

University of Missouri-Rolla

Undergraduate Catalog

2001-2002

UMR publishes two catalogs – undergraduate and graduate. Both are official publications of the University of Missouri-Rolla and may be requested from the Office of Admission and Student Financial Assistance or Office of the Registrar.

All statements in this publication are announcements of present policies only and are subject to change at any time without prior notice. They are not to be regarded as offers to contract.

UMR is an equal opportunity/affirmative action institution.

Equal Opportunity in Programs and Activities

It is the policy of the University of Missouri-Rolla to provide full and equal employment opportunities to all qualified persons without regard to race, creed, color, sex, religion, national origin, age, or physical disability, to prohibit discrimination in recruitment, employment, conditions of employment, including salary and benefits related thereto, to promote employment opportunity and to take affirmative action in this regard. Affirmative Action means the elimination of all existing discriminatory conditions, whether purposeful or inadvertent. This nondiscrimination policy applies to all persons, whether or not the individual is a member of a conventionally defined "Minority Group". In other words, no person shall be denied employment, promotion or related benefits on grounds of his or her race, creed, color, religion, sex, age, disability or national origin. The statutes listed below are applicable to the University of Missouri:

Title VI of the Civil Rights Act of 1964

"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Title IX of the Education Amendments of 1972

"No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

Section 504 of the Rehabilitation Act of 1973

"No otherwise qualified handicapped individual in the United States...shall, solely by reason of the handicap, be excluded from the participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance."

Section 303 of the Age Discrimination Act of 1975

"No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

The Americans with Disabilities Act of 1990

Section 102 Discrimination

General Rule. – No covered entity shall discriminate against a qualified individual with a disability because of the disability of such individual in regard to job application procedures, the hiring, advancement, or discharge of employees, employee compensation, job training, and other terms, conditions, and privileges of employment.

UMR conducts its programs and activities involving admission and treatment of students, employment, teaching, research, and public service in a non-discriminatory manner as prescribed by Federal law and regulation.

Inquiries concerning the above may be addressed to:

Chancellor, University of Missouri-Rolla
Rolla, Missouri 65409-9957

Director, Office for Civil Rights
Department of Health and Human Services
Washington, D.C. 20201

INFORMATION ON THE WORLD WIDE WEB

For the most current information regarding course descriptions go to www.umr.edu/~regwww.

Students are also advised to consult the web sites of individual schools, college and department offices.

Table of Contents

Equal Opportunity2
 Educational Goals/Mission/Vision5
 Administrators6
 Introduction7
 General Information8
 Calendar9

General Information

Admissions.....10
 Financial Assistance16
 Academic Assessment19
 Academic Resources.....19
 Academic Extension20
 Aerospace Studies (Air Force ROTC).....21
 Assistance for Students with Disabilities.....22
 Career Opportunities Center24
 Cooperative Education Program25
 Personal & Professional Development26
 Co-Curricula Activities27
 Computing at UMR28
 Fees13
 Teacher Education Program.....30
 Honors Academy Program31
 International Affairs32
 Library.....34
 Maastricht Center for Transatlantic Students37
 Military Science (Army ROTC).....34
 Minority Engineering Program.....36
 Missouri Consortium for International Studies.....36
 Missouri London Program36
 Multicultural Educational Support (MESP).....37
 Nuclear Reactor38
 Oak Ridge Associated Universities (ORAU)38
 Office of the Registrar38
 Residential Life42
 Student Conduct.....42
 Student Health Services.....43
 University Police43
 Writing Across the Curriculum47
 Women in Engineering Program48

Degree Programs

Degree Programs49
 Bachelor of Arts Degree50
 Minors50
 Bachelor of Arts Degree50
 Bachelor of Science Degree52
 College of Arts & Sciences52
 School of Engineering52
 School of Mines & Metallurgy52
 Dual Bachelor’s Degree.....53

College of Arts & Sciences

Aerospace Studies (Air Force ROTC).....56
 Art57
 Biological Sciences59
 Business Administration.....62
 Chemistry62

Computer Science70
 Economics76
 Education80
 English.....85
 Etymology90
 French90
 German.....91
 History91
 Latin95
 Management Systems96
 Mathematics98
 Military Science (Army ROTC)103
 Music105
 Philosophy106
 Physical Education108
 Physics.....110
 Political Science.....115
 Pre-health Professions.....116
 Pre-law117
 Psychology117
 Russian120
 Sociology/Anthropology.....121
 Spanish.....122
 Speech & Media Studies123
 Statistics125
 Theatre126

School of Engineering

Aerospace Engineering129
 Architectural Engineering.....135
 Basic Engineering138
 Engineering Graphics140
 Chemical Engineering.....140
 Civil Engineering146
 Environmental Engineering153
 Computer Engineering.....154
 Electrical Engineering.....158
 Engineering Management166
 Engineering Mechanics173
 Freshman Engineering Program.....176
 Mechanical Engineering176

School Mines & Metallurgy

Ceramic Engineering187
 Geological Engineering190
 Geology/Geophysics195
 Metallurgical Engineering.....203
 Mining Engineering209
 Nuclear Engineering.....214
 Petroleum Engineering218
 Index222
 Campus Map.....224

Educational Goals of UMR

As Missouri's technological university, the University Of Missouri-Rolla's mission is to educate tomorrow's leaders. In a world growing increasingly dependent on science and technology, tomorrow's graduates must be prepared to be leaders in more than just their chosen professions. They must also be leaders in business, in government, in education, and in all aspects of society. UMR is dedicated to providing leadership opportunities for its students. The opportunity to receive an excellent technological education is only part of the educational experience received by students at UMR. UMR offers a full range of engineering and science degrees, coupled with business and liberal arts degrees and programs that are vital to the kind of comprehensive education that turns bright young men and women into leaders.

UMR is nationally recognized for its excellent undergraduate engineering programs, and is distinguished for producing cutting-edge research and key technologies vital to the economic success of Missouri and the nation. UMR has a distinguished faculty dedicated wholeheartedly to the teaching, research, and creative activities necessary for scholarly learning experiences and advancements to the frontiers of knowledge. UMR has excellent physical facilities, which support the best possible education in the liberal arts, engineering, science, applied science, and selected interrelated fields.

UMR's programs in science, engineering, and business, its technology transfer programs, its leadership opportunities, and its learning environment are all integral parts of the total educational package available to students who attend the University of Missouri-Rolla.

Mission Statement

The University of Missouri-Rolla, UMR, has a major responsibility for meeting Missouri's needs for engineering education. UMR offers residential programs with an emphasis on leadership development that include a full range of engineering and science degrees and complementary liberal arts degrees and programs.

UMR conducts research to advance knowledge, to provide essential support for graduate education, and to enhance undergraduate education. There is special emphasis on research in materials, manufacturing, infrastructure, geotechnical, and environmental engineering and science.

UMR assists in the economic development of the state and nation with the transfer of the technology developed through its research programs.

(Approved by the Board of Curators, 07-24-97)

Vision

The University of Missouri at Rolla, already among the top 100 national universities, envisions itself being among the best of the "second tier" universities and, over time, becoming one of the "best" 50 undergraduate programs in the nation and the top 50 universities offering Ph.D. engineering programs as ranked by the *U.S. News and World Report*. To achieve this recognition, UMR must address a few fundamental issues. Among these are its retention of undergraduate students, the size of its graduate programs and its level of sponsored research.

UMR is a leading member of the higher education system in the State of Missouri and is dedicated to enhancing its role as a nationally prominent technological university. It is

- ◆ A university that is a primary source of leaders in their disciplines who are able to:
 - Identify and solve technical and societal problems;
 - Create, synthesize, and communicate knowledge;
 - Work effectively as team members in diverse environments; and
 - Adapt to change through life-long learning.
- ◆ A university whose faculty and staff are committed to excellence in teaching and learning and to student success.
- ◆ A university where faculty, staff and students conduct nationally competitive research to meet societal needs.
- ◆ A university that anticipates change and is recognized as a premier source of readily available knowledge, creativity and education and whose faculty, staff and students serve the needs of the society of which it is a part.
- ◆ A university committed to providing an environment that fosters the development of all members of the university community to their full potential.

University of Missouri Board of Curators

Malaika B. Horne, 1-1-2003
John A. Mathes, 1-1-2003
Paul W. Steel, 1-1-2003
Mary L. James, 1-1-2005
M. Sean McGinnis, 1-1-2005
Connie Hager Silverstein, 1-1-2005
Thomas E. Atkins, 1-1-2007
Angela M. Bennett, 1-1-2007
Anne C. Ream, O.D., 1-1-2007

Student Representative to the Board

Stephen T. Sugg 1-1-2002

Officers of the Board

Paul W. Steele, President
John A. Mathes, Vice President
Kathleen Miller, Secretary
Marvin E. Wright, General Counsel

University of Missouri-Rolla Administrators

Gary Thomas, Chancellor
Y. T. Shah, Provost
Wayne Huebner, Interim Vice Provost for Research
F. Stephen Malott, Vice Chancellor Administrative Services
Wendell R. Ogrosky, Vice Chancellor Student Affairs
Neil K. Smith, Vice Chancellor University Advancement

University of Missouri-Rolla Deans and Associate Deans

College of Arts and Sciences

Russell D. Buhite, Dean
Harvest L. Collier, Associate Dean
Lance Williams, Associate Dean

School of Engineering

Robert Mitchell, Dean
Jerry R. Bayless, Associate Dean
Lokesh Dharani, Associate Dean

School of Mines and Metallurgy

Lee W. Saperstein, Dean
Ronald A. Kohser, Associate Dean, Instruction
Nicholas Tsoulfanidis, Associate Dean, Research

Dean of Enrollment Management

Jay W. Goff

Introduction To The University of Missouri-Rolla

A college education offers you a number of options. It can be the foundation you'll need to pursue a challenging career or the background to further your studies in a graduate or professional school.

Selecting the college or university that will help you prepare for these options is a decision that requires careful consideration. You have to ask yourself what you want from an education and what your goals are. You also should consider academic programs, location, and the availability of scholarships and financial assistance.

Before you make your decision, we would like you to know more about what the University of Missouri-Rolla has to offer you, including:

- degrees in engineering, science, and the humanities and social sciences
- annual ranking among the national leaders in the number of bachelor's degrees granted in engineering
- medium-sized campus of about 5,000 students located in the beautiful Missouri Ozarks
- financial assistance and scholarships for qualified individuals
- career assistance

In classes at UMR, you are encouraged to participate and explore the subjects that are of interest to you. Technologically advanced laboratories help you understand the concepts learned in the classroom. Professors and advisors will help you plan your academic program so that you may attain your academic and career goals.

Co-curricular activities provide outlets for your interests and talents. There are intercollegiate athletics and intramural sports, musical groups and dramatic productions, and student publications. You also can explore the rivers, parks, and lakes of the nearby Missouri Ozarks and enjoy St. Louis and Springfield, each within approximately 100 miles of Rolla.

UMR offers opportunities to help you with your educational finances. If you are eligible, there are loans, grants, and scholarships available, or you can apply for a part-time job through the work-study program.

The Cooperative Training Program at UMR allows qualified students to alternate semesters of school with semesters of work in industry. When you are ready to graduate, the Career Opportunities Center offers job-finding assistance.

We invite you and your parents to take a closer look at the University of Missouri-Rolla. The following pages will introduce you to the opportunities that

await you. We encourage you to visit the campus. If you would like more information, or to arrange a tour of the campus, please contact the Office of Admissions, 106 Parker Hall, University of Missouri-Rolla, Rolla, MO 65409-1060. Telephone: 1-800-522-0938.

About the Campus

The University of Missouri-Rolla is the location of one of the four University of Missouri campuses – with others at Columbia, Kansas City, and St. Louis.

Governing these campuses is the Board of Curators whose members are appointed by the Governor of Missouri and confirmed by the Missouri Senate. The President of the University directs and coordinates programs of all four campuses with assistance from staff in finance, business management, academic affairs, research, extension, development, public information, and other University services.

The activities of each campus are under the supervision of a Chancellor, who directs campus affairs within policies established by the Board of Curators and the President.

The University of Missouri has a long and proud history. It was established at Columbia in 1839, only 18 years after Missouri became a state. It is a land-grant university and is recognized as the first state university west of the Mississippi River. It is also a member of the American Associate of Universities.

The University remained a single campus institution until 1870 when the University of Missouri School of Mines and Metallurgy (the former designation of UMR) was established at Rolla. Campuses at St. Louis and Kansas City were added in 1963.

The Board of Curators on July 1, 1964, took action to rename the University of Missouri School of Mines and Metallurgy the University of Missouri-Rolla. The UMR campus encompasses about 284 acres and combines both old and new architecture.

