R N  
T V A W H A L A D  
T E N S L E A N S F I N S  
E N A C T E D C O L L E G E  
R U S H I N L A U R E L  
E L I A P O D S  
A V E R T E D E M I T T E R  
B E N Z E N E C O D E O N E  
E X T O R T S K N A R R E D

## CO-OP APPLICANTS

CO-OP APPLICANTS INTERESTED IN INTERVIEWING THIS FALL, 1991 SEMESTER CAN PICK UP THE CO-OP APPLICATIONS IN THE CO-OP OFFICE, 303D NORWOOD HALL.

THE DEADLINE FOR RETURNING THE APPLICATION IS SEPTEMBER 6.

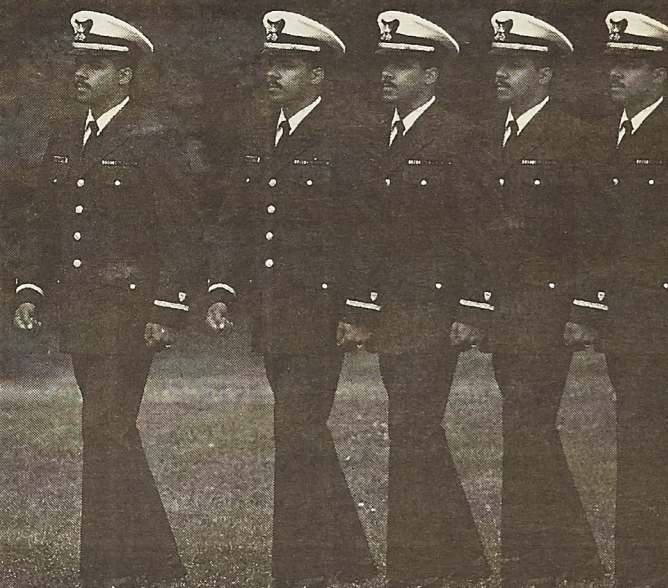
SIGN-UP FOR CO-OP INTERVIEWS START SEPTEMBER 9.

STUDENTS MUST HAVE THE CO-OP APPLICATION AND A TRANSCRIPT ON FILE AT THE CO-OP OFFICE BEFORE SIGN-UPS BEGIN.

THANK YOU.

UMR CO-OP OFFICE

## Would You Follow You?



The U.S. Coast Guard has opportunities and challenges like no other organization in the world. As a Coast Guard Officer, you could find yourself leading a rescue mission, chasing drug smugglers, or enforcing environmental laws. Coast Guard Officer Candidate School can be the start of an exciting new career

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& Coast Guard Reserve**  
Call 1-800-424-8883, Ext. 1112



Please send me information on the Coast Guard Officer Candidate School

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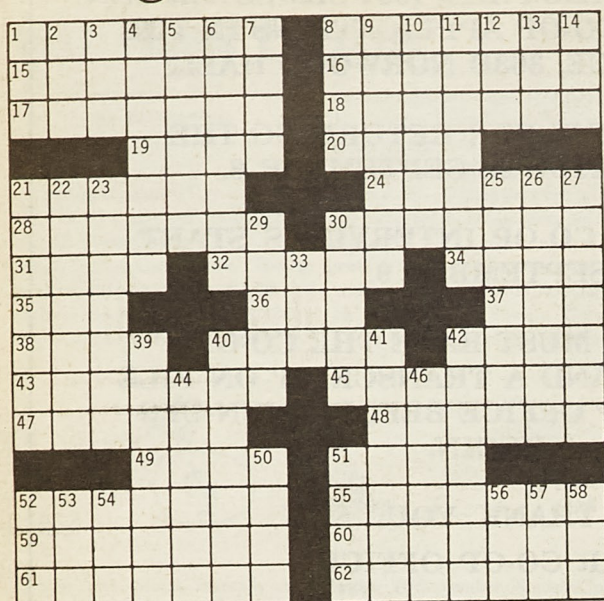
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone ( ) \_\_\_\_\_ Graduation Date \_\_\_\_\_ College Major \_\_\_\_\_

Please mail coupon to: U.S. Coast Guard Information Center, 14180 Dallas Parkway  
6th Floor — Suite 626, Dallas, TX 75240  
Or call: 1-800-424-8883, Ext. 1112



# collegiate crossword

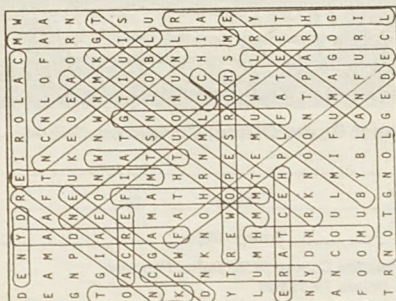


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- |                                    |                           |   |                                   |
|------------------------------------|---------------------------|---|-----------------------------------|
| <b>ACROSS</b>                      |                           | 45 Old TV show, "G.E. Bowl"               | 12 Sturm — drang                  |
| 1 Oedipus's mother and wife        | 47 What fools do (2 wds.) | 48 Stage name of Arthur Stanley Jefferson | 13 Keynesian reading, for short   |
| 8 Actor Bergerac                   | 49 Kazan of movies        | 51 Body snatchers of film                 | 21 Frying pan mishap              |
| 15 Jettisoned                      | 52 Steered clear of       | 55 CB radio, for one                      | 22 Upstart                        |
| 16 "— of prevention..."            | 59 C6H6                   | 60 Police alert (2 wds.)                  | 23 Five-foot lizards              |
| 17 Wrestling maneuver (2 wds.)     | 61 Obtains by threat      | 62 Full of knots                          | 25 Artist's studio                |
| 18 Manolete was one                |                           |   | 26 Word associated with Ripley    |
| 19 Lanchester of film              |                           |   | 27 Good-wishes gift               |
| 20 Preston and York (abbr.)        |                           |   | 29 Stitched                       |
| 21 Word in name of Lindy's plane   |                           |   | 30 Mel or Mont                    |
| 24 Belabor the point               |                           |   | 33 "So there!"                    |
| 28 Far East temples                |                           |   | 39 Light, playful musical passage |
| 30 TV cop                          |                           |   | 40 Rod-sparing                    |
| 31 — for one's money               |                           |   | 41 Tennis pro                     |
| 32 Sphere of influence             |                           |   | 42 Disconcert                     |
| 34 Actor Bruce —                   |                           |   | 44 Venetian blind attachment      |
| 35 Tennessee power complex (abbr.) |                           |   | 46 Foppish                        |
| 36 Defunct sports league (abbr.)   |                           |   | 50 Lemon, lime, and orange        |
| 37 Dog in 1962 movie title         |                           |   | 51 "—'s Bad Boy"                  |
| 38 Wallet inventory                |                           |   | 52 Honest man                     |
| 40 Emulates the Tower of Pisa      |                           |   | 53 Annoy                          |
| 42 Flippers                        |                           |   | 54 Suffix for differ or defer     |
| 43 Made laws                       |                           |   | 56 Rocky hill                     |
|                                    |                           |   | 57 Compass point                  |
|                                    |                           |   | 58 Famous Barber                  |

## DOWN

Solution on page 11



# Lee's Famous Recipe COUNTRY CHICKEN



1550 Missouri Boulevard  
Jefferson City, Missouri 65109  
(314) 635-1603

1902 North Bishop  
Rolla, Missouri 65401  
(314) 364-9330

**WE WELCOME UMR  
STUDENTS AND STAFF**

**WE WANT TO SERVE YOU  
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\*catering available

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When you present your  
student I.D.  
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**STAGE  
ONE**

the hair school

Financial Aid available to  
those who qualify.

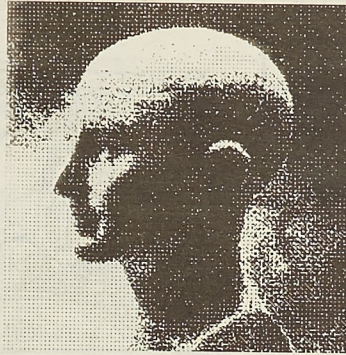
**Haircuts Only \$3.50**

**Phone 364-1383**

1304 N. Pine All work done by Student s

## CHEMISTRY STUDENT FINDS MISSING LINK

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**Pocket Professional™  
SOFTWARE FOR THE  
HP 48SX**

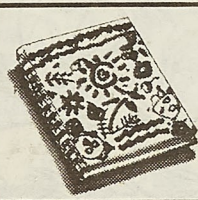
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General Chemistry  
Electrical Engineering  
Mechanical Engineering  
Personal Information Manager

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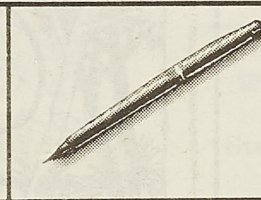
# RUSH, RUSH, RUSH. SAVE, SAVE, SAVE.