8 □ General Information

FOR MORE INFORMATION

If you have additional questions, write or call the Director of Admissions and Student Financial Assistance University of Missouri-Rolla, Rolla, MO 65409-1060 (573) 341-4164. You also may wish to contact one of the following offices for specific information:

Air Force ROTC (573) 341-4925

Army ROTC (573) 341-4744

Athletics (573) 341-4177

Career Opportunities Center (573) 341-4343

College of Arts & Science (573) 341-4131

Personal & Professional Dev (573)341-4211

Honors Academy Program (573)341-4869

Minority & Women in Engineering (573) 341-4212

Registrar (573) 341-4181

Residential Life (573) 341-4218

School of Engineering (573) 341-4151

School of Mines and Metallurgy (573) 341-4153

Student Financial Aid (573) 341-4282

University Police (573) 341-4300

Vice Chancellor for Student Affair (573) 341-4292

Calendar

Fall Semester 2001

Residence Halls Open for first-time Freshman only.....	August 12
Freshman Orientation.....	August 12-17
Freshman Registration.....	August 13
Transfer Orientation and Registration.....	August 15
Open Registration 8:30 a.m.-3:00 p.m.....	August 16
Residence Halls Open for all residents.....	August 19
Classes Begin 7:30 a.m.....	August 20
Labor Day Holiday.....	September 3
Mid-Semester.....	October 13
Thanksgiving Vacation Begins 7:30 a.m.....	November 21
Thanksgiving Vacation Ends 7:30 a.m.....	November 26
Last Class Day.....	December 7
Reading Day.....	December 8
Final Exams Begin 8:00 a.m.....	December 10
Final Exams End 12:30 p.m.....	December 14
Semester Closes 6:00 p.m.....	December 14
Residence Halls Close.....	December 14
December Commencement 11:00 a.m.....	December 15

Winter Semester 2002

Residence Halls Open to new students.....	January 13
Open Registration 8:30 a.m. – 3:00 p.m.....	January 10
Residence Halls Open for returning students.....	January 13
Martin Luther King, Jr. Holiday.....	January 21
Classes Begin 7:30 a.m.....	January 14
Mid-Semester.....	March 9
Spring Recess Begins 7:30 a.m.....	March 14
Spring Recess Ends 7:30 a.m.....	March 18
Spring Break Begins 7:30 a.m.....	March 24
Spring Break Ends 7:30 a.m.....	April 1
Last Class Day.....	May 10
Reading Day.....	May 11
Final Exams Begins 8:00 a.m.....	May 13
Final Exams End 12:30 p.m.....	May 17
Semester Closes 6:00 p.m.....	May 17
Residence Halls Close.....	May 17
May Commencement 11:00 a.m.....	May 18

Summer Session 2002

Residence Halls open.....	June 10
Open Registration 8:30 a.m. – 3:00 p.m.....	June 10
Classes Begin 7:30 a.m.....	June 11
Independence Day Holiday.....	July 4
Residence Halls Close.....	August 3
Semester Closes 12:30.....	August 3

Admission Requirements

Applications for the fall semester should be submitted by July 1, for the winter semester by Dec. 1, and for the summer session by May 1. Priority scholarship deadline is November 1. Scholarships will be reviewed on a first come first serve basis. (Applications need to be received by Feb. 1 to be considered for scholarships.) An application, application fee, high school transcript and one appropriate test score (ACT or SAT) must be submitted.

All new applicants (undergraduate and graduate) are required to pay an admissions application fee of \$25 for United States citizens; \$25-international students. This application fee is non-refundable. This fee must be paid in U.S. currency only.

Upon acceptance, new students are required to attend a Preview Registration Orientation (PRO) session and comply with the Health Services Policy (see Student Health Services).

Regular Admission From High School

The following minimum requirements are established for general admission of first-time college students to the University of Missouri-Rolla (UMR). Meeting the minimum requirements, however, does not guarantee admission. The Office of Admission and Student Financial Assistance will notify applicants in a timely manner whether they have been accepted, rejected, or placed on a waiting list.

Effective as of the fall semester 1997, regular admission of first-time college students (entering freshman) requires completion of at least 17 units of credit (1 unit = 1 year in class) as follows:

- A. Four (4) units of English, one of which may be speech or debate. Two units emphasizing composition or writing skills are required.
- B. Four (4) units of mathematics (Algebra I or higher). This requirement may be satisfied by the completion of courses in middle school, junior high, or senior high.
- C. Three (3) units of science (not including General Science). The three units of science must include a laboratory course and must include units from at least two of the following areas: physical science, biology, physics, chemistry, and earth sciences. This requirement may be satisfied by the completion of courses in middle school, junior high, or senior high.
- D. Three (3) units of social studies.
- E. One (1) unit of fine arts, to be taken in visual arts, music, dance or theater.
- F. Two (2) units of a single foreign language. This requirement may be satisfied by the completion of courses in middle school, junior high, or senior high.

If the sum of the high school class rank percentile and aptitude examination percentile (ACT

score norms for students enrolled in Ph.D. level colleges or the SAT equivalent) is:

120 or greater: The student is generally directly admissible. However, the university placement process may require remediation and reduced schedules for some students.

100-120: Students in this range are frequently at high risk in successfully completing university level work. Students in this category may be admitted, but will receive advising, recommendations for remediation, and reduced academic schedules.

less than 100: Students in this range are normally admissible only after additional academic development which is not available at UM. Students in this category are encouraged to apply to UM through the Transfer Assistance Program (TAP).

The University seeks a heterogenous student body reflecting diversity of race, ethnicity, age geography (including international students), and physical disability. Factors given prime consideration for admission to undergraduate study are an applicant's previous academic success and the quality of the records presented. Applicants who do not meet the criteria set forth in sections one and two may be considered by appealing to the Director of Admission. Additional factors which may be considered for admissions include:

- extensive extracurricular activity involving school, church or community
- outstanding talents and/or abilities
- number and scope of college preparatory courses taken
- evidence of marked improvement, over time, in high school academic record
- significant work experience and/or family responsibilities
- supporting evidence attesting to one or more of the above in student's own hand (in the form of an essay)

Special Admission Cases

1. Early Admission from High School. Superior high school students may be admitted before they have graduated from high school. There are two types of early admission:
 - a. If the student has completed all of the requirements for graduation from high school diploma until the student's class graduates, eligibility for admission will be determined by the procedures established for regular admission from high school. Certification by the high school principal or counselor that graduation requirements have been met is required.
 - b. If the student has not completed all requirements for graduation from high school, a test score and a high school class

rank must be presented. The combination of test score and class rank will be evaluated on the basis of a standard that is higher than the standard for regular admission from high school.

In either case, students are admitted on an individual basis and an interview may be required. The following information is required from each applicant:

- application for admission
 - high school transcript (sent by school)
 - letter of recommendation from high school principal or counselor
 - written parent approval
2. Dual High School-University Enrollment. Superior high school students may be admitted in a special student category for the purpose of taking one or two university courses concurrently with their final year or two of high school. Students from high schools in the local areas are served by this option. Students must submit a regular application for admission along with a special request that includes a high school recommendation and written parental approval. Students are admitted on the basis of academic standards that exceed those required for admission from high school. Admissions are limited and governed by space available in, and prerequisites for, the desired course or courses.
 3. Trial Admission. Graduates of Missouri high schools who do not meet the standards for regular admission from high school may be admitted on a conditional basis, in the summer session, to any campus of the university. Typically, the enrollment is for six hours, and if "C" grades or better are earned in those six hours, the student is permitted to enroll the following semester.
 4. Accredited High School Equivalency. An individual may apply for admission on the basis of scores on the General Educational Development (accredited) test after the individual's high school class has graduated. Applicants in this category are admitted on an individual basis.
 5. Graduates of Accredited High Schools. Graduates who have been out of high school for a number of years or for similar reason do not have a record of rank in high school class are required to have a minimum ACT enhanced composite of 24 or SAT of 1100.
 6. Admission from Non-Accredited High Schools and Home Schooled Students. Graduates of high schools that are not accredited by recognized regional accrediting associations or approved by recognized state agencies; e.g., the University of Missouri Committee on the Accreditation of Non-Public Schools, are required to have a minimum ACT enhanced composite of 24 or SAT of 1100. This applies to home schooled students.
 7. Admissions from Non-Ranking High Schools. Graduates of high schools that do not rank their

students are considered on an individual basis. A minimum ACT Composite score of 24 or a SAT of 1100 is normally required.

A Campus Faculty Admissions Committee will establish necessary policies for and oversee the administration of these regulations. The committee, or the director of admission acting under its direction, will determine which applicants will be admitted. The committee has the authority to establish standard application forms, to request interviews from an applicant, and to establish procedures for admission during the senior year while required courses are being completed. The committee has the authority to establish procedures for early admission from high school, dual high school-university enrollment, trial admission, and GED high school equivalency enrollment.

Admission of Transfer Students

The following minimal requirements are established for general admission of transfer students. *They do not include more stringent requirements that may be established by the faculties of the individual schools, colleges, or campuses, or the requirements of special programs within some schools (most engineering degree programs require a 2.5 GPA for admission).* It is the responsibility of the transfer student to check with the school, college, department, or program concerning more specific requirements.

1. A student who has completed fewer than 24 semester hours of college-level work must apply under the procedures for admission to the freshman class and must have at least a 2.0 overall grade point average (4.0 system) in all college-level courses attempted at previous institutions.
2. An applicant who has completed 24 or more semester hours of college-level work is eligible for admission if he or she is in good standing and has attained an overall grade point average of at least 2.0 (4.0 system) in all college-level courses attempted at previous institutions. (Each campus faculty governing group shall review the performance of transfer students and may recommend at that time a measure of performance which would indicate a reasonable chance of making a 2.0 grade point average at the university.)
3. An applicant who does not meet these standards may apply by submitting to the Campus Faculty Admissions Committee such data as the committee considers appropriate. The committee, or the director of admissions acting under its direction, may determine who shall be admitted.

12 □ General Information

Admission of International Students

International students who wish to enter the University of Missouri-Rolla are required to:

1. Demonstrate sufficient command of English to successfully pursue work at the University of Missouri-Rolla. (Departments normally require a TOEFL score of 550 to be considered.) Students may also submit proof of successful completion of a recognized ESL program.
2. Submit an application for admission, accompanied by a \$25.00 admission fee. Must be in U.S. currency. (No waivers.)
3. Submit at the earliest possible date official transcripts (mark sheets) for each year from all schools attended, showing courses taken, grades earned, rank in class, grade point average, and class or division earned if applicable. The applicant will be notified when evaluation is completed. Please note the following condition:
Students transferring from another American college or university are required to complete at least one semester before transferring. With the application, students must submit a complete transcript. Official transcripts must be sent directly from all previously attended colleges or universities. A list of courses in progress must also be sent. UMR's international student questionnaire must be completed by the foreign student advisor from American institutions attended.
4. Submit a statement verifying ability to provide financial support:
 - a. Overseas applicant: A financial statement made by the sponsor or bank indicating source and amount of funds available per year.
 - b. Stateside applicant: Complete and return the international student questionnaire containing adequate information regarding finances.
5. Have a physical examination by a licensed physician. You will be sent a physical examination form after your credentials have been evaluated and found to be satisfactory for admission.
6. Pay all expenses while in school at UMR. Financial aid is not available.

Note: Your application for admission will not be given consideration until items one through four (English verification, application fee, complete transcripts, financial statement) have been received. If your completed application materials are not received by the deadlines indicated below, you will be delayed one semester.

- Fall semester – June 15
- Winter semester – November 15
- Summer session – April 1

Transfer Credit Policy

UMR accepts college-level (not remedial) course credits, all grades, quality points and credit hours are transferred and computed in the cumulative GPA. Additionally, UMR accepts credit by exam from sources including Advanced Placement Program (AP), College Level Examination Program (CLEP), and International Baccalaureate Program (IB). Refer to the current Credit by Examination brochure for more details.

College-level (not remedial) course credit earned while enrolled in high school (dual-credit) shall follow the same policy as transfer credit.

The last 60 hours of an undergraduate program must normally be taken in residence at UMR. A student may, with departmental approval, take up to 15 hours of this 60 hours off campus. If the student wishes to exceed 15 hours (of the last 60 hours) taken off campus, the student must obtain approval of the dean of the student's school or college upon recommendation of the student's department chair.

Mathematics Placement Test

All new freshmen or especially those planning to major in engineering and science will take placement tests in algebra and trigonometry. These tests will be given during the spring and summer orientation and pre-registration sessions or during the fall registration (for those who do not preregister). A high level of performance is required on both these tests in order to place into Calculus with Analytic Geometry I the first semester. Therefore, it is strongly recommended that students have a minimum of three years of high school mathematics courses (four years preferred) and that algebra and trigonometry be thoroughly reviewed before taking these tests.

Transfer Assistance Program (TAP)

Missouri institutions of higher education welcome transfer students; however, you should be aware that actual requirements for degrees vary from institution to institution. This factor makes it particularly important for you to contact the campus where you eventually wish to graduate very early in your academic program. By arranging an advance understanding of the transfer of applicable courses, it is likely that problems can be minimized. Unresolved problems of credit transfer may be appealed to the Student Scholastic Appeals Committee.

UMR provides a transfer advisor for students choosing to transfer from another college or university.

The Transfer Assistance Program, TAP, is designed to assist entering students during their first two years of college at another institution and then assist them in completing their education at UMR.

When students enroll in TAP, they will be assigned a UMR student number and will be provided with a model transfer program that is developed in

conjunction with the local college. TAP provides a semester-by-semester course of study for the two years spent at a participating college.

A transfer counselor and advisor will assist the student. This counselor, and coordinator from the UMR Office of Admission and Student Financial Assistance and special department advisors, make regularly scheduled visits to participating colleges. The transfer counselor continues to work with the student throughout the first semester at UMR.

TAP students generally do well academically; however, the first semester at UMR can be a time of adjustment. The transfer coordinator and academic advisor will help the student adapt to the campus.

Orientation programs designed specifically for the transfer student allow prospective students to speak with students who have already made the transition from their two-or four-year local college to UMR and to discuss career and personal counseling, computer services, placement services, health services, student activities, and library instruction.

Pre-advising programs offer the same opportunity for course selection as currently enrolled students.

If you decide to become part of TAP, <http://www.umar.edu/admissions/transfer.html>, contact the Transfer Coordinator, Office of Admissions and Student Financial Assistance, UMR, Rolla, MO 65409-1060 or call 1-800-522-0938, email: transfer@umar.edu.

Credit by Examination

If you are a registered UM student and have learned enough about a subject to pass an examination without taking the course, you may be able to get college credit for this knowledge. There are six different programs included in UMR's credit by examination policy.

These programs include: The Advanced Placement Program (subject examinations only) of the College Level Examination Program, (CLEP), UMR Placement Testing Program, International Baccalaureate Program, military experiences, and in rare instances departmental examinations.

The Advanced Placement Program provides for certain college-level courses to be offered to selected high school students. In the College-Level Examination Program, you may obtain credit for specific courses or you may receive general credit on specified subject examinations. The UMR Placement Testing Program allows high school students to receive credit for certain scores and to be placed in advanced classes. Advance placement and/or course credit will be given for course work completed by each student in the International Baccalaureate Program only after each course performance of each student has been reviewed by the relevant department. You also may gain credit for armed service experience according to the recommendations of the Commission on Accreditation of Services. Experiences of the American Council on Education. Some of the

academic departments at UMR offer departmental examinations and you may be able to quiz out of some courses.

Most examinations are given in the testing office of the Center for Personal and Professional Development Office. Interested students can obtain further information on these programs through this office or the Office Admission and Student Financial Assistance or at <http://www.umar.edu/admissions/cbe>. Visit our Web site at <http://www.umar.edu/admissions> or e-mail: umROLLA@umar.edu

Fees

All statements as to fees are by way of announcement only for the academic year 2000-2001 and are not to be regarded as offers to contract on the basis of those statements; in as much as the Curators of the University of Missouri expressly reserve the right to change any and all fees and other charges at any time, without any notice being given in advance of such a change.

Educational Fees

All students enrolled at UMR are required to pay an educational fee.

Educational Fee per Credit Hour

Missouri Residents	Non- Residents
\$141.50	\$423.00
Undergraduate	
\$179.10	\$538.70
Graduate	

Courses audited and courses taken for reduced credit will be counted at their normal credit value in computing the amount of fees to be paid. Students enrolling in zero credit hours are required to pay fees according to the equivalent credit for the course.

The difference between the educational fee for nonresident and Missouri resident students is waived for a graduate or first professional degree student who is a teaching, research or extension assistant holding a .25 or more FTE (full-time equivalent appointment).

The difference between the educational fee for nonresident and Missouri resident student is waived for a graduate or first professional degree student holding a fellowship which does not include payment of required fees.

Instructional Computing Fee

All students enrolled at the University of Missouri-Rolla are required to pay an Instructional Computing Fee of \$8.90 per hour.

14 □ General Information

Engineering Supplemental Fee

An engineering supplemental fee is charged to all students, graduate and undergraduate, enrolled in engineering courses (except courses offered by the Department of Geology and Geophysics) at the rate of \$39.30 per credit hour.

Student Activity/Facility Fee

A fee of \$169.61 per semester is charged to cover the various extracurricular activities. These include intramural sports, use of the golf course, and admission to home athletic contests. Included also is admission to the series of general lectures given throughout the year. In addition, the student activity fee covers subscription to the *Missouri Miner*, the weekly newspaper published by the students. Other activities supported by the activity fee may include glee club, dramatics, forensics and others which may benefit the entire student body.

The student activity fee is charged to all students, graduate and undergraduate, except that the yearbook fee (\$12.50) will remain optional for all graduate students.

The fee of \$169.61 also includes the Intramural and Recreational Facility Design Fee (\$10.00) and the University Center Facility Fee (\$15.10).

The student activity fee will be prorated, based on the number of credit hours, for those students enrolled for less than 10 semester hours of credit.

The summer activity fee for the eight-week session is \$61.85 and will be prorated for students enrolled for less than five semester hours.

Health Service Fee

The Health Service Fee is charged to all students, graduate and undergraduate (full or part time enrolled.)

Fall/Winter session: \$67.80 per session

Summer session: \$33.90

Time of Payment of Fees

All fees must be paid in full, or payment arrangements made, at the time of registration at the opening of each semester or term as a condition of admission to classes. Consult the academic calendar for dates of registration and payment of fees.

Minimum Fee Payment Plan

The student's account (to include fees, housing, telephone, traffic violations, etc.) will be billed for the full amount each month with a minimum payment allowed. The minimum payment is derived by dividing the full account balance by the number of scheduled payments remaining in the semester. If a student chooses to pay the minimum amount, a 1% per month interest charge will be assessed on the remaining unpaid account balance.

Fall Semester Payment Due Dates

Preregistered students: Five installments due July, August, September, October and November 15th.

Regular registration students: four installments with the first one due at registration and the remaining due September, October and November 15th.

Winter Semester Payment Due Dates:

Preregistered students: five installments due December, January, February, March and April 15th.

Regular registration students: four installments with the first one due at registration and the remaining due February, March and April 15th.

Summer Term Payment Due Dates

Preregistered students; 50th of fees due May 15th and 50% due June 15th. Regular registration students: total fees due at registration.

Financial Aid:

Approved financial aid is applied directly to a student's account. The entry will appear as a credit on the billing statement and will reduce the current term balance due. The balance remaining after application of financial aid will be billed to the student and will be subject to the minimum payment process and interest charge calculation.

Personal Checks

Personal checks will be accepted only for the amount due from the student. A late registration fee will be assessed if a check presented in payment of student fees is returned unpaid and remains unpaid after the close of the regular registration period.

Credit Cards

MasterCard, VISA and Discover credit cards are acceptable toward payment of fees up to the credit limit of the card holder.

Late Registration Fee

A student who registers later than the regular registration days for a semester will be charged the late registration fee of \$141.50. Also, by registering late a student may find certain sections or entire courses closed to registration. Each school/college reserves the right to close sections of courses or even to close enrollment in a department, when the capacity of the class is reached.

International Student Sponsored Student Program

A full range of services for sponsored international students is provided through the Office of International Affairs (IA). International students sponsored by international agencies receive special services and are charged \$250 per semester per student. Individual students desiring to take advantage of these special services may apply for them. Details on the current Sponsored Student program and costs are available upon request from the Office of International Affairs, 103 Norwood Hall, Rolla, Missouri 65409-0160.

Mandatory Health Insurance for International Students

All international students, as a condition of their enrollment, are required to purchase mandatory health insurance. This includes all F-1 and J-1 visa students. In addition, J-1 visa students whose spouse and/or children are living in the U.S. are required to carry health insurance. An independent carrier, working through the International Affairs (IA) office, provides an insurance policy at a reasonable cost. Premiums must be paid within two weeks of the beginning of the Fall and Winter semester (Summer premiums are included in the Winter Semester).

For more information on the Mandatory health insurance requirements for international students, contact the International Affairs Office, 103 Norwood Hall, 573-341-4208.

Offset of Missouri Income Tax

For those non-residents who pay Missouri income tax, the non-resident educational fee shall be credited in an amount equal to the actual Missouri income tax paid for the previous calendar year, except that the remaining obligation shall not be less than the amount of the resident educational fee. Unemancipated minor or adult dependent students are eligible for reason of payment of Missouri income tax by the non-resident individual or individuals having custody of said students. Students entering in January shall be regarded as entering in the fall for purposes of determining previous calendar year. For students entering after January, previous year means immediate past calendar year.

To effect an offset, the student shall furnish to the Cashier's Office satisfactory evidence that the tax was paid, the date of payment, and that the student is entitled to an offset. Ordinarily, evidence of payment and the date thereof will be exhibiting to the UMR cashier a copy of the State Income Tax return, together with canceled check (if any) or photostatic copies thereof; or if all taxes were withheld, the MO-WH-2 form, or photostatic copy thereof, showing the amount of tax withheld must be presented. After reviewing the evidence submitted,

the Cashier may request other evidence of payment of tax.

Tax credit thus established may be used only once as an offset against the non-resident Educational Fee, but any tax credit not used in a given term may be carried forward to be used in subsequent term, subject to the time limitation stated above. If several students from the same family claim allowable tax credit, the tax credit shall be applied as the taxpayer directs, if the taxpayer does not direct application, the Cashier shall make such application. Tax credit may be offset against the non-resident Educational Fee only, and may not be offset against any other fees or obligations.

Refund of Fees

Fees subject to refund include: educational fee, instructional computing fee, engineering supplemental fee, student activity/faculty fee, health service fee and any instruction-related miscellaneous fees which may be assessed.*

Students who have registered for credit courses, made payment of fees, and whose registration is subsequently canceled, or who withdraw from the university or reduce their course load, will, subject to certain exceptions and upon written request to the Cashier's Office, receive a refund of the fees in accordance with the following schedule: class day of cancellation, withdrawal, or change of course load.

Fall/Winter Semester –16 weeks

Before the first day of classes, 100% refund, less an enrollment cancellation fee of \$20.00

Class days 1-5	90% refund.
Class days 6-10.....	70% refund.
Class days 11-25.....	50% refund.
After class day 25.....	NO REFUND.

Summer Semester – 8 weeks

Before the first day of classes, 100% refund, less and enrollment cancellation fee of \$20.00

Class days 1-3	90% refund.
Class days 4-5	70%refund.
Class days 6-13.....	50% refund.
After class day 13.....	NO REFUND.

Class days are counted by excluding Saturdays, Sundays and holidays.

*Deductions may be made from any refund of fees for any financial obligation due the university.

Financial Assistance

To help you put yourself through school, UMR has a vast number of ways for you to get financial assistance. Freshman university scholarship applicants must complete the UMR Undergraduate Application for Admission & Student Financial Assistance and be accepted to the university for scholarship consideration.

For other financial aid (grants, loans, work-study), you must complete a Free Application for Federal Student Aid (FAFSA). Preference will be given to those students whose Free Application for Federal Student Aid have been received March 1. If you apply at any other time of the year, UMR will attempt to fill your financial needs to the extent that funds or opportunities are available.

You will be notified as to the types of aid available to you. To give you a general idea, they are outlined here. Federal and state agencies and alumni, business firms, foundations, trusts, and friends of UMR have provided funds for student financial assistance in UMR's departments. A more detailed list of financial aid can be found in the UMR *Financial Assistance* brochure. Please contact the Office of Admissions/Student Financial Assistance for more detailed information.

You can apply for a loan or a grant. You can work at a part-time job – maybe with the Federal Work-Study Program. In the Cooperative Training Program, you can alternate semesters of school at UMR with semesters of work in industry. You can test out of some courses to get through faster. You may want to look into UMR's Minority Engineering and Women in Engineering programs. Army and Air Force ROTC each offer scholarships. The athletic department offers many grants in various sports.

There's assistance for you if you're from Kansas, Michigan, Minnesota or Nebraska. (More details on the Midwest Student Exchange Program are available from the Director of Admission and Student Financial Assistance).

UMR Curators' Scholarship Program

You *must* be from a Missouri high school. You must be a Missouri resident and an undergraduate student to qualify.

1. *Freshman Scholar*. You should rank in the top five percent of your graduating class and have ACT composite test scores of 28 or better. The value of the UMR Curators Freshman Scholarship is \$3,500.00. Renewal is considered automatically and is based on a cum GPA of 3.25 or better. If renewed, you are a Freshman Scholar – Renewal.
2. *Freshman Scholar-Renewals*. You must have a cumulative grade point average of 3.25 or better and have completed at least 24 credit hours during the previous academic year. (Co-op students are the exception.)

University Scholarships

To be considered for all university scholarships offered through the Office of Admission/Student Financial Assistance, you must be accepted for admission to UM-Rolla by Nov. 1 (for early awards) and Feb. 1 (final deadline) if you're an incoming freshman, or March 1 if you're a transfer student.

We will consider you for University scholarships based on your admission application information and your ACT/SAT test scores.

Currently enrolled students are considered automatically and a list of all qualified students is provided by the Admissions Office.

University scholarships include funds provided by the Alumni Association, business firms, foundations, trusts, and friends of UMR. A faculty committee is responsible for determining which scholarships are vacant each year.

Generally, early awards are made in December, and the final freshman scholarship recipients are selected in February. Transfer selections are made in March. Scholarship amounts vary from \$1,000 to \$5,250 per year. Repayment is not required; however recipients are encouraged to support future students by contributing to the scholarship program when they are financially able. Most scholarships are renewable and that renewal is based on the recipient's academic performance. Renewal is automatically reviewed by the scholarship committee.

The Missouri Higher Education Academic "Bright Flight" Scholarship Program

The "Bright Flight" Scholarship Program will provide awards in the amount of \$2,000 to eligible entering freshman students. To be eligible for this scholarship, a student must:

- Be a Missouri resident.
- Have a test score in the top 3% of Missouri residents. (2001-2002) is ACT enhanced composite score of 30 or better or an SAT score of verbal 770 and math 770 or better)
- Complete an application (available at your high school.)

National Merit Scholarships

UMR offers a number of National Merit Scholarships, ranging from \$750 to \$2,000, each year to students who are classified as "finalists" in the National Merit Scholarship competition. For more information on National Merit Scholarships, you should contact your high school counselor.

Alumni Sons/Daughters Scholarship Program (For Non-Missouri Residents)

The Alumni Sons/Daughters Scholarship Program is for non-Missouri resident students whose parents graduated from UMR. To qualify, students must be freshman who are in the upper 25 percent of their high school graduating class and have an ACT composite score of 24 or better. Non-Missouri resident transfer students are eligible as are non-Missouri resident UMR upperclass students who have completed 30 hours of university-level course work and have a cumulative grade point average of 3.2 or above. A student must complete an application to be considered for this scholarship. Alumni Sons/Daughters Scholarship applications may be received from UMR's Office of Admission/Student Financial Assistance.

Alumni Grandchildren Scholarship Program (For Non-Missouri Residents)

The Alumni Grandchildren Scholarship Program is for non-Missouri resident students whose grandparents graduated from UMR. To qualify students must be freshmen who are in the upper 25 percent of their high school graduating class and have an ACT composite score of 24 or better. Non-Missouri resident transfer students are eligible as are non-Missouri resident UMR upperclass students who have completed 30 hours of university-level course work and have a cumulative grade point average of 3.2 or above. A student must complete an application to be considered for this scholarship. Alumni Grandchild Scholarship applications may be received from UMR's Office of Admisstion /Student Financial Assistance.

UM-Rolla Scholarship Program (For Non-Missouri Residents)

The UM-Rolla Scholarship Program will provide a scholarship toward non-Missouri resident fees. Qualifications for consideration: Complete an application for Admission and Student Financial Assistance. Transfer students must have completed 30 hours of college credit with a cumulative GPA of 3.0 or better.

The application deadline is Nov. 1 preceding the academic year of enrollment. This scholarship is renewed each academic year for a total of eight semesters as long as the student maintains a cum gpa of 2.50 or better.

Federal Pell Grant

The source of funding is the federal government.

Eligibility: You must have a financial need, be a half-time student, be a U.S. citizen or permanent resident and never have received a bachelor's degree.