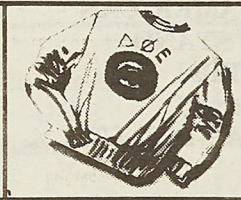
**Ceramic Coffee Mug**  
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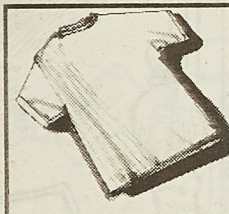
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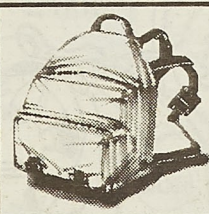
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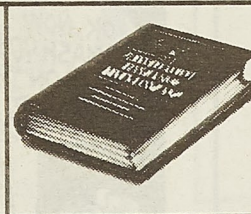
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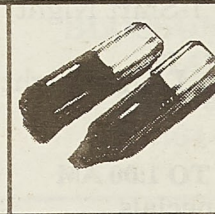
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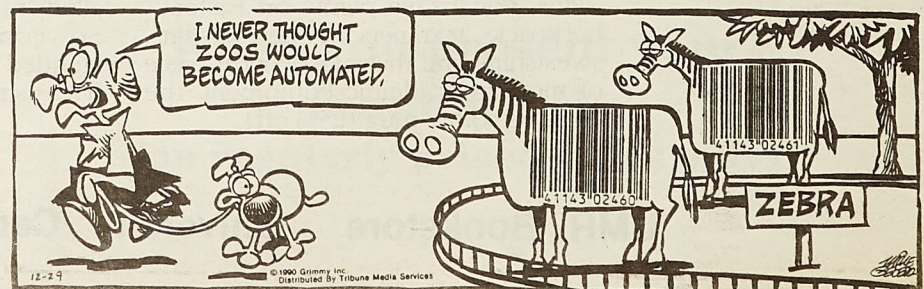
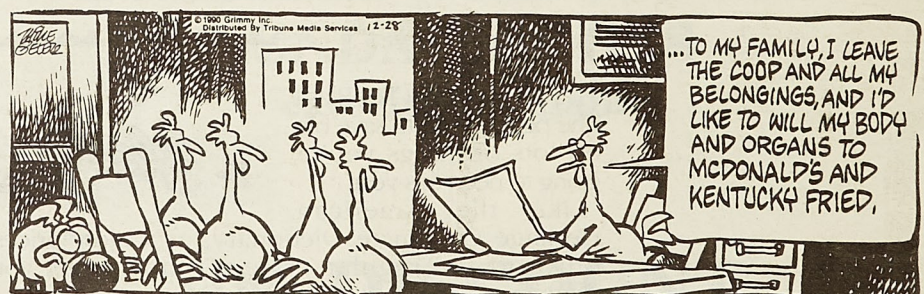
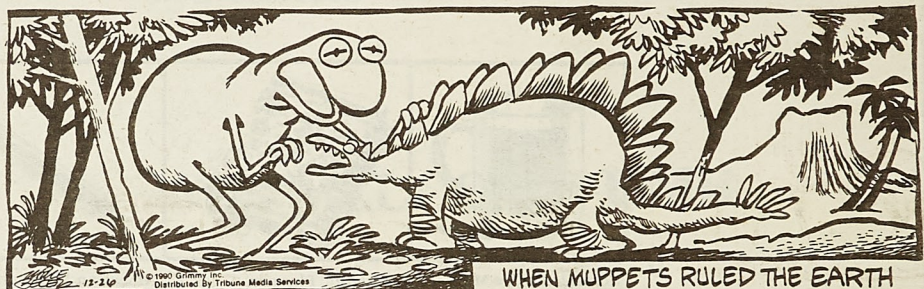
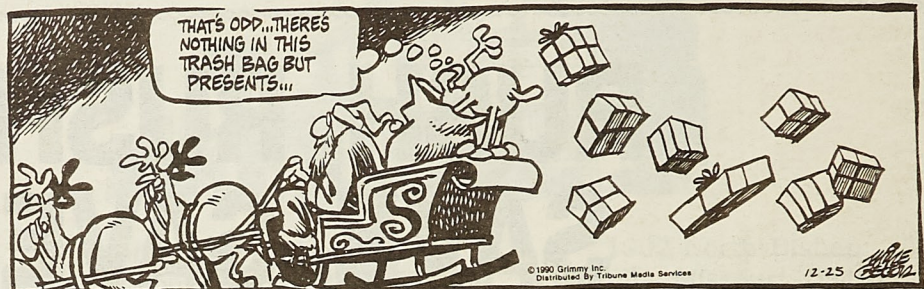
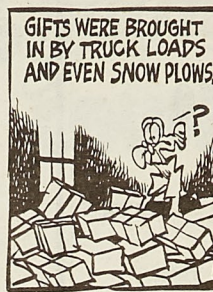
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#### RESUME WRITING

Tuesday, September 10 6:30-7:30 pm; 209 Norwood Hall  
Facilitator: Dr. Sam Burton

#### STUDY SKILLS

Thursday, September 12 3:30-4:30 pm; 208 Norwood Hall  
Facilitator: Dr. Gene Van Matre

#### ASSERTIVENESS TRAINING

Beginning Thursday, October 24 3:00-4:30 pm;  
Location to be announced, Enrollment is limited!  
Facilitators: Dr. Carl Burns & Ms. Sandra Terry  
Preregister between Aug. 26 & Oct. 17.  
Participants must attend all 5 sessions.

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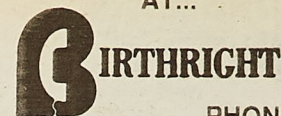
## Commando War Games

- \* Same Action
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Representatives from Marathon Oil Company, Marathon Petroleum Company, and Marathon Pipe Line Company will be on campus Monday, September 18, 1989, to present an Informational Meeting to all interested University of Missouri-Rolla students. The meeting will be held at 7 p.m. in Centennial Hall East, and will include an overview of Marathon as well as presentations by Engineers from the Produc-



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tion, Refining and Pipe Line components. Refreshments will also be served. All students, as well as faculty, are invited to attend this meeting, in particular those students enrolled in the Chemical, Civil, Electrical, Mechanical and Petroleum Engineering disciplines who would like to interview for Summer and Regular Engineering positions. Marathon will return to campus for interviews on the following dates:

Marathon Pipe Line Company Oct. 8-9, 1991

Marathon Oil Company (Refining) Oct. 8-10, 1991

Marathon Oil Company (Production) Nov. 5-6, 1991

We hope to see you there!

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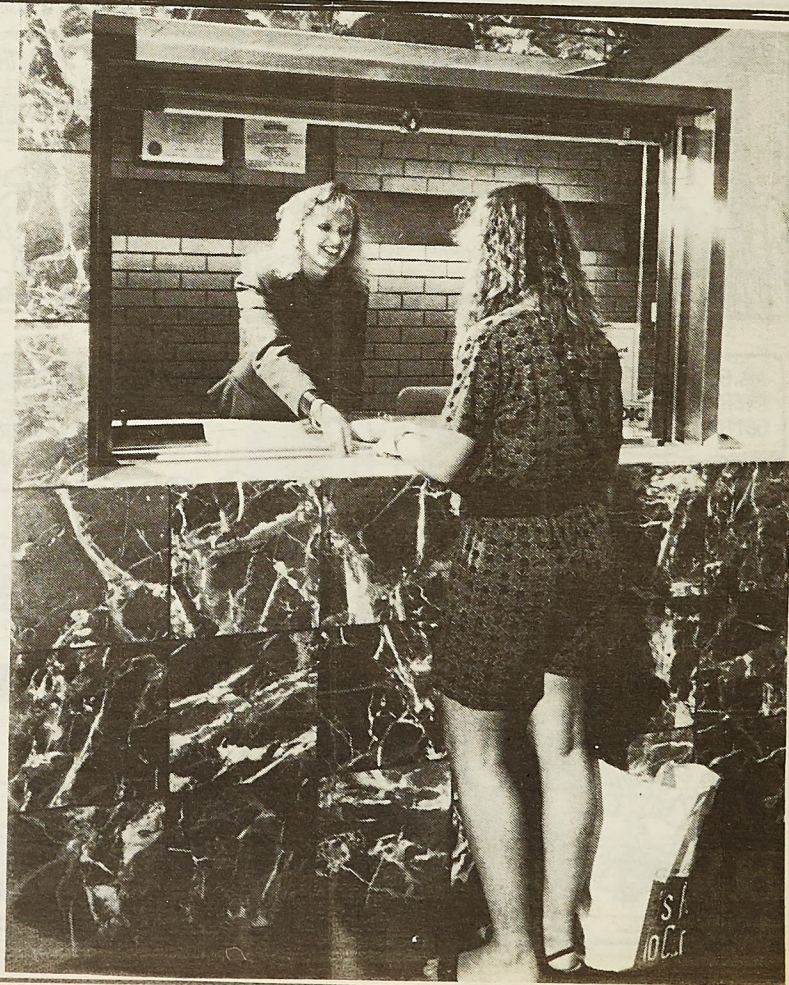
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# Sports

## Miners end 19 game losing streak Miners capture the victory on Saturday against Michigan Tech

By Christopher Goo  
STAFF WRITER

The Miners snapped the nation's second longest losing streak in NCAA football with a win over the Michigan Tech Huskies Saturday afternoon. 750 fans showed up to see a thrilling 24-21 come-from-behind victory.

The Miners jumped on the scoreboard first, with an impressive 70 yard drive, capped by a 37 yard run by Carlos Cain. Eivind Listerud added the extra point and the Miners had a 7-0 lead less than three minutes into the game. Michigan Tech fought back with two impressive drives of their own to take a 14-7 lead. Jeremy Monroe had a 32 yard run and "Super" Dave Osborne caught an 11 yard touchdown pass. (Chris Berman-watch out!).

UMR came right back with another effective drive as they chewed up over 7 1/2 minutes on 14 plays, which culminated with a 35 yard field goal

by Listerud. The half ended with the Huskies leading 14-10. Cain and Monroe led the two team's offenses at the half with 108 and 78 rushing yards respectively. The Huskies received the second half kickoff and traded possessions with UMR, as the defenses made a strong showing. The game was in a lull, when Monroe broke a 51 yard run to give the Huskies a 21-10 lead, but the collar was a little too tight around the Huskies neck, as C-H-O-K-E time began.

The Miners calmly drove the ball down the field and scored on a 1 yard run by Cain. UMR tried the on-side kick, but failed. The Huskies took over on the UMR 47 and got down to the Miner 25 when the UMR defense stripped Monroe of the football and Pat Risner recovered on their own 13. And so the drive began.....

In this writer's opinion, the biggest play of the game occurred next when Miner quarterback Mike Wise heaved the bomb to Chris Alverson, who made a remarkable one handed catch that would make any NFL high-

light film. Later, Alverson said "I just tried to tip the ball up until I got full control." This reception brought the ball from the Miner 12 to the Husky 41. It allowed the Miners to mix up their offense a bit, as Cain made two more runs for 26 more yards. The Miners showed a lot of heart as a questionable clipping penalty produced a 2nd and 30 from the Huskies 35. A 19 yard reception by Alverson, and a clutch 4th down 7 yard pass to Rob Noble put the ball on the Husky 1 yard line. Two plays later Wise squeezed his body over the goal line. An excellent call by the Miner brain-trust produced a two point conversion off a fake extra point, giving the Miners a 24-21 lead with 42 seconds left. These two points turned out to be crucial as the Huskies drove down to the Miner 12 yard line; but with 5 seconds left, the Huskies went for the touchdown. Their attempt fell short, as cornerback Matt Henry knocked away the pass in the endzone.

Coach Charles Finley received career win number 97. Finley stated,

"The key to a winning season this year is attitude and staying away from injuries."

Well the Miners showed plenty of courage as six projected starters were unable to play including: Rick Henry (top rusher last year), All-MIAA free-safety Mark Diamond, Brett Goodman, Chris Long, Doug Fulton, and Ted Button. When these players start returning the team can only get better.

The entire Miner football team should be admired for their performance, but a few players really stood out: Carlos Cain rushed 23 times for 143 yards and two touchdowns, Mike Wise rushed for 62 and passed for 162 yards, and Chris Alverson had 5 receptions for 101 yards. The defense was led by Mike Swinford (9 tackles), Don Huff (13 tackles, 2 passes broken up), and Chad Hamilton (10 tackles, 1 fumble recovery). And let's not leave out the entire offensive line which allowed the Miners 261 yards rushing, and more than adequate protection for Wise.

The 19 game losing streak is over, the Miners' next game is against Iowa Wesleyan, there. Their next home game is Sept 21 against Northwest Missouri State.

**Score by Quarters**

	1	2	3	4	Total
Michigan Tech	7	7	0	7	21
Missouri-Rolla	7	7	0	14	24

**First Quarter:**

UMR-Carlos Cain 37 yd run Eivind Listerud kick) 12:36

MTU-Jeremy Monroe 32 yd run (Andy Crankshaw kick) 4:29

**Second Quarter**

MTU-David Osborne 11 yd pass from Kurt (Crankshawkick) 11:38

UMR-Listerud 35 yd FG 3:39

**Third Quarter**

No Scoring

**Fourth Quarter**

MTU-Monroe 51 yd run (Crankshaw kick) 8:54

UMR-Cain 1 yd run (pass failed) 4:10

UMR-Mike Wise 1 yd run (Cain runs for 2) 0:42

UMR 1-0, MTU 0-1

## Squiggy's top ten picks

By Squiggy  
STAFF WRITER

Every year there are over 100 national and local news publications that put together their picks in college football. Well why should the Rolla Miner be any different? All of the writers put down where, why and how the national championship will be won. Every year hardly anyone was right, but it is fun to look at the teams and match up who is going to win over the course of the next five months.

I'm no different than any other sportswriter except I love an underdog and my name is Squiggy. Each week I am going to go over the big games and rearrange a top ten list that will preview in this article. I will also have a few picks for the Heisman Trophy. I'm going to do my best at giving the information on the 1991 college football season.

### Squiggy's Top Ten

1. Michigan
2. Florida State
3. Miami
4. Notre Dame
5. Houston
6. Penn State
7. Washington
8. Georgia Tech
9. Colorado
10. Oklahoma

Any of those teams has a chance at the National title, but who will rise to the occasion is hard to tell.

1. Michigan - Every year the same thing happens to this great program. Last year they were three plays away from a national title. The fourth quarter interception against Notre Dame, one poor call against Michigan State, and a last minute loss to arch rival Iowa. The team is led by star quarterback Elvis Grbac and a monstrous offensive line. The talent is here and the experience is here, but the key to the title lives in two early games against Notre Dame and Florida State. If Michigan wins those games there should be no stopping them.

2. Florida State - Always a contender, but never a champion. This may be Bobby Bowden's last chance at title for a while with 16 returning starters in 1991. This team has all the talent and all the ability to win. The key for this team is to avoid early defeats that have killed their chances over the last three years.

3. Miami - This team breeds quarterbacks. The next in line after the likes of Testaverde, Walsh, and Erickson is Gino Torretta who performed beautifully while Erickson was injured last year. Miami has Stephen McGuire at runningback and as usual explosive receivers.

4. Notre Dame - Everyone feels this team is rebuilding. I have news for everyone, the Irish don't rebuild they reload. The big key for the Irish is whether they have fully recovered from the emotional loss of Todd Lyght, Chris Zorich, and Michael

Stonebreaker. The offense will be led by Rick Mirer who showed signs of greatness last season. The defense will be solid with George Williams anchoring it. If you think they lost big when losing Raghib Ismail, watch out for the freshman Willie Clark; his 40 yard dash times are consistently faster than Ismail's. This team should be as good as the 1988 team when they snuck away with the title.

5. Houston - the run and shoot with David Klingler will fall short of the title but get Klingler the Heisman trophy. This team is capable, but the Cougars will lose to Texas or Texas A and M. Those teams have the key to beating the offense.

6. Penn State - When Lou Paterno and Tony Sacca pulled out a win over Notre Dame last year, they put themselves back on the map of teams to beat. Sacca and his returning offensive cast should raise more than a few eyebrows this season.

7. Washington - The Huskies are going to blow away the Pac-10 but only because UCLA is a year away and USC lost QB Todd Marinovich. With the flashy conference and their power defense will make people cringe in their seats.

8. Georgia Tech - Shawn Jones is one of the best multipurpose QB's on the market. Ken Swilling will remind you of Ronnie Lott. With supporting cast surrounding these two the Yellow Jackets if they can beat Penn State

See Top Ten, page18

## Cardinals season wrap up

By Jim Beard  
STAFF WRITER

As a Kansas City native, I must admit I was more than pleased in the first months of 1991 to sit by and watch the "housecleaning" of Dal Maxvill that many sportswriters felt would make the St. Louis Cardinals a shoe-in for the cellar of the National League East. The loss of veterans Vince Coleman, Terry Pendleton, and left-handed pitcher Ken Dayley to free agency left the Cardinals looking bare. To make matters worse, the trade of batting champion and All-Star centerfielder Will McGee late last season left many St. Louisans feeling blue—Royal Blue that is. The move of rookie catcher Todd Zeile to thirdbase left many people wondering if the Cardinals were making an attempt to finish last.

Then, strange things began to happen. Replacement catcher Tom Pagnotti accidentally led all hitters in spring training when he hit a 556 chp. Rookie centerfielder Ray Lankford and acquisition Felix Jose, began to shore up last season's defensive woes.

The Cardinals began the season playing .500 ball. This, then was viewed as an incredible overachievement for a club of this caliber. By winning an early season series against the Chicago Cubs, a team then picked to run away with the division, began to open some peoples eyes—but not

many. Then, it happened. The single thing in my eyes, that set the tone for the 1991 Cardinals. In the 10th inning of a tied ballgame with Ray Lankford on second base, Gerald Perry hit a groundball to first base, Ray Lankford ran through a stop sign at third base and forced a throw, and consequently, a collision at the plate. When the dust cleared, and the ball was jarred loose, the Cardinals had won their first of many late inning come-from-behind victories.

After this game, things began to happen. The Cardinals bullpen, a mandatory strong point for a come-from-behind team began to solidify, to put it lightly. Lee Smith, this season's definition of the team closer, began to pitch powerfully. The entire team began to mesh and the Cards went on a tear. It is only now that the sports "authorities" are taking notice of the surprising Redbirds.

Upon inspection, one will find that everything about this team adheres to their come-from-behind style. Manager, Joe Torre, fired by New York and Atlanta for being a spectator's manager, has worked wonders for St. Louis. His "wait and see what happens" style is perfect for the way his players play. The fiery young players and their never-say-die attitudes are perfect for the way their manager manages. A late season surge to come-from-behind and win their division would be typical of this season's Cardinals

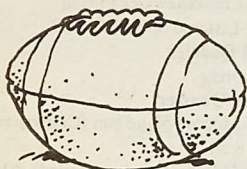


## Top Ten from page 17

and Clemson they could make it two in a row.

9. Colorado - The Buffalo's may not have Darian Hagen, if they do, he is one man wrecking crew. The defense lost McGee, Williams and the offense lost Bieniemy. This team is still potent, but needs some more help.