Amount: Up to \$3,750 (during 2001-2002 Academic year)

Repayment: None

Renewal: Must re-apply, if eligible, each year.

Applications: Complete a Free Application for Federal Student Aid.

Federal Perkins Loan

This source of funding is from the federal government to the university. You must have an established financial need, be at least a half-time student, and a U.S. citizen or permanent resident.

Amount: Varies to a maximum of \$3,000 per year for undergraduate study.

Repayment: The Federal Perkins Loans must be repaid. The repayment begins nine months after leaving school with five percent interest starting at that time.

University Loans

The source of funding is gifts to UMR from the Alumni Associate, business firms, foundations, trusts and friends of UMR.

Eligibility: You must have an established need, be at least a half-time student, and a U.S. citizen or permanent resident.

Amount: Varies depending on the stipulations of the loan guidelines.

Repayment: Repayment begins after you leave UMR.

Federal Supplement Educational Opportunity Grant

The funds for this program are awarded to students with an extreme need.

Amount: Varies from \$200 to \$1,500 per year.

Eligibility: You must be at least a half-time student, a U.S. citizen or permanent resident, and never have received a bachelor's degree. Must complete FAFSA.

Federal Work-Study (FWS)

The source of funding is from the federal government to the university. All students who have completed a Free Application for Federal Student Aid form and have an established need will be considered automatically for the FWS program, with special consideration given to students from low-income families. The FWS program is financial aid that the student must earn through work. The student is paid at least the current minimum wage and usually works an average of 10 hours per week. The student must be a U.S. citizen or permanent resident.

18 □ General Information

Gallagher Grant

(formerly known as Missouri Grant)

The source of funding is the state of Missouri.

Eligibility: You must be a Missouri resident, a U.S. citizen, a full-time undergraduate student (carrying at least 12 credit hours) and have an established need.

Amount: Will be determined by the Missouri Department of Higher Education. Consideration for the Gallagher Grant will be given automatically to all Missouri residents who complete FAFSA prior to the April 1 deadline.

Advantage Missouri Program

Missouri resident enrolled full-time in "high-demand occupational fields".

Amount: Up to \$2,500 per year. Aggregate max up to \$10,000. Complete application and FAFSA.

Missouri College Guarantee Program

Missouri resident with a minimum ACT of 20 or above and a high school GPA of 2.5 or higher on a 4.0 scale.

Amount: Varies. To apply complete FAFSA annually by April 1 deadline.

Ford Direct Loans

The source of funding for the Ford Direct Loan program is provided by the federal government. The amount can vary depending on the individual student's need, up to a maximum of \$2,625 as a freshman, \$3,500 as a sophomore and \$5,500 as a junior, senior, or fifth-year student. Graduate students may receive up to \$8,500 per year. A student must be enrolled at least half-time.

A Free Application for Federal Student Aid form must be completed in order for a student to receive a Ford Direct Loan. Interest does not start to accrue on *Subsidized* Ford Direct Loans until 6 months after a student graduates or ceases to be a half-time student.

Interest on *Unsubsidized* Ford Direct Loans begins as soon as the student receives his loan. Interest rate for first-time borrowers after 10/01/92 will be variable (T-Bills +3.1%) capped at 8.25%.

Other Possibilities

Alumni Educational Assistance Program

The source of funding is the Alumni Association.

Eligibility: normally advanced standing and approval of a special committee.

Amount, repayment, renewal and limitations: same as work-study employment.

Minority Engineering Program (MEP)

This is a UMR-sponsored program to help minority group members (male or female) who desire to enter the engineering profession. For more details, write or call Floyd Harris, Minority Engineering Program, Room 212 ERL, UMR, Rolla, MO 65409-0150. Telephone: (573) 341-4212.

Women in Engineering Program (WEP)

This is UMR-sponsored program offered to women majoring in engineering. For more details, write or call Floyd Harris, Minority Engineering Program, Room 212 ERL, UMR, Rolla, MO 65409-0150. Telephone: (573) 341-4212.

Athletic Grants

For information on athletic programs at UMR, contact: UMR Athletic Department, Gale Bullman Multi-Purpose Building, UMR, Rolla, MO 65409-0740. Telephone: (573) 341-4175.

Music/Theatre Awards

For more information on music and theatre awards available at UMR, write: Music/Theatre, 127 Castleman Hall, UMR, Rolla, MO 65409-0670.

Cooperative Training Program

For information on the co-op program at UMR, contact: Cooperative Training Program, 303 Norwood Hall, UMR, Rolla, MO 65409-0240. Telephone: (573) 341-4309.

Transfer Scholarship Program

UMR offers a large number of scholarships to new transfer students who will be enrolling at UMR. For more information on this scholarship program, contact: Transfer Coordinator, Office of Admission/Student Financial Assistance 106 Parker Hall, UMR, Rolla, MO 65409-0250. Telephone: (573) 341-4165.

Missouri Income Tax Deduction (For Non-Missouri Residents Only)

Non-Missouri residents who pay Missouri income tax get a deduction on the non-resident fees up to the amount of Missouri income tax they pay. For more information contact the Cashier's Office, G-4 Parker Hall, UMR, Rolla, MO. 65409-1160 or call (573) 341-4194.

Departmental Scholarships

Various departments within the university offer a number of scholarships to students majoring in that area. Interested students should contact the department in which they are majoring.

ROTC (Army or Air Force)

For more information on the ROTC program at UMR, contact Army ROTC, 301 Harris Hall, UMR, Rolla, MO 65409-0310. Telephone: (573) 341-4744 or Air Force ROTC, 206 Harris Hall, UMR, Rolla, MO 65409-1450. Telephone: (573) 341-4925.

Graduate Student Aid

Financial aid for graduate students through the UMR Student Financial Assistance Office is limited to Federal Work Study, Federal Perkins Loans, University Loans and Ford Direct Loans. Graduate students should contact the department in which they are majoring for other possibilities for scholarships, grants, fellowships or assistant ships.

Academic Assessment Student Research

Assessment Requirements

All students at UMR are required to participate in appropriate assessment activities. The requirement to assess students originates from a directive at the Governor's Office and the legislature of the State of Missouri. Public universities are accountable to the state, and are expected to prove, by demonstrating student performance outcomes, that funds are being spent appropriately and learning objectives realized. The Board of Curators has supported that directive, and the campus faculty assessment committees have developed UMR's assessment policy in order to implement the directive.

Assessment involves the systematic process of gathering and using data for evaluating and improving programs and services. Standard educational research methods are used to gain concrete evidence about how well UMR is achieving its mission goals.

With the advent of the performance funding initiative in recent years, UMR's level of funding depends in part on the performance of students on assessment exams.

Student results: In cases where individual student scores are available, they will be distributed to interested students. Individual results will be used for research purposes only. The Office of Academic Assessment and Student Research guarantees complete confidentiality for all students.

UMR Policy

1. All graduating seniors must fulfill the assessment requirements, as determined by the major field department and consistent with the Office of Academic Assessment and Student Research and

the Board of Curators' guidelines, before graduating.

2. All other full-time students must fulfill the assessment requirements as determined by the UMR Office of Academic Assessment and Student Research and consistent with the Board of Curators' guidelines, before registering for further course work.

Compliance is important to UMR students, programs, and the entire institution. Specifically, students must cooperate in the following manner, which is subject to change:

General Education

1. Freshmen complete various surveys such as needs, satisfaction and state wide surveys.
2. Students who have completed a sufficient number of credit hours will be scheduled to take a general education test such as the Academic Profile Test (APT), which measures several general education skills.

Students will be notified by the Assessment Office the semester they are expected to fulfill the requirements. Should a student fail to meet the requirements as scheduled, registration for future courses will be withheld.

Major Field

Seniors take a major field test, such as the Fundamentals of Engineering (FE) test or the Major Field Achievement test (MFAT), before being approved for graduation.

Students receive MFAT notification from their department. Information about FE test dates and requirements is available through engineering departments.

Participation in the assessment program ensures continuous improvement and a quality education for current and future generations of students.

Assessment requirements affect enrolled students immediately. Assessment requirements are not linked to catalog year and may change during a student's undergraduate career.

Academic Resources on Campus

LEAD "Learning Enhancement Across Disciplines"

The Learning Enhancement Across Disciplines (LEAD) program offers learning forums for students who wish to improve their understanding of concepts and their mastery of skills in a wide variety of introductory courses to achieve their full potential.

20 □ General Information

Learning Centers

The LEAD program sponsors open-environment Learning Centers for several large-enrollment introductory courses. Discipline-based faculty and undergraduate peer instructors staff the centers during fixed hours each week. Students are encouraged to work in interactive groups to solve problems and to develop strategies, guided and validated by the experts on duty. The centers are designed not only to help students with course content, but to also help them gain professional skills in communication, problem solving and teamwork.

Peer Tutoring

Scheduled drop-in tutoring is available at fixed locations for a large number of introductory and foundational courses. It focuses on individual and small-group interactive assistance. The undergraduate peer tutors are accomplished in the course material, trained by professional LEAD staff and communicate with LEAD faculty mentors in the associated disciplines.

Academic Enhancement Services

The program offers a range of resources for student success. These include learning consultation, test and course review materials, learning style inventories, study skill building workshops, and organization of study groups. The Academic Enhancement Services has a comprehensive resource web site (<http://www.umar.edu/~aec/>), including links to faculty support websites, Library Electronic Reserves and virtual learning resources.

For further information on LEAD programs, contact The Office of Student Affairs, 106 Norwood Hall, 341-4292, <http://www.umar.edu/~tutors/>

Other Sources of Academic Assistance at UMR

There are several other sources of academic assistance at UMR that students can access to improve their understanding of and proficiency with course material and learning process.

- Professors
 - Professors can clarify concepts or refer students to peers or resources that can provide academic assistance
- Math Help Program, Mathematics & Statistics Department, 341-4641, <http://www.umar.edu/~mathstat/>
 - Offers assistance in 9 courses
- Computer Science Help Program, Computer Science Department, 341-4491, <http://www.cs.umar.edu/>
 - Offers hands-on help for 3 courses
- Writing Center, 113 Campus Support Facility, 341-4436, <http://www.umar.edu/~wac/>

- New facility with state-of-the-art computers, all the latest software, and a staff of highly trained, motivated, and friendly peer writing tutors.

- Center for Personal & Professional Development, 204 Norwood Hall, 341-4211, <http://www.umar.edu/~counsel/>
 - Study skill reference material at the Van Matre Resource Center
- Library, 341-4227, <http://www.umar.edu/~library/>
 - Great study or meeting facility, and broad learning resources

First Year Experience

The Freshman Leadership and Success Program (FLSP)

Housed in the Division of Student Affairs, FLSP assists new UMR students in being successful at UMR and developing leadership skills. It provides academic and community support to students facing the challenges of their freshman year.

New students are placed in mentor groups with approximately fifteen of their peers. A Student Mentor and Faculty Mentor facilitate the mentor groups. This structure provides student with the opportunity to connect with individuals who are committed to their success.

Groups meet for the first time during the Orientation picnic. They attend Orientation programs together and continue to meet weekly for the semester.

For more information about the Freshman Leadership & Success Program, please contact The Office of Student Affairs, 106 Norwood Hall, (573) 341-4292, <http://www.umar.edu/~flsp/>.

Academic Extension

UMR students can take part in many activities of continuing education. Engineering and science conferences and short courses are offered on campus and in St. Louis. The Engineering Education Center, located at the University of Missouri-St. Louis, provide courses which may aid the students in planning their graduate programs. In addition to the continuing education programs, correspondence study is offered representing all four campuses of the University of Missouri through the Center for

independent Study. Information on these programs may be obtained from the dean's office of each UMR's schools/college.

Co-op students should check with their department advisors to see if on-line courses are available for their degree requirements while away from UMR.

Aerospace Studies (Air Force ROTC)

The Air Force Reserve Officer Training Corps (AFROTC) is an educational program designed to give young men and women the opportunity to become Air Force officers while completing a bachelor's or master's degree. The mission of Air Force ROTC is to produce leaders for the Air Force and build better citizens for America. As the largest source of Air Force officers, Air Force ROTC prepares officer candidates to assume positions of increasing responsibility and importance in today's Air Force. Leadership, communication, and basic military skills are the focus of the AFROTC program. In addition to helping a student succeed during college, Air Force ROTC also fosters self confidence and self discipline.

The Program:

The Air Force ROTC program at UMR is set up as a four-year program. However, some students may choose either a three or two year course of study, determined by personal circumstances. The first two years of the program, called the General Military Course (GMC), cover basic introductory military topics as well as communication and leadership. Each GMC class is a one-hour course. Students can enroll in the GMC by registering for aerospace studies just as they register for any other university course. There is absolutely no obligation incurred for service in the Air Force for taking GMC courses unless the student has an active AFROTC scholarship.

The final two years of the program, called the Professional Officer Course (POC), cover topics such as leadership, management, doctrine, international events, quality, communication, and officership. Each POC class is a three-hour course. In addition to the academic GMC/POC ROTC class, all cadets attend up to a one and one half-hour leadership laboratory each week. Leadership laboratory provides cadets with the knowledge and practical command and staff leadership experience in preparation for active duty as Air Force officers. It is largely cadet planned, directed, and centered.

Students usually attend summer field training prior to their junior year, before elevation into the POC. Field training is either a four week, or five week encampment, depending on the individual's ROTC program length. Entrance into the POC is based on

an extensive evaluation and selection process during the student's sophomore year. Selections are based on the "whole person" concept which considers, among other factors, results of an Air Force Officer Qualifying Test, a military physical examination, university grade point averages, and physical fitness performance.

Scholarships:

Students do not have to be on a scholarship to complete our program and be an Air Force officer. However, if you do receive an Air Force ROTC Scholarship, they can include all tuition costs, incidental and lab fees, and a flat rate for text books. A monthly \$200 stipend is given during the academic year to each cadet on scholarship and also members of the POC. **Students who receive an AFROTC scholarship also receive an annual \$2000 supplement from UMR which will currently cover most room costs, board not included.** ROTC scholarship recipients are eligible to receive other UMR scholarships. Another scholarship opportunity, called the POC Incentive Scholarship, is available on a non competitive basis to all qualified junior and senior cadets in the POC (and not on any AFROTC scholarship) regardless of academic major. This \$1750 per semester scholarship is available for up to four semesters.