10. Oklahoma - If any team can come off probation and win the title it's Oklahoma. Cale Bundy will open the stingbig eight run offense with more passes like the long ones that beat Nebraska. If they can beat Texas and Colorado the Orangebowl could put the Sooners on top of it all. Teams to watch are Ohio State, Tennessee, USC, Michigan State, Iowa, Alabama, and California.



## Intramurals, '91 Sum up.

By Craig Rackers  
INTRAMURAL SECRETARY

The Intramural Officers and Intramural Director, Rob Holder, would like to welcome all students back to UMR. Congratulations to our new officers for the 1991-92 school year:

President:	Todd Sweeney
Vice President:	Mike Day
Treasurer:	Emile Saulet
Corresponding Secretary:	Craig Rackers
Secretary:	Mike Hubas

We have added two new sports to our itinerary this year. One of them is weightlifting, which will be for points that count toward overall Intramural Championship. The other new sport will be a bike fest. This will be a trial sport consisting of a 25 mile bike around the Rolla area. We will decide whether or not to continue this sport after this year based on participation. Both of these sports will be held during the spring semester.

Congratulations are in order for last year's top 5 Intramural point getters. It was a tight race for first place right up to the end!

First	Pi Kappa Alpha
Second	Phi Kappa Theta
Third	Sigma Pi
Fourth	Sigma Nu
Fifth	Sigma Phi Epsilon

Intramural football started on Tuesday, Sept. 3rd. Anyone who is playing should make sure they read the rulebook. A few new rules have been added. Golf competition will be held at the UMR Golf course Saturday and Sunday, September 7 and 8. Everyone is invited to come out and watch the competition.

Intramural managers, our next

meeting will be Sept. 11 and your tennis entries will be due. You can pick up an entry form at the Intramural Office in the Multipurpose Building or at the meeting. The tennis tournament will be held September 13-15. Anyone interested in intramurals or wants to know what's going on can check our Intramural bulletin board at the Multipurpose building or call Rob Holder at 341-4106. Good luck to all teams participating in intramurals this 1991-92 school year!

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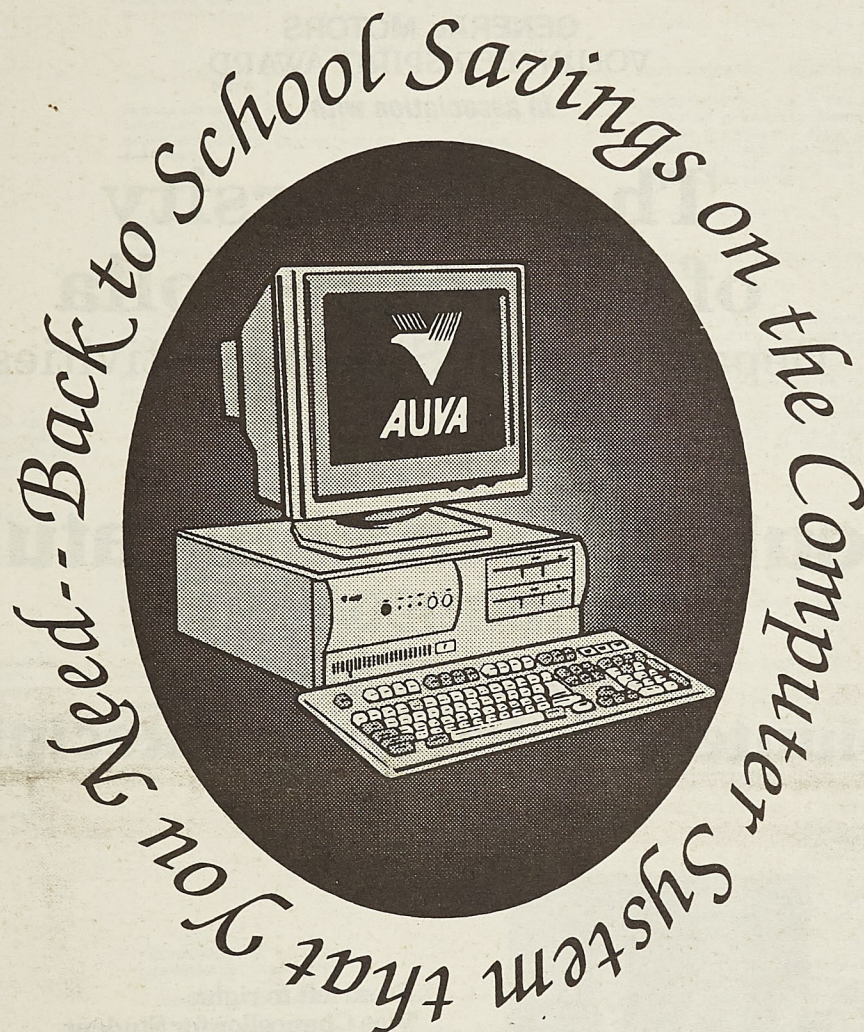
Waffle	1/4 lb. Hamburger
Eggs	1/4 ob. Cheeseburger
Bacon	Bacon 1/4 lb. Cheeseburger
Sausage	Bacon, Lettuce & Tomato
Grits	Bacon & Egg Sandwich
Hashbrowns	Grilled Cheese Sandwich
Egg Sandwich	Sausage & Egg Sandwich
Plain Omelet	Tossed Salad
Cheese Omelet	Vegetable Beef Soup
Scuttlebutt	Toast

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Sarah Blunt, Rick Stoneking,  
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# Co-op Placement

## September, 1991 Sign-ups

### CO-OP EMPLOYMENT OPPORTUNITIES

Sign-up location: 303D Norwood Hall  
Co-op Office

Sign-up hours: 7:45 am - 11:00 am  
1:00 pm - 3:00 pm  
Monday - Friday

Closed for lunch 11:45 am - 12:45 pm  
Next list (October) will be out Fri.  
September 20.

\*\*\*\*\*

MARK ANDY COMPANY  
Chesterfield, Missouri

Interviewing: M.E.

Requirements: 2.5 GPA or above.

start work spring 92

Turn in resumes: Monday, Sept. 9, 1991

RESUMES ONLY. IF YOU WOULD LIKE TO BE CON-  
SIDERED FOR CO-OP EMPLOYMENT WITH THE ABOVE  
COMPANY, PLEASE TURN IN A COPY OF YOUR CO-OP  
RESUME TO THE CO-OP OFFICE ON THE ABOVE DATE.

\*\*\*\*\*

Interview date: Monday, Sept. 23, 1991

AFFINITEC CORPORATION  
St. Louis, Missouri

Interviewing: C.Sc.

Requirements: 3.0 GPA or above. Academic  
level of applicants: at least 30 credit  
hours completed at the end of the present  
semester. Citizenship requirements:  
naturalized or foreign national who has  
completed citizenship process.

Sign-up date: Monday, Sept. 9, 1991

1 schedule - 11 interview openings  
\*\*\*\*\*

### CO-OP EMPLOYMENT

SIGN-UP FOR ALUMINUM COMPANY OF AMERICA, CO-OP  
INTERVIEWS

TURN IN RESUMES: Monday, Sept. 16, 1991

WHERE: 303D Norwood Hall, Co-op Office

TIME: 7:45 am - 11:00 am - 1:00 pm - 3:00 pm

INTERVIEWING: M.E.

REQUIREMENTS: 2.4 gpa or above, American Citizen-  
ship required. Academic level of applicants: at  
least 29 credit hours completed at the end of the  
present semester toward bs degree.

start work summer 92

THE ACTUAL INTERVIEW DATE WILL BE TUESDAY, OCTOBER  
8, 1991.

Aluminum Company of American (ALCOA) of Davenport,  
Iowa has requested that we furnish them with  
resumes for pre-screening. We will accept as many  
CO-OP resumes as we can collect. Just drop off a  
copy of your CO-OP resume on the above sign-up  
date. After pre-screening, ALCOA will send the  
Co-op Office a list of those students they are  
interested in interviewing. The list should be  
posted in the UMR Co-op Office by Friday, Sept. 27.  
Check with the Co-op Office no later than Sept. 27.

Interview date: Tuesday, Sept. 24, 1991

MONSANTO COMPANY

Work Locations: St. Louis, MO., Chicago, IL.,  
Cincinnati, OH, New Orleans, LA.,  
Marshalltown, Iowa

Interviewing: C.SC., E.E.

Requirements: 3.0 GPA or above. Academic  
level of applicants: at least 59 credit  
hours completed at the end of the present  
semester.

Start work spring 92

Sign-up date: Tuesday, Sept. 10, 1991

One hour interviews

2 schedules - 12 interview openings

Monsanto will have an informational meeting -  
Monday, Sept 23 from 6:00 pm - 7:00 pm in  
Norwood Hall, 3rd Floor student waiting  
area. All students interviewing with Monsanto  
must attend and bring completed Monsanto  
application (pick up on sign-up date)

\*\*\*\*\*

Interview date: Tuesday, Sept. 24, 1991

BEKAERT DYERSBURG STEEL CORD CO.  
Dyersburg, Tennessee

Interviewing: E.E., Mgmt., M.E., Met.E.

Requirements: 2.5 GPA or above. US Citizenship  
preferred. Academic level of applicants: at  
least 30 credit hours completed at the end of  
the present semester.

start work spring 92

Sign-up date: Tuesday, Sept. 10, 1991

1 schedule - 13 interview openings

\*\*\*\*\*

COMMONWEALTH ALUMINUM  
Lewispport, Kentucky

Interviewing: C.Sc., Eng.Mgmt., Met.E.

Requirements: 3.0 GPA or above. Academic  
level of applicants: at least 30 credit  
hours completed at the end of the present  
semester.

start work spring 92

Turn in resumes: Mon., Sept. 30, 1991

RESUMES ONLY. IF YOU WOULD LIKE TO BE  
CONSIDERED FOR CO-OP EMPLOYMENT WITH THE ABOVE  
COMPANY, PLEASE TURN IN A COPY OF YOUR CO-OP  
RESUME TO THE CO-OP OFFICE ON THE ABOVE DATE.

\*\*\*\*\*

### SIGN-UP FOR KIMBERLY CLARK CO-OP INTERVIEWS

TURN IN RESUMES: Friday, Sept. 20, 1991

WHERE: 303D Norwood Hall, Co-op Office

TIMES: 7:45AM - 11:00 AM, 1:00 PM - 3:00 PM

INTERVIEWING: Ch.E., M.E.

REQUIREMENTS: 2.8 GPA or above. Applicants  
must be presently authorized to work in the  
US on a regular, full-time basis.  
Academic level of applicants: at least 30-59  
credit hours completed at the end of the  
present semester.

start work spring 92

THE ACTUAL INTERVIEW DATE WILL BE THURSDAY,  
OCTOBER 10.

Kimberly Clark, Conway, Arkansas has requested  
that we furnish them with resumes for  
pre-screening. We will accept as many Co-op  
resumes as we can collect. Just drop off a copy of  
your Co-op resume on the above sign-up date. After  
pre-screening, Kimberly Clark will send the Co-op  
Office a list of students they are interested in  
interviewing. The list should be available at the  
Co-op Office by Monday, Sept. 30. Please check with  
the Co-op Office no later than Sept. 30.

### SIGN-UP FOR SUNRISE/IAD CO-OP INTERVIEWS

TURN IN RESUMES: Tuesday, Sept. 17, 1991

WHERE: 303D Norwood, Co-op Office

TIMES: 7:45 am - 11:00 am - 1:00 pm - 3:00pm

INTERVIEWING: E.E., Eng.Mgmt., M.E.

REQUIREMENTS: 3.1 GPA or above, American Citizenship required  
Must have 45 credit hours completed at the end  
of the present semester toward bs degree  
Starting work date: Jan. 1992

THE ACTUAL INTERVIEW DATE WILL BE TUESDAY, OCTOBER 1, 1991

Sunrise/IAD, Shawnee Mission, KS has requested that we fur-  
nish them with resumes for pre-screening. We will accept as  
many Co-op resumes as we can collect. Just drop off a copy  
of your Co-op resume on the above sign-up date. After pre-  
screening, Sunrise will send the Co-op Office a list of those  
students they are interested in interviewing. The list  
should be available at the Co-op Office by Wed., Sept. 25.  
Check with the Co-op Office no later than Sept. 25.

Interview date: Tues., Oct. 8, 1991

HUSSMANN CORPORATION  
Bridgeton, MO (suburb of St. Louis)

Interviewing: M.E.

Requirements: 3.0 GPA or above. Valid  
work permit required if non US citizen.  
Academic level of applicants: at least  
30 credit hours completed at the end of  
the present semester.

start work spring 92

Sign-up date: Monday, Sept. 23, 1991

1 schedule - 12 interview openings

\*\*\*\*\*



Interview date: Monday, Sept. 30, 1991

BROWN SHOE COMPANY  
Work Locations: Steelville, MO., Union, MO.,  
Piedmont, MO., Caruthersville, MO

Interviewing: M.E., Eng.Mgmt.

Requirements: 2.0 GPA or above. Academic level  
of applicants: at least 50 credit hours completed  
at the end of the present semester.

start work spring 92

Sign-up date: Monday, Sept. 16, 1991

1 schedule - 13 interview openings

\*\*\*\*\*

Interview date: Tuesday, Oct. 1, 1991

MOOG AUTOMOTIVE  
St. Louis, Missouri

Interviewing: Met.E.

Requirements: 2.0 GPA or above. US  
Citizenship. Academic level of applicants:  
at least 29 credit hours completed at  
the end of the present semester.

start work spring 92

Sign-up date: Tuesday, Sept. 17, 1991

1 schedule - 10 interview openings

\*\*\*\*\*

Interview date: Wed., Oct. 9, 1991

UNION ELECTRIC COMPANY  
St. Louis, Missouri

Interviewing: C.E., M.E., E.E., Nuc., Ch.E.  
Eng.Mgmt.

Requirements: 2.5 GPA or above. Must be  
legally eligible to work in US. Academic  
level of applicants: at least 70 credit  
hours completed at the end of the present  
semester and must be taking or have already  
completed some of the 1st semester junior  
level courses.

Sign-up date: Wed., Sept. 25, 1991

2 schedules - 26 interview openings

\*\*\*\*\*

R.R. DONNELLEY AND SONS CO.  
Lisle, Illinois

Interviewing: Ch.E., C.Sc., E.E., M.E.

Requirements: 3.0 GPA or above. US  
Citizenship or permanent visa. Academic  
level of applicants: 30-59 credit hours  
completed at the end of the present  
semester.

start work spring 92

Turn in resumes: Wed., Sept. 25, 1991

RESUMES ONLY. IF YOU WOULD LIKE TO BE  
CONSIDERED FOR CO-OP EMPLOYMENT WITH THE  
ABOVE COMPANY, PLEASE TURN IN A COPY OF  
YOUR CO-OP RESUME TO THE CO-OP OFFICE ON  
THE ABOVE DATE.

\*\*\*\*\*

Interview date: Tuesday, Sept. 24, 1991

GENERAL ELECTRIC  
St. Louis, Missouri

Interviewing: E.E., M.E.

Requirements: 3.0 GPA or above. Prefer  
US Citizenship. Academic level of applicants:  
at least 30-59 credit hours completed at the  
end of the present semester.

start work spring 92

Sign-up date: Tues., Sept. 10, 1991

1 schedule - 10 interview openings

\*\*\*\*\*

Interview date: Wed., Sept. 25, 1991

CENTRAL INTELLIGENCE AGENCY (CIA)  
Washington, DC

Interviewing: E.E., C.Sc., M.E.

Requirements: 3.0 GPA or above. American  
Citizenship required. Academic level of  
applicants: at least 45 credit hours  
completed at the end of the present  
semester.

Sign-up date: Wed., Sept. 11, 1991

1 schedule - 12 interview openings

\*\*\*\*\*

Interview date: Tues., Oct. 8, 1991

LITTON INDUSTRIES  
Springfield, Missouri

Interviewing: Ch.E., M.E.

Requirements: 2.0 GPA or above.

start work spring 92

Sign-up date: Tues., Sept. 24, 1991

1 schedule - 10 interview openings

\*\*\*\*\*

#### PLEASE POST

#### SPECIAL NOTICE - PRESCREENING

#### SIGN-UP FOR INLAND STEEL CO-OP INTERVIEWS

TURN IN RESUMES: Wed., Sept. 11, 1991

WHERE: Co-op Office, 303D Norwood Hall

TIMES: 7:45 am - 11:00 am - 1:00 pm - 3:00 pm

INTERVIEWING: M.E., Met., E.E.

REQUIREMENTS: 2.4 or above, sophomores or  
juniors. must be able to work 3 work sessions

THE ACTUAL INTERVIEW DATE WILL BE WEDNESDAY,  
SEPTEMBER 25, 1991

Inland Steel of E. Chicago, Indiana (Chicago, IL)  
has requested that we furnish them with resumes  
for pre-screening. We will accept as many Co-op  
resumes as we can collect. Just drop off a  
copy of your Co-op resume on the above turn in  
date. After pre-screening, Inland Steel will  
send the Co-op Office a list of those students they  
are interested in interviewing. The list should be  
posted in the UMR Co-op Office by Sept 19. Check  
with the Co-op Office no later than Sept. 19.

#### SIGN-UP FOR ILLINOIS DEPARTMENT OF TRANSPORTATION

TURN IN RESUMES: Friday, September 13, 1991

WHERE: 303 D Norwood Hall, Co-op Office

TIMES: 7:45 am - 11:00 am - 1:00 pm - 3:00 pm

INTERVIEWING: C.E.

REQUIREMENTS: 2.4 GPA or above. US Citizenship  
or work permit required. Academic level of  
applicants: at least 60 credit hours completed  
at the end of the present semester.

start work spring 92, summer 92, or fall 92

Job Description available at the Co-op Office

THE ACTUAL INTERVIEW DATE WILL BE WEDNESDAY, OCTOBER 2,  
1991.

Illinois Department of Transportation, Springfield,  
Illinois, has requested that we furnish them with  
resumes for pre-screening. We will accept as many  
Co-op resumes as we can collect. Just drop off a  
copy of your Co-op resume on the above sign-up  
date. After pre-screening, the Ill. Dept. of Transp.  
will send the Co-op Office a list of those students  
they are interested in interviewing. The list  
should be available at the Co-op Office by Monday,  
Sept. 23, 1991. Please check with the Co-op Office  
no later than Sept. 23.

#### ADDITION TO SEPTEMBER CO-OP INTERVIEW LIST

Interview date: Monday, Sept. 30, 1991

DAMES AND MOORE  
Mission, Kansas 66202

Interviewing: Ch.E., Chem., C.E., Geology,  
Geo.E., M.E.

Requirements: 3.0 GPA or above. Academic  
level of applicants: at least 30-60 credit  
hours completed at the end of the present  
semester.