Field Training:

Air Force ROTC cadets' first extended exposure to a military environment comes with a field training encampment usually at the end of the sophomore year. The cadets get a close look at Air Force life and activities and the Air Force simultaneously takes a close look at the cadets.

Field training encampments include cadet orientation, survival training, junior officer training, aircraft and aircrew indoctrination, physical training, organization and function of an Air Force base, career orientation, drill and ceremony, small arms familiarization, and supplemental training.

In addition, some cadets fly in an Air Force aircraft. As mentioned before, the length of field training, either a four or five-week encampment, depends on the length of the ROTC program the cadet is taking. For a cadet with a typical four-year ROTC program, field training consists of a four-week encampment.

A large number of cadets attend field training each summer, meeting and working with peers from all areas of the United States. Travel pay to and from the student's home or school is provided, or the Air Force provides a paid ticket for a commercial carrier. Room and board is also provided throughout field training. While there, the cadets receive cadet pay of about \$500.

22 □ General Information

Graduate Study:

The Air Force realizes there is an increasing demand for graduate education among its personnel and has established several programs to provide this training. The Air Force Institute of Technology is available to AFROTC graduates and offers advanced degree training in college curricula which are related to Air Force career fields, including engineering, meteorology, the physical sciences, mathematics, languages, logistics, and business administration.

Qualifications:

All students who desire to enter Air Force ROTC must be citizens of the United States, be of sound physical condition, and be of the highest moral character. Pilot and navigator candidates must be no older than 29 at commissioning; other age restrictions may apply.

Physical Requirements:

Detailed information on physical requirements is available at the detachment on campus, second floor, Harris Hall.

Military Obligation:

Upon graduation and commissioning as an officer in the U.S. Air Force, students fulfill their military obligation by agreeing to retain their commission for a period of eight years, serving at least four years on active duty, depending on their selected Air Force career field. Pilots incur a ten-year active duty service commitment after completing undergraduate pilot training. Navigators incur a six-year active duty service commitment after completing undergraduate navigator training.

Opportunities:

Opportunities in the Air Force are excellent, with over 100 possible career fields available. Career field availability depends on academic discipline, medical condition, desires of the individual, and needs of the Air Force. As newly commissioned second lieutenants on active duty, Air Force ROTC graduates can serve rewarding duties in highly technical, scientific, and operational areas such as design, research, engineering, systems development, space operations, computer science, procurement, flying, management, acquisition and maintenance.

The Corps of Cadets:

The Air Force ROTC unit at UMR is organized as an objective wing, with associated groups, squadrons, and flights. Freshmen and sophomore cadets are assigned to one of the flights. They receive instructions from POC cadets in basic military customs and courtesies, drill movements, and many other facets of Air Force operations. Additionally, they are offered the opportunity to visit Air Force bases and discuss career opportunities with Air Force members. Junior and senior cadets are assigned and

rotated through various leadership positions, gaining experience in management procedures.

If you are interested in the Air Force ROTC program here at UMR or have any questions, please call or visit the detachment. We're on the second floor of Harris Hall. Our phone number is (573) 341-4925, or you can also find us at www.umar.edu/~airforce.

Assistance for Students With Disabilities

This policy statement relating to otherwise qualified persons with disabilities outlines the roles and responsibilities of students, faculty, staff and the Coordinator of Disability Support Services (Coordinator) in making the University of Missouri-Rolla (UMR) programs and services available to all persons. The University places specific emphasis on accommodating the needs of matriculated students with a disability, providing related services, and ensuring the academic integrity of UMR. This policy statement is in accordance with Section 240.040 E, Policy Related to Students with Disabilities, Collected Rules and Regulations of the University of Missouri, the Missouri Human Rights Act, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990.

I. Confidentiality

- A. In accordance with the requirements of the Family Educational Rights and Privacy Act, medical information concerning a disability will be treated with utmost confidentiality. It will be:
 1. treated like other medical information,
 2. maintained in secure files under the jurisdiction of the Coordinator, and
 3. released only on a need-to-know basis within the university community.

II. Responsibilities of the Student

- A. All disabled students seeking reasonable accommodations and provision of disability-related services must:
 1. identify himself or herself to the Coordinator as desiring accommodations
 2. provide current and adequate documentation of his/her disability and of appropriate accommodations to the Coordinator, and
 3. request needed classroom accommodations and related services of the Coordinator.

- B. All of the above requirements must be met by the student in a timely manner to ensure full resolution of accommodations and related services prior to the Student's entrance into the program or course of study. The student should provide the necessary documentation at least six weeks prior to the first semester for which accommodations are being requested and should provide the Coordinator with a copy of his/her class schedule as soon as it is available for each semester during which s/he is seeking accommodations. Waiver of these deadlines may be made by the Coordinator on a case by case basis. Failure to meet the specified deadlines and requirements may result in a denial of accommodations.
- F. In any disagreement related to IV.3, the Chancellor shall take into consideration all relevant factors including but not limited to:
1. current documentation of the specific disability,
 2. the need for the requested services or accommodations,
 3. the essential elements of the academic program or course of study being pursued, and,
 4. the fact that no applicable law requires UMR to substantially alter essential elements of its academic program or course of study or to otherwise compromise its academic standards.
- G. The written judgement of the Chancellor or his/her designee shall be presented to the faculty member or department administrator within ten working days following receipt of the written notice of disagreement.

III. Documentation Procedure

- A. Documentation of a specific disability provided to the Coordinator must be current and adequate. Diagnosis and evaluation costs shall not be the responsibility of the university.
1. Current medical or other diagnostic documentation of a disability must be provided by a qualified physician or other qualified diagnostician.
 2. Current documentation of the need for reasonable accommodations and related services must also be provided to the Coordinator.
 3. If existing documentation incomplete or outdated, the Coordinator may require the student to provide additional documentation at the student's expense.

IV. Collaborative Responsibilities of the Coordinator, Faculty, and Staff

- A. The Coordinator shall review the documentation provided by the student and discuss the accommodation and related services requested.
- B. The Coordinator shall make an initial determination as to whether requested accommodations and related services are required.
- C. The Coordinator shall provide the student with a letter describing recommended accommodations and related services.
- D. The faculty or staff member responsible for a specific class, program, or service shall then determine accommodations of the disability and provision of related services in consultation with the Coordinator if necessary.
- E. Any disagreement relating to accommodations shall be described in writing and submitted to the Chancellor or his/her designee for resolution in a prompt manner. This appeal must specify why the accommodation request is considered unreasonable or unworkable.

V. Specific Responsibilities of the Faculty

- A. It is the responsibility of the faculty to:
1. establish curriculum requirements and uphold the academic standards of UMR,
 2. determine that the essential elements of these curricula, as well as those of an individual course are being fulfilled,
 3. work with the Coordinator to determine the provision of reasonable accommodations and related services for disabled students when requested by the Coordinator and,
 4. follow applicable rules with respect to individual privacy and confidentiality.
- B. If the faculty member concerned opposes the determination made by the Coordinator, s/he should proceed as follows:
1. S/he initiates a review of this determination with the Coordinator.
 2. If after this review the faculty member or department administrator still does not agree with the Coordinator's determination, s/he may have recourse to the procedures outlined by Section IV, subsections 4 and 5.

VI. Grievance & Complaint Process

- A. A student who believes that the determination of the Coordinator for the provision of reasonable accommodations and related services is not being fulfilled by a faculty or staff member must contact the coordinator in a timely manner to discuss the concerns.
- B. A student who is not satisfied with the accommodation plan or the initial determination of the Coordinator may file a grievance under the University of Missouri Discrimination Grievance Procedure for Students (Section 370.010). A copy of this policy can be obtained from the following sources:

24 □ General Information

The UM system web page at

<http://www.system.missouri.edu:80/uminfo/rules/grievance/390010.htm> and

1. The Affirmative Action/EEO office in 336 Computer Science (573) 341-6314
2. Office of the Vice Chancellor for Student Affairs (106 Norwood).

Contact Information

Coordinator of Disability Support Services:
Office of the Vice Chancellor for Student Affairs
106 Norwood Hall
Phone: (573) 341-4292 TTY: (573) 341-6645
FAX: (573) 341-6333
Email: stu-aff@umr.edu

Career Opportunities Center

The Career Opportunities Center (COC), located on the third floor of Norwood Hall, provides many services to assist University of Missouri-Rolla students and graduates in their job search for professional full time, summer and co-op employment.

The COC is an effective link between UMR students and employers and its goals are two-fold: first, to PREPARE students for conducting a successful job search and second to PROVIDE opportunities for employment:

Job Search Preparation

www.umr.edu/~career

The COC WebPage is accessible on the Internet and contains information on services, staff, events, on-campus interviews, job listings as well as on-line copies of the COC Manual and CAREER newsletter.

Resource Library

The Career Opportunities Center contains references and handouts on many job search topics.

Workshops

Workshops on Resume and Letter Writing, Career Fair Strategies, Interviewing Skills, Plant Trips and Salaries & Benefits are presented both semesters at convenient times for students. A five-course Etiquette Dinner is provided at no cost to seniors and graduate students to review professional social manners.

Individual Advising

30 minute appointments are available with Career Advisors who work one-on-one with students to review their resume and cover letter and to discuss job search concerns.

Practice Interviews

Practice Interviews are available for students who would like to improve their interviewing skills. Students are videotaped in a mock interview with a Career Advisor who will review and critique the interview with them.

Job Search Opportunities On-Campus Interviews

Full-time, Summer and Co-op interviews are conducted by more than 1,500 companies in the COC's professional interview suite. Students must be registered in the Career Opportunities Center to enter their resume into the data bank in order to participate in on-campus interviews. Students check the Internet daily for information about companies coming to interview, job requirements and important dates. They are then responsible for submitting their resume electronically and for signing up for interviews by the stated deadlines.

UMR Job Listings

Companies list their job opportunities for UMR students through the Internet on JOBTRAK.

Career Fairs

Two Career Fairs are sponsored each year by the Career Opportunities Center to provide students direct access to company representatives. Students have the opportunity to meet face-to-face with recruiters, use their interviewing skills, hand out resumes and collect company information. These contacts often lead to Full-time, Summer and Co-op jobs.

Resume Referrals

The COC forwards student resumes to requesting companies who are interested in hiring UMR students but are not coming to campus to interview. Students who are registered with the COC will be contacted directly by the company if it is interested.

Alumni Job Listings and Alumni Resume Referrals

UMR Alumni may subscribe to www.jobtrak.com job listings on the Internet on JOBTRAK with a password through the COC. In addition, resumes in the COC alumni data bank that match the specified qualifications will be sent to requesting employers.

Cooperative Education Program

The University of Missouri-Rolla's Cooperative Education Program, administered by the Career Opportunities Center, (COC) is designed to assist students in preparing for their careers while pursuing a degree by alternating semesters of full-time academic study with full-time career-related work. The program involves working for employers which have agreed to provide appropriate professional work assignments and conduct an appraisal of the student at the end of each period.

Co-op Benefits

The UMR Cooperative Education Program:

- Provides students an opportunity to obtain professional experience in order to enhance and complement their studies.
- Prepares graduates for immediate professional assignments without further "on-the-job" training.
- Provides financial assistance to students.
- Provides closer contact between employers, UMR and its students.

Co-op Curricula

Co-op programs are offered in the following curricula: aerospace, ceramic, chemical, civil, computer, electrical, geological, mechanical, metallurgical, mining, nuclear and petroleum engineering and engineering management, as well as biological sciences, chemistry, computer science, geology, mathematics, physics, management systems and the humanities and social sciences.

Co-op Eligibility

To be eligible to participate in the Co-op Program, a student must be a full-time student when applying for and while participating in the co-op program. (Full-time is defined as satisfactorily carrying and passing a minimum of 12 credit hours in a fall or spring semester and a minimum of 6 hours in a summer session.)

A student must have at least a cumulative GPA of 2.0 out of 4.0 to apply to and participate in the program. The student must not be on any type of probation.

The actual amount of academic work which must be completed before being selected for the program or before beginning a work period is up to the employer, but a student must have completed at least two semesters. Other eligibility requirements may be established by the sponsoring company with the concurrence of UMR. Financial need is not a determining factor as to which students are employed.

A transfer student may register for co-op as soon as they begin classes at UMR. A transfer student who is participating in a co-op program through another institution may transfer and continue the co-op affiliation subject to UMR's guidelines.

UMR Registration during Co-op

Students beginning their first co-op work term in the summer are required to register with the University if the position results from a Career Opportunities Center facilitated interview or resume referral. All other students have the option of registering with the University during the co-op session. To register with the University students pay a fee equivalent to the cost of one hour of instruction. Advantages to registering include:

- Retaining scholarship(s) which require that the student be registered with the University.
- Maintaining continuously enrolled status for insurance and loan purposes.
- Not having to apply for readmission to UMR to attend classes following the co-op work term.
- Having pre-registration information mailed.

Credit for co-op is awarded at the discretion of the student's academic department. Students must be registered with the University for work terms when academic credit is to be earned.

Co-op Selection Process

Selection of co-op participants is usually made after on-campus interviews by representatives of the participating companies. Students must be registered with the co-op office of the Career Opportunities Center before interviewing. Some companies may not conduct on-campus interviews. In these instances resumes will be forwarded to the company by the COC. Co-op employers sign an agreement to participate in the program. Students may identify an employer to participate in the program, and the co-op office will assist in registering the employer.

Co-op Schedule

Participants in the Co-op Program work and attend school on an alternating schedule. UMR's academic year is composed of two semesters and a summer session. The work periods vary in length, but are approximately 16 weeks in the fall, 20 weeks in the spring, and 12 weeks in the summer. While students typically alternate full-time work at an employer, with full-time classes on campus, it is possible to work a semester and a summer straight-through, or in a few instances to go to school and work at the same time. Unless schedules are changed upon agreement by the co-op office, student and employer, participants may not remain away from campus for more than eight consecutive months.

Co-op Salaries

Salaries and wages vary from one company or location to another, as do the benefits extended to co-op students. Wages may be increased to take into account progress toward a degree and accrued work experience. UMR does not set pay rates for any participating company or agency. Co-op salary information is available at the COC.

More Information

For additional information concerning this program please contact:

Cooperative Education Program
Career Opportunities Center
1870 Miner Circle
303 Norwood Hall
University of Missouri-Rolla
Rolla, Missouri 65409-0240
(573) 341-4301

The Center for Personal & Professional Development

The Center for Personal & Professional Development (CPPD) offers a variety of services to the UMR campus including New Student Orientation—PRO (Preview, Registration, Orientation), Counseling, Learning Enhancement/Outreach, Leadership Development, and the Faculty/Staff Assistant Program.

The CPPD organizes Orientation includes Preview, Registration, and Orientation (PRO). PRO facilitates students' transitions to college through interactions with faculty/staff members, peers, and upperclassmen; provides information concerning resources on campus; and participation in math placement testing which builds their successful academic foundation.

Personal, academic and career counseling is provided to UMR students, faculty and staff on a time-limited basis. Services are free, confidential and provided by professionally trained counselors and/or psychologists. Concerns commonly addressed in personal counseling include self-exploration, family issues, college adjustment, feelings of depression and anxiety, interpersonal issues, self-esteem, and childhood abuse. Clients also can learn relaxation and coping strategies to deal with the many stressors of daily living. Persons wondering about their majors and career options can seek career counseling. Typically, clients in career counseling explore personal and professional goals and how to achieve them. Academic counseling involves

assistance with study skills, test anxiety, time management, and other skills related to success at UMR. Group counseling is an interactive, supportive, and interpersonal form of therapy. The CPPD has several groups that run throughout the academic year including; Family-Based Issues, Sexual Abuse Survivors, Self-Esteem Enhancement, Career, and Student Success.

The CPPD actively promotes student learning and professional development through its learning enhancement and outreach programming services. The CPPD offers programs to campus groups on topics such as academic success, test anxiety, conflict resolution, and stress management. Another part of outreach programming includes Student Success Seminars that are designed to assist students with academic success strategies, educational resources, and opportunities to develop professionally.

Located in the CPPD is the *VanMatre Resource Center*- A Self-Help Library containing excellent audio and reading materials. Topics range from communication skills to parenting, job search issues to abuse. Books on graduate schools, grants, occupations, and GRE preparation materials are available. Computerized career-assessment programs that students can use to explore career questions are also available.

The CPPD coordinates Leadership Development Programs to increase the leadership capabilities of all students. Through dynamic partnerships between staff, faculty, alumni, and corporations, students develop competence in technical, personal, and interpersonal arenas. Leadership development is the result of an integration of a solid educational program in a selected discipline area, community involvement, teamwork activities, leadership field experiences, and activities to enhance interpersonal skills, personal development, and career management skills.

The *Faculty Staff Assistance Program* (FASP) is based on the Employee Assistance Program (EAP) model and offers a variety of services such as counseling, consultation, organizational development, and training to faculty and staff.

For more information contact The Center for Personal & Professional Development, 204 Norwood Hall, 341-4211 or visit our web site at

www.umr.edu/~counsel/.

Co-Curricula Activities

Academic Department Groups

American Association of Petroleum Geologists/C.L. Dake Society, American Ceramic Society, American Concrete Institute, American Foundryman's Society, American Indian Science and Engineering Society, American Institute of Aeronautics & Astronautics, American Institute of Chemical Engineers, American Nuclear Society, American Society for Engineering Management, American Society for Quality Control, American Society of Civil Engineers, American Society of Mechanical Engineers, American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), Associated General Contractors, Association for Computing Machinery, Association of Engineering Geologists, Economics Student Professional Organization (ESPO), Earthquake Engineering Research Institute, El club de Espanol, French Club, HELIX Biological Sciences Club, History Club, Institute of Electrical & Electronic Engineers, Institute of Industrial Engineers, Institute of Packaging Professionals, Institute of Transportation Engineers, International Society for Hybrid microelectronics, Iron and Steel Society, Living Poets Society, Mathematical Association of America, National Society of Black Engineers, Psi Club, Society of American Military Engineers, Society of Automotive Engineers, Society of Exploration Geophysicists, Society of Explosives Engineers, Society of Hispanic Professional Engineers, Society of Manufacturing Engineers, Society of Metallurgical Engineers, Society of Mining Engineers, Society of Petroleum Engineers, Society of Physics Students, Society of Plastics Engineers, Student Association of Management Systems, Student Missouri State Teachers Association, Water Environment Federation, W.T.Schrenk Society.

Honor and Professional Groups

Alpha Chi Sigma, Alpha Iota Delta, Alpha Nu Sigma, Alpha Sigma Mu, Blue Key, Chi Epsilon, Eta Kappa Nu, Kappa Kappa Psi, Kappa Mu Epsilon, Keramos, National Residence Hall Honorary, Omega Chi Epsilon, Order of Omega, Phi Alpha theta, Phi Eta Sigma, Phi Mu Alpha, Phi Sigma Biological Honor Society, Pi Epsilon Tau, Pi Tau Sigma, Psi Chi, Sigma Gamma Epsilon, Sigma Gamma Tau, Sigma Pi Sigma, Sigma Tau Delta, Society of Women Engineers, Tau Beta Pi, Tau Beta Sigma and Upsilon Pi Epsilon.

Inter-cultural Groups

African Student Association, Arab Student Club, Association of Black Students, Chinese Students Association, Chinese Students & Scholars, India Association, International Student Club, Korean Students Association, Malaysian Students

Organization, Thai Student Association, Turkish Students Association and Vietnamese Students Association.

Media and Publications Groups

KMNR Radio Station, *Missouri Miner*, *Rollamo* and *Southwinds*

Programming and Governing

ASUM, Council of Graduate Student, Interfraternity Council, Panhellenic Council, Residence Hall Association (RHA), Student Council, Student Union Board.

Recreation and Sports Groups

Aikido Club, Ballroom Dancing, Chess Team, Cycling Club, Fencing Club, Gamin Association, Indoor-Soccer club, In-Line Roller Hockey Club, Intramural Managers Association, Jakattack Swim Club, Juggling Club, Lacrosse club, Majapanit Martial Arts Group, Pershing Rifles, Racquetball Club, Rugby Club, Shotokan Karate Club, Spelunkers Club, Taekwondo Club, Trap and Skeet Club, Ulitmate! Club, Volleyball Club.

Religious Groups

Baptist Student Union, Campus Crusade for Christ, Chi Alpha, Christian Campus Fellowship, Christian Science Organization, Fellowship of Christian Athletes, Koinonia (Student Fellowship of Church of Christ), Latter Day Saint Student Association, Lutheran Student Center, Muslim Student Association, Newman Center, Society of all Paths, Voices of Inspiration and Wesley Foundation.

Residence Halls Groups

Quadrangle Hall Association (QHA), and Thomas Jefferson Hall Association (TJHA).

Service Groups

Alpha Phi Omega, Circle K Club, Gamma Alpha Delta, Habitat for Humanity, Intercollegiate Knights, Lambda Sigma Pi and Omega Sigma.

Social and Special Interest Groups

Academic Competition Team, Arnold Air Society, Association of United States Army, Blue Sabres, College Democrats, college Republicans, Collegiate Eagle Scott Association, DaVinci Society, Delta Omicron Lambda, Human Powered Vehicle Team, IAESTE-Int. Assoc. for the Exch of Students in Tech. & Eng., Independents, Libertarians, M-Club, Radio Club (Amateur), Raiders, Show Me Anime, Society of Phenomenal Women, Solar Car Team, Student co-Operative Education Association, Student Environmental Action Coalition, theta Tau Omega and Toastmasters.

Fraternity Groups

Acacia, Alpha Epsilon Pi, Alpha Phi Alpha, Beta Sigma Psi, Delta Tau Delta, Kappa Alpha, Kappa Alpha Psi, Kappa Sigma, Lambda Chi Alpha, Phi Kappa Theta, Pi Kappa Alpha, Pi Kappa Phi, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Sigma Pi, Sigma Tau Gamma, Tau Kappa Epsilon, Theta Xi and Triangle.

Sorority Groups

Chi Omega, Gamma Beta Sigma, Kappa Delta and Zeta Tau Alpha.

***All lists subject to change without notice.

Fraternities and Sororities

The 20 fraternities (for men) and 4 sororities (for women) on the UMR campus can house approximately 1,100 students. Fraternities and sororities supplement a student's education and can provide members with an extension of the family unit, and opportunity to engage in self-government as a voluntary association, and an atmosphere that promotes individualism with mutual concern and respect and leadership development-all qualities that are useful in an individual's personal and professional life.

Members of these organizations often are active participants and leaders in various campus activities and in the intramural sports programs.

Additional information can be obtained from the individual fraternities and sororities or by writing or calling the UMR Greek Life Office, 213 University Center-West, University of Missouri-Rolla, Rolla, MO, 65409-0770, phone (573) 341-4329.

Computing at UMR

Getting Started

Computing and Information Services (CIS) provides you with a variety of computing tools and resources to assist with the academic and administrative work done at UMR.

Most faculty, staff and students use computers daily to help with their tasks such as these: to register for classes, communicate with friends using electronic mail (e-mail), collaborate on group projects and research, publish web pages, write reports, find course schedules, and many other tasks.

Your Computer Account

Your computer account is used to access various computing resources at UMR, such as the network and the computers and software on your office desktop or in a Computer Learning Center (CLC). Most UMR computer systems required you to use an authorized user id and password to gain access.

These services are available through your computer account.

Electronic Mail using Outlook, Outlook Express, Mutt, or other pop imap aware applications.

File storage space for storing your personal documents and files.

General purpose software, such as Microsoft Word, Excel, PowerPoint, Internet Explorer, and Maple to assist in your academic or administrative work.

Remote access to the computer facilities through dial-up, residence halls or Greek housing.

Setting up your account

New Students. New computer accounts are set up for new students a few days after they are admitted. You may activate your computer account through the HelpDesk web page at www.umn.edu/helpdesk/ by selecting the "Create an email account" link.

New faculty and staff. Contact the CIS office to have your computer account set up.

When you leave UMR

Your computer account remains active and available for use continuously until you are no longer enrolled or employed by the university. Accounts are deleted several weeks after the start of the Spring and Fall Semesters. Details concerning account maintenance may be found at www.umn.edu/~cis/policies.html by selecting the "User Id Maintenance" link.

Before you leave UMR, you should copy documents you wish to save and remove these files from your account. Also, forward your e-mail to your new address. An e-mail notification will be sent several weeks before your account is to be deleted.

Systems and Software

UMR provides a wide variety of computing and networking facilities in order to promote and support academic pursuits. Some of the different types of computer systems and software available at UMR are described below.

Personal computers running Windows NT and a standard set of software are the most common computer systems on campus. They are used primarily for general purpose computing. These systems are widely available on the office desktop or in the Computer Learning Centers. You can use them to send e-mail, create spreadsheets, browse the WorldWide Web, write papers, read newsgroups, and connect to other computers.

PC software available

Word processing	MS Word
Networking	Ktelnet, WS_FTP, Xwin
Math	MathCAD, Maple
Spreadsheet	MS Excel
Presentation	MS PowerPoint
Web browsing	MS Internet Explorer
Email	Outlook, Outlook Express

Macintosh computers are less common but they are also used for general purpose computing.

Macintosh software available

Word processing	MS Word
Networking	Telnet, Fetch (ftp)
Math	Mathematica, Maple
Spreadsheet	MS Excel
Web browsing	Internet Explorer, Netscape
Email	Eudora

Unix workstations are also less common on desktops and in Computer Learning Centers. These high function, engineering workstations are used for engineering design and analysis.

Unix software available

Editors	VI, pico,
Networking	Telnet, tin, ftp
Math	Matlab, Maple
Statistics	SAS
CAD	Ideas, Ansys, Pro
Engineer	
Compilers	FORTRAN90, C++
Web browsing	Netscape
Email	mutt

Servers play a significant role in campus computing. A complex of servers provides general purpose instructional computing and numerically intensive computing (NIC) for research and discipline-specific projects. Other server-based services include:

Email/information using an Exchange server for employee and Miner Mail accounts to allow access to email, calendars and other information.

File storage using AFS, allows for backups and document sharing.

Print services using shared, networked printers.

Web server, which is AFS-base, allows for personal and department home pages.

Computational servers facilitate a variety of tasks including general purpose computing, numerically intensive computing and specialty software.

Computer Learning Centers

Computer Learning Centers (CLC's) are computing sites provided to support academic

computing. More than 40 CLC's are located in various buildings around the campus. Use of computers in these locations is restricted to UMR faculty, staff and students only. Public use is prohibited.

A host department manages its own CLC, therefore, hours of operation and specialized software will vary. A list of the CLC locations, hours of operations, and equipment is available online at www.umar.edu/helpdesk/resources/clcs/.

Privileges and Responsibilities

UMR provides access to computing, networking, and information resources in support of teaching, research, and other official duties of the university. Your access to the computing resources and facilities is a privilege, not a right, of your association with UMR. The "UMR Computing and Network Facilities Acceptable Use Policy" pamphlet describes your ethical and legal responsibilities regarding computing resources.

You do not have the freedom to impose yourself on others, to access private files (even if those files are unprotected), to attempt to breach the security of any system, to illegally copy software, or to use computing supplies or facilities frivolously. Misuse of university computing facilities may result in access restrictions or other disciplinary action.

Other computing policies and procedures, including the University of Missouri policies, can be found at www.umar.edu/~cis/policies.html.

Your Computer

Whether you're a student or an employee, you are not required to own your own computer. However, many people find it more convenient and timesaving. The Computing Standards document, 222.umar.edu/~cis/policy/ComputingStandards/, provides the guidelines you should follow when purchasing computing systems and software.