Sign-up date: Monday, Sept. 16, 1991

1 schedule - 10 interview openings

\*\*\*\*\*

NOTE: The ones that indicate RESUMES ONLY.  
This means the company will not be on campus  
interviewing, but they want resumes to review  
and should contact you if they are interested  
in employing you.

Please let the Co-op Office know immediately  
of any acceptance of an offer.

THE NEXT LIST (OCTOBER LIST) WILL BE AVAILABLE  
AT THE CO-OP OFFICE ON FRIDAY, SEPT. 20.  
PLEASE BE SURE AND PICK ONE UP.

Please check with the Co-op Office period-  
ically to see if additional companies have  
scheduled interviews. These will be available  
in the Co-op Office, 303D Norwood Hall.



# Placement

UNIVERSITY OF MISSOURI-ROLLA  
CAREER PLACEMENT  
301 Norwood Hall

**WEEKLY DETAIL LIST #1 - Fall 1991**  
Week of September 16-20, 1991

The Career Placement and Cooperative Training staff wish to welcome you to our facilities, located on the 3rd floor, Norwood Hall.

**REGISTRATION:** All materials are available in the reception area, Room 304 Norwood Hall. Registration must be completed prior to submitting resumes for prescreening and also prior to signing for interviews.

**SIGNUPS AND RESUME PRESCREENING:** 301 Norwood Hall  
**SIGNUP HOURS:** 7:45 to 11:15 a.m.  
1:00 to 4:15 p.m.

## PRESCREENED INTERVIEWS

For prescreening companies, qualified students desiring consideration must submit their resumes in Room 301 Norwood Hall prior to the deadline outlined in the weekly detail list in The Miner. Resumes will be mailed to participating companies three weeks prior to their interview date, and they will select the students they wish to interview. Selectee's names will be posted on the Bulletin Boards in the signup area and in the appropriate departments. Posting of names will be done approximately two weeks before the interview date with a four-day deadline for signing.

## NON-PRESCREENED INTERVIEWS

Signups for those companies not participating in prescreening will be held approximately two weeks prior to the interview date. Look for these dates in the Weekly Detail Lists and The Miner. Signups will be put out for one day (or until schedule fills). Signups will be on a first-come, first-served basis; no priorities. Morning signups will be for morning interviews; afternoon signups for afternoon interviews. Back-up lists will be available for those students unable to obtain an interview.

**NOTICE:** One schedule = approximately 12 interview openings: 6 in the a.m.; 6 in the p.m., depending upon starting & ending times per each individual company's request.

**PRESCREENED INTERVIEWS**  
Week of September 16-20, 1991

**BURLINGTON NORTHERN RAILWAY**  
176 E. 5th St., P.O. Box 64962  
St. Paul, MN 55164  
attn: Ms. Jean Nix, Sr. Staff Dev. Specialist

**NUMBER OF SCHEDULES:** 1  
**MAJORS:** BS/MS Computer Science  
**POSITION:** Corporate Management Trainee  
(after 9 months to permanent programmer analyst)  
**LOCATION:** St. Paul, MN or Ft. Worth, TX  
**INTERVIEWING:** recent grads, December 1991 or May 1992 grads

**DEADLINE FOR TURNING IN RESUMES:** 11:00 A.M.  
Wednesday, September 4, 1991  
**INTERVIEW DATE:** September 18, 1991

**WESTINGHOUSE ELECTRIC CORPORATION**  
Gateway Center  
Pittsburgh, PA 15222  
attn: Ms. Erle Johnson

**NUMBER OF SCHEDULES:** 1 ea day for the following divisions:

**Schedule #1 - ENGINEERING**  
Product Design, Development, Research, Application, Project Engineering  
**MAJORS:** BS/EE, ME, Comp Sci  
**POSITION:** Descriptions will be available at time of interview signups.  
**LOCATION:** Nationwide  
**INTERVIEWING:** December 1991 or May 1992 grads  
**MINIMUM G.P.A.:** Prefer 3.0 or better

**DEADLINE FOR TURNING IN RESUMES:** 11:00 a.m.  
September 4, 1991  
**INTERVIEW DATES:** September 19, 20, 1991

**TEXAS UTILITIES**  
400 N. Olive  
L.B. 85  
Dallas, TX 75021  
attn: Mr. Bobby Arrington, Personnel Res. Supv.

**1 - Schedule:** Associate Engineer  
**MAJORS:** BS/CE, ME, Mine  
**POSITION:** Opportunities for Engineering Graduates in Gas Plant Operations and TUMCO  
**LOCATION:** Henderson, Mt. Pleasant, or Fairfield  
**INTERVIEWING:** December 1991 grads  
**CITIZENSHIP:** Must have authorization to work in the U.S.

**INTERVIEW SIGNUP DATE:** Wednesday, Sept. 4, 1991  
**INTERVIEW DATE:** September 19, 1991

UNIVERSITY OF MISSOURI-ROLLA  
CAREER PLACEMENT & COOPERATIVE TRAINING  
301 Norwood Hall

## **TENTATIVE PLACEMENT SCHEDULE FALL 1991 SEMESTER**

**SEPTEMBER 6**  
**PLACEMENT SEMINAR**  
**TIME:** 6:00 p.m.  
**LOCATION:** ME Auditorium

**SEPTEMBER 16-17**  
U.S. Marines - located on the hockey puck, UMR

**SEPTEMBER 18**  
Burlington Northern  
Saturn Corporation

**SEPTEMBER 19**  
Texas Utilities  
Westinghouse

**SEPTEMBER 20**  
Westinghouse

**SEPTEMBER 23**  
Allied Signal  
Burns & McDonnell  
Northern Illinois Gas

**SEPTEMBER 24**  
Black & Veatch  
Burns & McDonnell  
Factory Mutual  
Frito Lay  
Stockham Valves & Fittings

**SEPTEMBER 25**  
Burns & McDonnell  
Chevron (PE schedules)  
Ingersoll Rand  
Unocal

**SEPTEMBER 26**  
Industry Day - Gale Bullman Multi-Purpose Building  
9:30 a.m. to 3:30 p.m.

**SEPTEMBER 27**  
Armco Research  
BHP Minerals  
Central Intelligence Agency  
Grain Processing  
Lever Brothers  
LTV Steel  
Mobil - Beaumont Refinery  
React  
Staley Company  
Stanley Consultants  
State Farm  
Texaco, Inc.  
Texas Eastman  
Union Pacific Railroad  
Williams Natural Gas  
Williams Telecommunications

**SEPTEMBER 30**  
Hallmark

**OCTOBER 1**  
Arco  
Conoco  
Martin Marietta Energy Systems  
3M  
Union Electric

**OCTOBER 2**  
Arco  
Conoco  
Exxon  
3M

**OCTOBER 3**  
Alcoa-Warrick  
Anderson Consulting  
Arco  
Cura Co.  
Ethyl Corporation  
Exxon  
Illinois Dept. of Transportation

U.M.W. Library



**OCTOBER 4**

Arco  
Cura Co.  
Ethyl Corporation  
North Star Steel  
Wolf Creek Nuclear Operating Corporation

**OCTOBER 7**

Boeing  
Dow Chemical  
Missouri State Highway  
Pepsi Cola  
Shell Oil Co.  
Southwestern Bell  
Western Geophysical

**OCTOBER 8**

Alcoa - Davenport  
Arkansas Best  
Chevron  
Contech  
International Paper  
Marathon Oil (Pipeline)  
Missouri State Highway  
Oklahoma Gas & Electric  
Shell Oil

**OCTOBER 9**

Arkansas Eastman  
Chevron  
Marathon Oil (Pipeline)  
Motorola, Inc.  
Procter & Gamble (Cape Girardeau)

**OCTOBER 10**

BASF  
California State Dept. of Transportation  
Consol  
Deere & Company  
Ethyl R&D  
Halliburton Services  
John F. Kennedy Space Center (NASA)  
Kimberly Clark  
Koch Industries  
Marathon Oil (Pipeline)  
North Supply Co.  
Procter & Gamble (Cape Girardeau)  
United McGill

**OCTOBER 11**

STUDENT COUNCIL FREE DAY - NO CLASSES

**OCTOBER 14**

Cargill  
Hughes Aircraft

**OCTOBER 15**

Cargill  
Delhi Gas Pipeline  
General Motors  
Missouri Division Natural Resources  
Phillips Petroleum Co.  
Professional Services  
Vista Chemical

**OCTOBER 16**

Commonwealth Edison  
Delhi Gas Pipeline  
General Motors  
Phillips Petroleum Co.  
Professional Services  
R.W. Murray  
Vista Chemical Co.

**OCTOBER 17**

General Motors  
State Farm Insurance  
Texas Instruments

**OCTOBER 18**

Baxter Health Care  
Dynetics  
Etech Systems Corp.  
Iowa Electric Light & Power  
Texas Instruments

**OCTOBER 21**

Amoco-Wood River

**OCTOBER 22**

Amoco-Whiting  
Amoco-Production  
Amoco-Chemicals  
Amoco-Information Services  
Amoco-R&D  
Amoco-Geophysics  
Dow Corning  
General Electric

**OCTOBER 23**

Amoco-Whiting  
Amoco-Production  
Amoco-Chemicals  
Amoco-Information Services  
Dow Corning  
General Electric

**OCTOBER 24**

Amoco Chemical  
Dow Corning

**OCTOBER 25**

Anheuser Busch  
AT&T  
Dow Corning  
Hutchinson Technologies  
Illinois Power

**OCTOBER 29**

Amsted Industries  
B&V Waste, Inc.  
Department of Energy-Washington, D.C.  
Federal Highway Administration  
First Brands  
Laclede Gas  
Monsanto Chemical Co.  
National Starch & Chemical Co.  
Olin  
Schlumberger Well Services

**OCTOBER 30**

Central Illinois Public Service  
Dowell Schlumberger  
First Brands  
Monstanco  
Schlumberger Well Services  
Olin

**OCTOBER 31**

Dowell Schlumberger  
Maytag  
Turner Corporation  
U.S. Corps of Engineers-KC  
U.S. Marine Corps (Hockey Puck)  
Xerox Corporation

**NOVEMBER 1**

General Mills  
U.S. Marine Corps (Hockey Puck)

**NOVEMBER 4**

Bibb & Associate

**NOVEMBER 5**

Marathon Oil Co.

**NOVEMBER 6**

Law Environmental  
Marathon Oil Co.  
Union Carbide Chemicals & Plastics

**NOVEMBER 7**

Colonial Pipeline  
Harris Corporation  
Union Carbide Chemicals & Plastics

The Apple StyleWriter® is an ink-jet printer that delivers laser-quality printing (360 dots per inch). It's not much larger than an average textbook and it weighs only five pounds.

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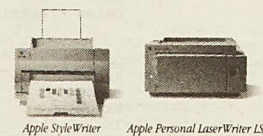
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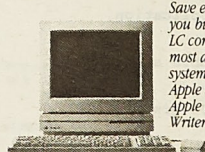


Apple StyleWriter

Apple Personal LaserWriter LS

**Macintosh LC**

Save even more when you buy a Macintosh LC computer—our most affordable color system—with either an Apple StyleWriter or an Apple Personal LaserWriter LS printer.\*\*

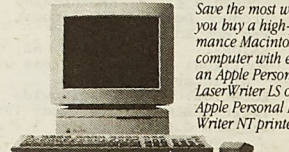


Apple StyleWriter

Apple Personal LaserWriter LS

**Macintosh IIfx**

Save the most when you buy a high-performance Macintosh IIfx computer with either an Apple Personal LaserWriter LS or an Apple Personal LaserWriter NT printer.\*\*



Apple Personal LaserWriter LS

Apple Personal LaserWriter NT

\*Offer applies only to a Macintosh Classic with a built-in hard disk.  
\*\*Monitor sold separately.

For further information visit  
114 Mathematic Computer Science Bldg.  
341-4841

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**SIGN-UP FOR CHEVRON CO-OP INTERVIEWS**

TURN IN RESUMES: Tuesday, September 17, 1991

WHERE: 303D Norwood Hall, Co-op Office

TIMES: 7:45 AM - 11:00 AM, 1:00 PM - 3:00 PM

INTERVIEWING: CH.E., C.E., E.E., M.E.

REQUIREMENTS: 3.0 GPA or above. US Citizenship. Academic level of applicants: at least 35 credit hours completed at the end of the present semester.

start work spring 92

THE ACTUAL INTERVIEW DATE WILL BE THURSDAY, OCT. 10.

Chevron, Work locations: New Orleans or Lafayette, Louisiana, has requested that we furnish them with resumes for pre-screening. We will accept as many Co-op resumes as we can collect. Just drop off a copy of your Co-op resume on the above sign-up date. After pre-screening, Chevron will send the Co-op Office a list of students they are interested in interviewing. The list should be available at the Co-op Office by Friday, Sept. 27. Please check with the Co-op Office no later than Sept. 27.

Interview date: Monday, Oct. 14 and Tues., Oct. 15, 1991

ASSOCIATED ELECTRIC C.I. MINING DIVISION  
Clifton Hill, Missouri

Interviewing: C.E., Geology, Geo.E., M.E., Mining

Requirements: 2.0 GPA or above. Must be eligible to work in US. Academic level of applicants: at least 29 credit hours completed at the end of the present semester.

start work spring 92

Sign-up date: Monday, Sept. 30, 1991

1/2 schedule pm on Monday, Oct 14 - 6 interview openings.

1/2 schedule am on Tuesday, Oct. 15 - 6 interview openings

\*\*\*\*\*

Interview date: Monday, Oct. 7, 1991

DOW CHEMICAL  
Work locations: Louisiana and Texas

Interviewing: Ch.E., E.E. (Power Option)  
EE for Texas location

Requirements: 2.8 GPA or above. Academic level of applicants: at least 29 credit hours completed at the end of the present semester. Citizenship requirements: Dow Chemical will consider for employment only US citizens, aliens who have a legal right to work and remain permanently in US or aliens who qualify as "Intending Citizens".

Sign-up date: Monday, Sept. 23, 1991

1 schedule - 13 interview openings

\*\*\*\*\*

CENTRAL ILLINOIS LIGHT COMPANY  
Peoria, Illinois

Interviewing: E.E., M.E.

Requirements: 2.8 GPA or above. No Citizenship requirements: Academic level of applicants: at least 29 credit hours completed at the end of the present semester.

start work spring 92

Turn in resumes: Tues., Sept. 24, 1991

RESUMES ONLY. IF YOU WOULD LIKE TO BE CONSIDERED FOR CO-OP EMPLOYMENT WITH THE ABOVE COMPANY, PLEASE TURN IN A COPY OF YOUR CO-OP RESUME TO THE CO-OP OFFICE ON THE ABOVE DATE.

\*\*\*\*\*

## FINANCIAL AID

For more information and/or applications pertaining to the following scholarships, contact the Student Financial Aid office, G-1 Parker Hall.

### CORRECT STUDENT ADDRESS VERY IMPORTANT.

The Student Financial Aid office is encouraging students to contact the Registrar's office to make sure that their permanent (P) address and local (L) address on file is correct. The Student Financial Aid office notifies students in the summer of each year at their permanent address on what financial aid will be offered to them for the next year. While classes are in session, all Student Financial Aid office correspondence and "Financial aid proceeds" checks are sent to the students local address.

The Registrar's office should be contacted whenever a students permanent or local address changes.

## NATIONAL HISPANIC SCHOLARSHIP FUND

NHSF is offering scholarships to assist Hispanic American students in completing their higher education. NHSF scholarships are available on a competitive basis to undergraduate and graduate students of Hispanic background. Eligibility requirements are:

- You must be a United States Citizen or a permanent resident of Hispanic parentage who has completed at least 15 units of college work prior to submission of this application. You must also be enrolled in college for the F91 and enrolled and in attendance through the Spring of 1992.
- Applicants are expected to be attending an accredited college or university as full-time, day-time students.

Awards normally range from \$500 to \$1000.

**Deadline:** Postmark by September 15, 1991

## ROLLA AREA BUSINESS AND PROFESSIONAL WOMEN

The Rolla Area BPW is offering two scholarships of \$500 to women enrolled for the spring 1992 semester.

- Applicants must be a resident of either Phelps, Dent, Maries, or Pulaski Counties.

- At least 25 years of age.

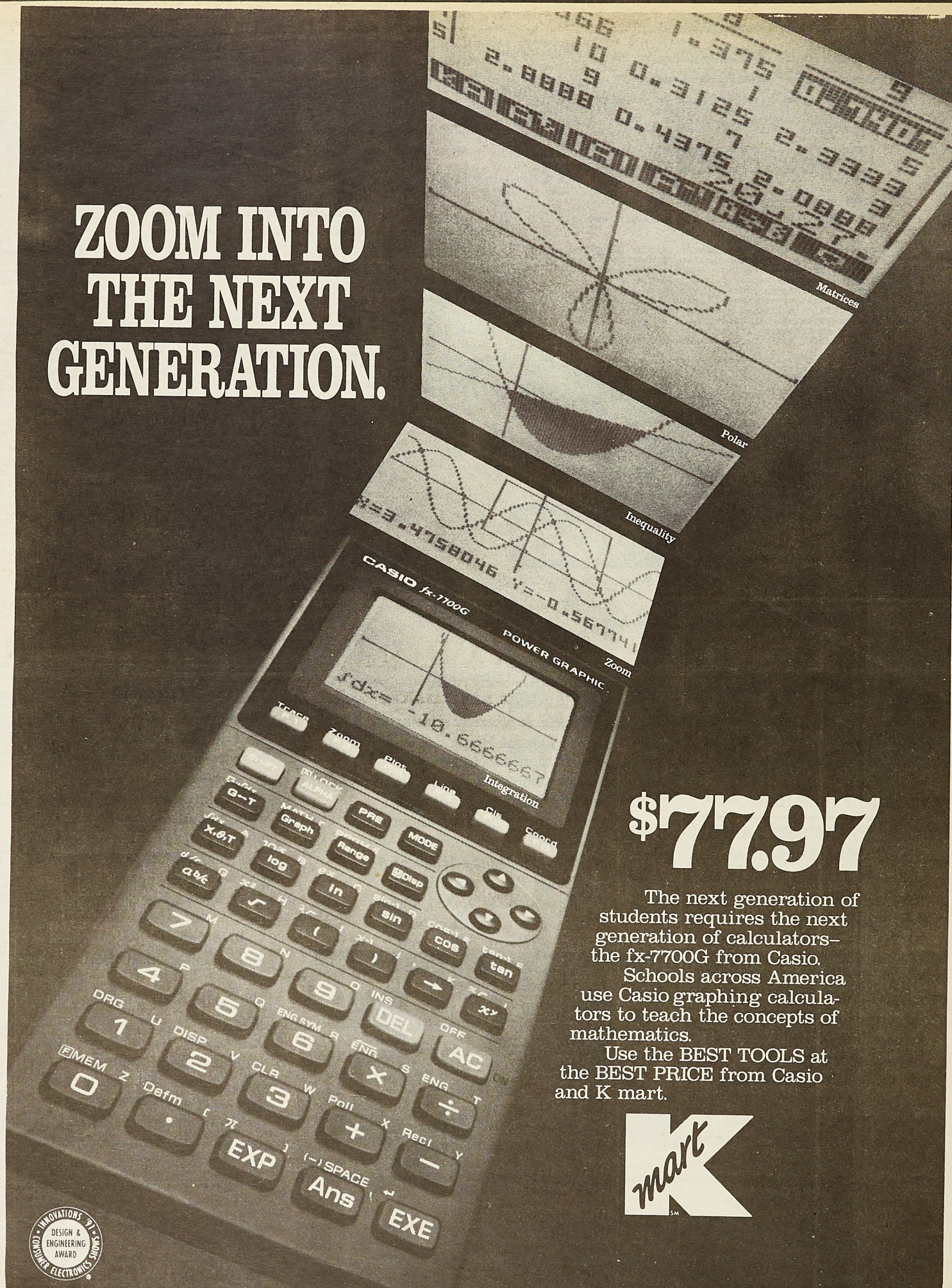
- Enrolled at an accredited educational institution.