Software for your computer may be purchased at the UMR bookstore. UMR has a license agreement with Microsoft for university owned machines. If you need to obtain Microsoft software for a university owned machine, you should check the Printing and Mail Services web page at www.umar.edu/~pmumar/. A limited number of Internet applications may be downloaded from the HelpDesk software archive which can be found at www.umar.edu/helpdesk/ware/software/.

University owned machines, either on an office desktop or in a CLC, are available for all faculty, staff, and students to use. Purchases for desktop machines by faculty and staff should be directed through the appropriate department representative. A standard software configuration, detailed in the "Systems and Software" section, will be installed upon request through the HelpDesk. Information about university volume purchase agreements can be found at www.umar.edu/~cis/purchasing/.

30 □ General Information

Connecting to the Network

Computers in campus offices, residence halls, and fraternities or sororities can connect to the network through an Ethernet connection. CIS provides the required software for the supported operating systems while Ethernet cards and cables may be purchased at the bookstore.

The **dial-up** facilities may be used to connect computers to the network from home through a telephone line. The dial-up telephone numbers are listed later in this document.

Detailed instructions on connecting to the network using either the dial-up or Ethernet is available on the Helpdesk web page. Special usage policies apply to dial-up and network connections, see the "Policies and Procedures" section at www.UMR.edu/~cis.

Training

CIS offers free computer courses to UMR faculty, staff and students. These courses are structured training sessions that combine lecture and hands-on practice, focusing on personal, academic, and office productivity. They are from one to three hours long and cover topics such as, MS Word, Excel, PowerPoint, Outlook, Unix Basics, and creating web pages. Course schedules, descriptions, and sign-up information are on line at the training web page, which can be found at www.UMR.edu/~cis/training.

If classes don't fit into your schedule or style, you can learn on your own and at your own pace using computer based training (CBT). Material is available on a wide variety of topics including Windows NT, the Microsoft Office 2000 Suite, Visual C++, Database/Oracle, HTML/Java, and much more. The training web page reference above provides information on how to access the CBT.

Getting Help

The UMR CIS HelpDesk is available to assist the students, faculty, and staff of UMR in using the different computing systems on campus. Help is available on a wide range of items from the Windows-based PC's, Macintoshes, and UNIX workstations to the supported software on these systems. Select the "HelpDesk Request System" link on the HelpDesk home page, www.UMR.edu/helpdesk to request help (or use help.UMR.edu.)

Location: Computer Science 101
Phone: 573-341-help (4357)
Hours: Posted each semester
Web page: www.UMR.edu/helpdesk

Important Phone Numbers

All phone numbers are area code 573 and prefix 341 unless otherwise specified. All room numbers are in the Computer Science building.

HelpDesk	General computer support 101 CS HELP (4357)
CIS main office	General information 104 CS 4841
Personal computer	Computer & printer repair 107C CS 6482

Dial-up Facilities

Rolla	6222
St. Louis/EEC	(314) 516-6872

Internet Resources

HelpDesk Request	help.UMR.edu
Tracking System (for contacting CIS)	

UMR home page www.UMR.edu

HelpDesk page www.UMR.edu/HelpDesk

Computing and
Information Services www.UMR.edu/~cis

CIS Online
Reference Center www.UMR.edu/~refcntr

Campus Library www.UMR.edu/~library

STAR-student access
to records www.UMR.edu/~regwww/star.html

University of Missouri-Rolla Computing and Information Services

1870 Miner Circle
Rolla, MO 65409-0360
573-341-4841
www.UMR.edu/~cis

Teacher Education Program

Secondary Teaching Majors

If preparing for secondary school teaching you are required to have a teaching major. The major may be in one of the following areas: Biological Science, Chemistry, Economics, English, History, Mathematics, Physics, and Psychology. By careful program planning, it is possible to earn your certificate in more than one area.

While your program of study may be strengthened by taking certain elective courses, such elective should be after consultation with your academic program advisor and/or the coordinator of education.

General Education Requirements

General education requirements are intended to provide you with the intellectual knowledge and skills for basic education. This body of knowledge and skills is arranged according to two broad categories: systems of symbolic thought and communication represented by linguistic and mathematical studies and systems of intellectual inquiry represented by basic academic disciplines. In addition, you must complete one course in cultural diversity and the general education requirements may be fulfilled at the same time.

The following are generic requirements for all education students. However, any degree requirement not included in these general education requirements must be included in the professional requirements or subject matter requirements for each degree program.

1. Symbolic Thought & Communications

- A. Linguistic Studies** (9 semester hours): You are required to take two courses in written communication and one course in oral communication. You must have a grade of "C" or above in each course.
- B. Mathematical, Statistical, and Computing Studies** (3 semester hours). The course must be college algebra or above.

2. Systems of Intellectual Inquiry

- A. Humanities:** At least one course each from two of the following areas required: art, music, philosophy, foreign language, literature, and theater.
- B. Natural Science:** One course in biological sciences and one in physical science is required. One of these two courses must include a laboratory.
- C. Social and Behavioral Science:** One course in each of the following areas is required:
(1) American History, (2) American Government and (3) General Psychology.

Secondary Education

In addition to the prescribed general education courses, if you are preparing to become a secondary school teacher you must complete the following secondary professional education courses and the required courses of at least one teaching major.

You may major in English with English Certification (9-12); Economics, History or Psychology with Social Studies Certification (9-12); Mathematics with Mathematics Certification (9-12); Biological Sciences, Chemistry or Physics with Unified Science Certification (9-12).

You must meet UMR degree requirements and in addition, course requirements for certification.

(Those having a degree prior to certification must check with the education office for clarification of requirement procedures.)

The necessary course requirement arrangements will be coordinated through the education office. Please pick up a sheet from the education office for your discipline area.

Elementary Education

All the courses are offered for elementary education that are required by the State Department of Education. It is imperative that you contact the coordinator of the education office for details prior to enrollment for Elementary Education courses.

Dr. Evalee Lasater, lasater@umr.edu, 573-341-4692.

Missouri State Board of Education Approved Programs

The following professional education programs have been approved by the Missouri State Board of Education for the purposes of teacher preparation and certification. The approval date for the University of Missouri-Rolla is December 1998 through 2003. In the following areas:

- Elementary Education 1-6
- Secondary Education:
 - English 9-12
 - Mathematics 9-12
 - Social Science 9-12
 - Unified Science 9-12

NOTE: if changes occur at the State level, then those education requirements will supercede the catalog year and does not fall under the grandfather clause.

Honors Academy Program

UMR encourages students to expand their intellect in a wide variety of ways. One mechanism is via the honors program designed to instill honors habits – to explore ways to search for answers beyond the norm of course syllabi descriptions. The rewards are mainly self-satisfaction, satiation of thirst for knowledge. Recognition is etched on official records and documents.

Director: Lance Williams

Eligibility

Honors Academy selection is based on high school or prior college grade measurements. Entering freshman are eligible if:

32 □ General Information

- standard test score (ACT, SAT) is 95th percentile or above
- rank in top 10% of high school class

Transfer students are presumed to have met similar standards as well as show a 3.500 GGPA for college/university credits earned.

Program/Freshman Year

Enroll in Honors Seminar (August, September, October, November, January, February, March sessions) with guest speakers, programs, panels, presentations as well as attendant social occasions. Additionally, students will be encouraged to partake of cultural opportunities: music, theater, art exhibits, general lectures, and tours.

Sophomore to Senior Years

Student to enroll in, and complete, twelve (12) credit hours of "Honors" course work. It is intended that at least one such course be outside the major field of study. No more than three (3) credit hours of the twelve may be individual study courses – 300/302/390. If a one (1) credit hour course is taken as "Honors" any additional one hour courses to meet the requirements must be in the same discipline. "Honors" designation to be based on extra work in regular courses where in the instructor agrees to oversee the effort; or in "Honors" designated courses.

Senior Year

Student to complete an "Honors" project/senior thesis, and, present findings orally in an appropriate venue. The course for fulfilling this capstone element is assumed to earn at least three (3) credit hours.

Recognition

Honors Academy students who graduate with a 3.500 GPA or better, have at least 15 hours honors course credits, will earn the distinction of "Honors Academy Fellow" to be noted on diploma, transcript, commencement program.

This honors distinction is in addition to the traditional Latin honors designations: Summa Cum Laude 3.800 GPA or better; Magna Cum Laude 3.500-3.800 GPA; Cum Laude 3.200-3.500 GPA.

Master Student Fellowship Program

Students graduating in the top 10% of their high school class and scoring 32 ACT (or SAT equivalency) or higher or graduating in the top 5% and scoring 30 SAT (or SAT equivalency) or higher may be invited to enroll in a program designed to earn both a bachelor's degree and a master's degree in five years. MSFP students are involved in research early in their undergraduate studies in conjunction with faculty and other student researchers.

MSFP students are encouraged to pursue Honors Academy Fellow designation or complete the Divisional Honors Program.

More details about the Master Student Fellow Program may be found at

www.umar.edu/admissions/mfellow.

Divisional Honors

A student may earn the recognition of "Divisional Honors in _____ (Their major field of study)" by completing only the Senior Year aspect of the Honors Academy Fellow requirement, including a 3.500 GPA minimum. *Divisional Honors designation, however, will not be granted when Academy Fellow distinction has been earned.

Financial Support

Most students eligible for 'honors' labeled programs will be granted scholarship support reflective of highly qualified applicants. Those aid packages may carry labels reflective of these program, i.e., Honors Academy Fellow, Master Student Fellow. A student who chooses to abandon pursuit of 'honors' program objectives is not made ineligible for any or all scholarship support.

International Affairs (IA)

The Office of International Affairs (IA) coordinates international activities, administers all matters involving immigration for international students and scholars, and provides advisement services to the University's international population.

The International Affairs Office is responsible for the recruitment of international students and serves as a direct contact with U.S. government agencies, embassies, consulates, and the private sector concerning international activities. International Affairs serves as the campus home for international student exchange programs and the majority of study abroad (see section on Study Abroad Programs). In addition, the International Affairs Office assists faculty wishing to travel or work overseas, and offers educational programs, both domestically and abroad.

International Affairs coordinates and administers UMR's Applied Language Institute which houses the Intensive English Program. The Office of International Affairs is responsible for the organization of inter-national protocol activities, and monitors the status of UMR International linkage agreements.

International Student Sponsored Student Program:

A full range of services for sponsored international students is provided through the Office of International Affairs (IA). International students sponsored by international agencies receive special services and are required to pay \$250 per semester per student administrative fees. Individual students desiring to take advantage of these special services may apply for them.

Details on the current Sponsored Student program and costs are available upon request from the Office of International Affairs, 103 Norwood Hall, Rolla, Missouri 65409-0160.

Mandatory Health Insurance for International Students:

All international students, as a condition of their enrollment, are required to purchase UMR international student health insurance. This includes all F-1 and J-1 visa students. In addition, the J-2 dependents of the J-1 visa holders are required to maintain the UMR international student health insurance. Premiums must be paid with in two weeks of the beginning of the Fall and Winter semester (Summer premiums are included in the Winter Semester).

For more information on the mandatory health insurance requirement, contact the Office of International Affairs, 103 Norwood Hall, 573-341-4208.

Study Abroad Programs

The Office of International Affairs coordinates study abroad opportunities for UMR students. Students may choose from a variety of study programs. Credit toward the degree program may transfer back to UMR, with pre-approval. The following provides a sample listing of institutions with which UMR has current study abroad agreements:

Western Australian School of Mines (Australia)
 University of New South Wales (Australia)
 Hautes Etudes Commerciales Liege (Belgium)
 Provinciale Hogeschool Limburg
 (The Netherlands)
 Universidad de la Serena (Chile)
 Satakunta Polytechnic (Finland)
 Freiberg University of Mining & Technology
 (Germany)
 Fachhochschule Aachen (Germany)
 University College Dublin (Ireland)
 Universidad Autonoma Metropolitana Unidad
 Iztapalapa (Mexico)
 University of Regiomontana (Mexico)
 Akaki Tsereteli State University
 (Republic of Georgia)
 Kutaisi State Technical University
 (Republic of Georgia)

University of the Western Cape (South Africa)
 Bilkent University (Turkey)

- See "Missouri London Program" section for other study abroad opportunities.

Intensive English Program (IEP)

The Intensive English Program (IEP) at the University of Missouri-Rolla provides intensive instruction in the English language for international students whose proficiency in the language is insufficient for admission into course work at the University.

The IEP offers 20 hours of non-credit course work per week in all aspects of language learning – pronunciation, reading comprehension, vocabulary development, grammar, writing, listening comprehension, speaking interaction, and note-taking. The program provides instruction at four proficiency levels: Beginning English, General English, Introduction to Academic English, and English for Academic Purposes.

All international students who have not satisfied the University's language-proficiency requirements are required to complete IEP's assessment testing, which is comprised of four parts:

*Michigan Test of English Language Proficiency (MTELP)

(A standardized test that evaluates abilities in grammar, reading comprehension, and vocabulary.)

*Test of Writing Proficiency (TWP)

(A locally developed test that evaluates abilities to write clear, well-organized English based on nationally developed guidelines.)

*Oral Proficiency Evaluation (ORE)

(A locally developed test that evaluates abilities to speak English clearly based on nationally developed guidelines.)

*Test of Listening Proficiency (TLP)

(A locally developed test that evaluates abilities to understand spoken English, especially in a classroom setting.)

Students who perform well on all tests may be approved immediately for academic course work at the University. Other students are enrolled in IEP course work and may then complete the series of tests again at the end of the semester. Recommendations for promotion into a higher level of the IEP or for advancement into university course work are made by the IEP's academic coordinator based on student testing and faculty input.

Students who enroll in the IEP must complete that program to the satisfaction of its director and academic coordinator (i.e. satisfy all completion requirements) before being allowed to enroll full time in university course work. A student may enroll in a

reduced university load (in conjunction with IEP course work) with the approval of both his/her academic department and the director of the IEP.