The scholarship will be awarded on the basis of financial need and the development of a specific plan for using the scholarship to advance their career goals. The scholarship recipient will be selected on an objective and non-discriminatory basis without regard to race, creed or religious affiliation.

**Deadline:** Must be received by the Scholarship Selection Committee no later than September 30, 1991.



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## \$77.97

The next generation of students requires the next generation of calculators—the fx-7700G from Casio.

Schools across America use Casio graphing calculators to teach the concepts of mathematics.

Use the BEST TOOLS at the BEST PRICE from Casio and K mart.



WESTINGHOUSE  
Schedule #2  
Product Desi  
power/control  
MAJORS:  
POSITION:  
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# WESTINGHOUSE ELECTRIC CORPORATION

**Schedule #2 - ENGINEERING**  
Product Design, Applications, Project Engineering, power/control, etc.  
**MAJORS:** BS/ME, EE, NE  
**POSITION:** Descriptions will be available at time of interview signups.  
**LOCATION:** West/Nationwide  
**INTERVIEWING:** December 1991, May 1992 grads  
**MINIMUM G.P.A.:** Prefer 3.2 or better

**DEADLINE FOR TURNING IN RESUMES:** 11:00 a.m. Wednesday, Sept. 4, 1991  
**INTERVIEW DATES:** September 19, 20, 1991

# WESTINGHOUSE ELECTRIC CORPORATION

**Schedule #3 - Production and research of nuclear materials for national defense and peacetime applications.** Plant operations include fuel and target fabrication, nuclear reactors, chemical separations, waste management and chemical engineering research & development. Environmental engineering and analysis and planning related to health and safety issues.

**MAJORS:** BS/MS ME, ChE, BS/NE, Envir., CE (Env), MetE  
**POSITION:** Listed above  
**LOCATION:** Southeast & Nationwide  
**INTERVIEWING:** December 1991 or May 1992 grads  
**MINIMUM G.P.A.:** Prefer 2.8 or better  
**DEADLINE FOR TURNING IN RESUMES:** 11:00 a.m. Wednesday, Sept. 4, 1991  
**INTERVIEW DATES:** September 19, 20, 1991

**NOTE TO ALL STUDENTS INTERVIEWING WITH WESTINGHOUSE:** STUDENTS MUST COMPLETE THE WESTINGHOUSE "CAREER PREFERENCES AND VALUES WORKSHEET" PRIOR TO THE INTERVIEW.

All students must be legally authorized, at the time of interview, to work full-time in the U.S. Many of the positions require U.S. Citizenship because of security clearance.

# TEXAS UTILITIES

400 N. Olive  
L.B. 85  
Dallas, TX 75021  
attn: Mr. Bobby Arrington, Personnel Res. Supv.

**1 - Schedule:** Associate Engineer  
**MAJORS:** BS/CE, ME, Mine  
**POSITION:** Opportunities for Engineering Graduates in Gas Plant Operations or Texas Utilities Mining Co.  
**LOCATION:** Mt. Pleasant, Henderson, or Fairfield, TX  
**INTERVIEWING:** December 1991 grads  
**CITIZENSHIP:** Must have authorization to work in the U.S.

**INTERVIEW SIGNUP DATE:** Wednesday, Sept. 4, 1991  
**INTERVIEW DATE:** September 19, 1991

# TEXAS UTILITIES

400 N. Olive  
L.B. 85  
Dallas, TX 75021  
attn: Mr. Bobby Arrington, Personnel Res. Supv.

**NUMBER OF SCHEDULES:** 3 (listed below)  
**1 - Schedule:** Associate Engineer  
**MAJORS:** BS/EE, ME  
**POSITION:** Opportunities for Engineering Grads in Gas Plant Operations and in Texas Utilities Mining Co.  
**LOCATION:** Mt. Pleasant, Henderson or Fairfield, TX  
**INTERVIEWING:** December 1991 grads  
**CITIZENSHIP:** Must have authorization to work in the U.S.

**INTERVIEW SIGNUP DATE:** Wednesday, September 4, 1991  
**INTERVIEW DATE:** September 19, 1991

# NON-PRESCREENED INTERVIEWS

# SATURN CORPORATION

P.O. Box 7025  
Troy, MI 48007-7025  
attn: Ms. Kerry Peltola

**NUMBER OF SCHEDULES:** 1  
**MAJORS:** BS in Chemical Engineering  
**POSITION:** Permanent position within Body Systems Group  
**LOCATION:** Springhill, TN  
**INTERVIEWING:** recent or December 1991 grads  
**CITIZENSHIP:** U.S. Citizenship required

**INTERVIEW SIGNUP DATE:** Wednesday, September 4, 1991  
**INTERVIEW DATE:** September 18, 1991

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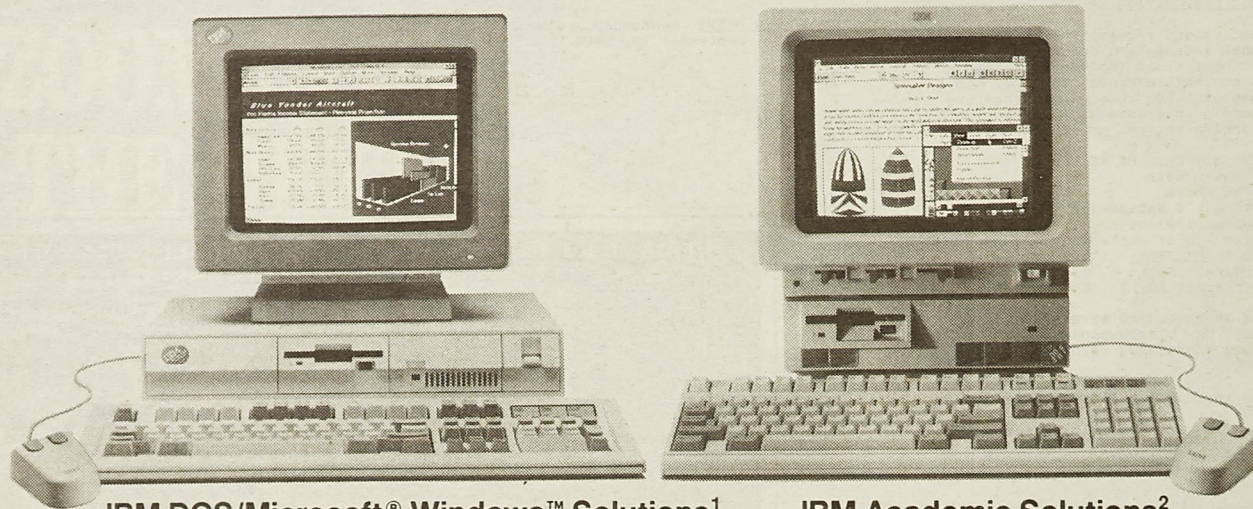
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IBM Academic Solutions<sup>2</sup>

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MEMORY	2.5MB	4MB	4MB	4MB	2MB	2.5MB	2MB	4MB	4MB	4MB	4MB
PROCESSOR SPEED	10 MHz	16 MHz	20 MHz	25 MHz	20 MHz	10 MHz	10 MHz	16 MHz	16 MHz	20 MHz	25 MHz
FIXED DISK DRIVE	30MB	80MB	80MB	80MB	60MB	30MB	45MB	40MB	80MB	80MB	80MB
DISPLAY	VGA Mono	8515 Color	8515 Color	8515 Color	LCD	VGA Color	8513 Color	8513 Color	8515 Color	8515 Color	8515 Color
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<sup>1</sup>All models include an IBM mouse and are preloaded with DOS 5.0, Microsoft Windows 3.0, Microsoft Entertainment Pack for Windows and ToolBook™ (runtime version). Laptop Model 3T1 includes an IBM Trackpoint instead of an IBM mouse.

<sup>2</sup>These models also include Microsoft Word for Windows,® METZ™ File F/X, Reference Software Grammatik,™ hDC MicroApps™ and Formula Editor.

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