Ordinarily, the IEP is open only to students who intend to pursue study at UMR and who have been conditionally admitted to the University. If space exists, international students already admitted to UMR and already taking course work may enroll in IEP courses to improve their English. In addition, international persons with no academic affiliation with the University may be considered for admittance.

For more information on the IEP, contact the Office of International Affairs (IA), 103 Norwood Hall, University of Missouri-Rolla, Rolla, MO 65409-0160. Phone: (573) 341-4208 Fax: (573) 341-6356.

Curtis Laws Wilson Library UMR's Information Gateway

As the primary learning resource center for the UMR Campus, Wilson Library provides services and materials to support and reinforce the University's academic programs. In addition to providing students with access to materials and resources, the library is a place where students can develop the information seeking and management skills that are necessary to excel in an information-based society.

UMR is known as Missouri's Technological University and Wilson Library is equally well known for its strong science and technology collection. In addition, the humanities and social science collections have grown to support programs in these areas. The base print collection consists of approximately 393,000 volumes and subscriptions to over 1,500 scholarly and popular journals. Print resources are supplemented by a variety of other materials, including videos, tapes, and CD-ROMs. Numerous online resources are also available via the Internet from the library home page.

Wilson Library makes every effort to provide UMR students with access to state of the art library technologies. In 1983, UMR was the first campus in the University of Missouri system to implement an online public access catalog. This catalog has evolved into the MERLIN Gateway, an online system that includes the library catalog and access to a number of electronic indexes and full text journals. The library catalog not only lets students look at UMR's holdings, but also allows them to view and borrow from the collections at the three other University of Missouri campuses and the St. Louis University libraries. In addition to the MERLIN Library Catalog, patrons can access MOBIUS (Missouri Bibliographic Information User System), in

which they will eventually be able to browse and borrow from over 50 other Missouri libraries. The catalogs are complemented by databases that cover a wide range of subject areas and are available via the Internet or in the library on CD-ROM.

In the library's Multimedia Center, made possible by a grant from the Emerson Electric Company, the library ceases to be just a repository for information and becomes a laboratory where students are active participants in the creation and manipulation of information. Students have access to state of the art technologies, including non-linear video editing, scanners, illustration packages, slide scanning and exposure facilities, and graphics manipulation programs.

UMR is a partial depository for United States and Missouri government documents. The library receives a wide selection of print, microform, and electronic materials from the Government Printing Office and other agencies. Many government documents are now accessible via the Internet, and links to most of these documents can be found on the library's government publications home page.

Through Interlibrary Loan, the UMR collection is supplemented by materials owned by other libraries throughout the United States. Wilson Library is able to borrow materials or receive photocopies from other libraries for most items needed by students to support their research. A daily courier service links all MOBIUS libraries and speeds the exchange of materials within the consortium.

Yesterday's library was a collection of books, and the information universe was fairly static. Today's library has become a dynamic resource center, where books and journals coexist with CD-ROMs, computers, and Web-based resources and where the information universe is no longer limited to UMR's physical campus. As the need for information skills becomes more universal, Wilson Library will continue to be UMR's gateway to the ever expanding world of information. With advances in technology, the library's doors are always open, and people are encouraged to explore the library's home page at <http://www.umar.edu/~library>.

Military Science (Army ROTC)

Reserves Officers' Training Corps

Army ROTC is the primary source of college-trained officers for the U.S. Army, the Army Reserve and the Army National Guard. Army ROTC has been a part of the MSM/UMR campus since 1919. Over 2,700 officers have earned their commissions as lieutenants in the U.S. Army through ROTC at UMR. Nine of these have become generals. Thousands of other students have received leadership training

provided by the Department of Military Science, and applied it to their civilian careers.

Army ROTC is a four-year program divided into two parts – the Basic Course and the Advanced Course. The Basic Course is normally taken during the freshman and sophomore years. No military commitment is incurred in the Basic Course for non-scholarships cadets. Students may withdraw at any time before the beginning of the third year. Subjects taught include leadership and management development, communications, land navigation, military history, small unit tactics, survival techniques, marksmanship, drill and ceremonies, military courtesy, discipline and customs. Textbooks and materials are furnished without cost to the student.

All students enrolled at UMR can take any of the Basic Military Science classes without further enrollment or obligation to ROTC or the Army.

After completing the Basic Course, selected students may enroll in the Advance Course during the final two years of college. Instruction in this program includes further leadership development, ethics and professionalism, principles of war and military justice. During the Advanced Course, cadets are provided hands-on leadership experience in various kinds of leadership positions within the cadet chain of command. Campus and laboratory instructions are reinforced with weekend field training exercises. Cadets in the Advanced Course receive uniforms, necessary military science textbooks and a subsistence allowance of up to \$2,000 each year.

Cadets must attend a six-week Advanced Camp normally held during the summer between their junior and senior years. This camp permits cadets to further refine and put into practice the principles, theories and skills they have acquired. Advanced camp includes leadership, tactics, marksmanship, land navigation, physical training, and many other leadership and military skills. Cadets receive a salary during Advanced Camp, as well as free room, meals and transportation to camp. Successful completion of the Advanced Camp is required prior to commissioning.

Army Schools

There are summer opportunities for selected students to attend the following Army schools:

Airborne School – A three-week school that teaches the fundamentals of Army parachute jumping. After initial training, students make at least five actual jumps (two practice jumps, two full combat jumps, and one night jump).

Air Assault School – A physically and mentally demanding two-week school that teaches the fundamentals of employing Army helicopters in support of front line units. In addition to helicopter rappelling, students learn various techniques to balance loads in a helicopter and to configure various sling loads for large equipment. Training and testing are done in a stressful environment.

Mountain School – A challenging three-week school in which students learn and practice the principles of military operations in mountainous terrain. Safety, climbing, rappelling, stealth, survival, communications, and physical conditioning are emphasized.

Northern Warfare – An invigorating three-week school in Alaska where students learn and practice the techniques of military operations in extremely cold climates. The course emphasizes safety, survival, transportation, and communications.

Two Year Program

There is a special two-year program for community and junior college graduates and students at UMR who have not taken part in Army ROTC during their first two college years. Students can enter this program and qualify for the Advanced Course by successfully completing a five-week Basic Camp, for which they receive pay. The Basic Camp replaces and is the equivalent to the Basic Course (the first two years of the regular four-year ROTC program). There is no obligation incurred from attending the Basic Camp.

Scholarships

Army ROTC offers scholarships for four, three and two years. Four-year scholarships are awarded on a nationwide competitive basis to U.S. citizens who will be entering college as freshmen. Four-year scholarship applications are available from April 1 to November 1. Four-year scholarship applications can be obtained from Army ROTC, 301 Harris Hall.

Three and two-year scholarships are awarded competitively to students who are already enrolled in college. Students who attend the Basic Camp before entering the two-year program may also compete for two-year scholarships while at camp. Four, three, and two-year scholarships are available for active duty Army enlisted personnel on a competitive basis.

All ROTC scholarships pay college tuition and mandatory educational fees from \$9,000.00 - \$16,000.00 (resident vs. non-resident) annually, plus \$450.00 per year for miscellaneous fees, textbooks, supplies and equipment. Each scholarship also provides a subsistence allowance of up to \$2,000 each year the scholarship is in effect. All students who receive a 3-year or 4-year scholarships through the (Army or Air Force) Reserve Officer Training Program at the University of Missouri-Rolla will receive a \$2,000 scholarship their first academic year, and each following year they retain their ROTC scholarship. \$2,000 is the approximate annual cost of student housing at UMR.

Four-year scholarship recipients incur and military obligation at the beginning of their sophomore year. Three and two-year scholarship recipients incur an obligation concurrently with the commencement of their scholarship benefits. After commissioning and graduation, Army ROTC

scholarship recipients serve in the military. This is normally fulfilled by serving on active duty two to four years, followed by service in the Army National Guard, Army Reserve or Individual Ready Reserve for the remainder of the eight year obligation. It may also be fulfilled by serving eight years in the ARNG or USAR, which includes a three to six-month active duty period for initial training.

Reserve Forces Duty

Under the ROTC-Reserve Forces Duty Scholarship Program, a limited number of two-year scholarships are also available to students who desire to serve with the Army Reserve or the Army National Guard in lieu of extended active duty.

The Simultaneous Membership Program permits a cadet to combine service in the Army Reserve or National Guard as an officer trainee with participation in ROTC, and to be paid for both. Members of the National Guard can also compete for the Missouri National Guard Scholarship.

Details about the Army ROTC program may be obtained at the Stonehenge ROTC Battalion, 301 Harris Hall. (341-4744).

Minority Engineering Program

This program is designed to help minority students academically, socially, and financially during their first year of college. Academic Assistance and counseling is also available after the first year, and students are assisted in obtaining financial aid, scholarships, and summer and co-op jobs.

The program begins with a summer session at UMR. Students live in residence halls and take special courses at their level of achievement in mathematics, English composition, and chemistry. Graduate teaching assistants and upper-class students tutor those who need help. Special seminars are held with industrial representatives describing opportunities for minority students in their industries. Engineering department chairmen describe the types of work done by graduates in their disciplines.

Selection of students for the program is based on a combination of academic success in high school, interest in engineering, recommendation from counselors and teachers, and ACT or SAT scores.

Financial and tutorial assistance for minorities in engineering is available under the administration of the Minority Engineering Program, Room 212 ERL, Rolla, MO 65409-0150. The application deadline is Jan. 31 and is available at www.umar.edu/~mep.

Missouri Consortium for International Studies (MOCON)

The University of Missouri-Rolla is a member of the Missouri Consortium for International Programs and Studies (MOCON). As a member of MOCON, UMR is able to offer its students several unique study abroad opportunities.

Missouri London Program (Semester in London)

UMR has joined eight other Missouri universities in offering qualified students a period of study in London, England. The Missouri London Program (MLP) offers a core of courses taught by faculty from the participating universities.

You are eligible to participate in the program if you have a cumulative grade point average of 2.50. Some parts of the MLP require higher grade point averages. All courses offered in the MLP can be used for credit toward graduation. The MLP offers you the opportunity to deepen your appreciation of literature, drama, history, art and historical root of the American political system through direct contact with British culture.

Cost of the program includes regular UMR fees plus a non academic program fee which includes accommodations in London, a weekly program of cultural and social activities, membership in the Student's Union of the Imperial College, membership in the Kensington Public Library, and subsidized course-related excursions. Students eligible for financial assistance at UMR may be able to apply this aid to the MLP. For information, contact the Director of the Missouri London Program, G-4 Humanities-social Sciences Building, UMR, Rolla, MO 65409-0570, Telephone (573) 341-4869.

Missouri London Program Business Internship

Students entering today's corporate world need to be more prepared than ever to deal with current international issues. While many of these issues can be discussed at a certain level in the classroom, future employers recognize the necessity of hands-on experience to truly understand the role these issues play in business. The Business Internship in London program is run in conjunction with the Missouri London Program. The Internship is supervised field experience in a British business or organization. Projects include a variety of tasks such as market research, product promotion, analysis/system design, feasibility studies,

cost/benefit analysis, strategy evaluation, business plan development, and others. All internships are non-paying positions.

Cost of the program includes regular UMR fees plus a non academic program fee which includes accommodations in London, a weekly program of cultural and social activities, membership in the Student's Union of the Imperial College, membership in the Kensington Public Library, and subsidized course-related excursions. Students eligible for financial assistance at UMR may be able to apply this aid to the MLP Business Internship.

For more information contact the MLP Director, G-4 Humanities/Social Sciences Building, UMR, Rolla, MO 65409-0570. Telephone 573-341-4869.

Maastricht Center for Transatlantic Studies Maastricht, The Netherlands

UMR along with sixteen Universities from the United States, Europe and Mexico, work together to send qualified students to a period of study in Maastricht, The Netherlands. Maastricht is the southern most city of The Netherlands and has served as a crossroads between the Netherlands, Germany, Belgium and France. Courses are taught in 3 ½ week blocks, allowing ample opportunity for travel to surrounding areas of Europe. Students and faculty live in a centralized community that contributes significantly to their intercultural experience. Students may attend the program for the fall semester, spring semester, or the entire year.

You are eligible for the program if you have a cumulative grade point average of 2.50. All courses offered in the MCTS can be used for credit toward graduation. Courses from a variety of subjects are available, and can be generally divided into the social services, humanities and business. Each course is designed to reflect a comparative, transatlantic perspective that allows for insight for students from the different nationalities.

Cost of the program includes regular UMR fees plus a non-academic program fee which, includes room, food, computer lab, books and field trips. Students eligible for financial aid at UMR may be able to apply this aid to the MCTS.

For more information, contact the Director of MCTS, G-4 Humanities/Social Sciences Building, UMR, Rolla, MO 65409-0570, Telephone (573) 341-4869.

Multicultural Educational Support Program (MESP)

The Multicultural Educational Support Program (MESP) promotes and supports diversity within the University and Rolla community. The program provides advising, counseling and learning opportunities for African-American, Hispanic American, Native American and other minority groups as well as the National Black Greek Organizations. Various inter-cultural programs are provided for the student body in celebration of diversity.

In addition, MESP coordinates a service-learning program, which provides educational and service opportunities in Rolla and surrounding communities. The office works directly with various agencies in the community to enable students to increase their knowledge of community relations, and enhance professional and personal development and networking. MESP is part of the Division of Student Affairs.

For more information about MESP, contact: Director, Toni Scott, MESP, 1207 N. Elm St., 1870 Miner Circle, University of Missouri-Rolla, Rolla, MO 65409-1150. Tescott@umr.edu or Phone: (573) 341-6450 or (573) 341-6377; FAX: (573) 341-6378. (MESP)

The Southwestern Bell Cultural Center (SWBCC) is located at 1207 North Elm Street. The Center houses a number of student organizations:

- Indian Student Association
- International Student Organization
- African Student Organization
- Voices of Inspiration
- Association of Black Students
- Delta Omicron Lambda
- Society of Phenomenal Women
- DaVinci Society

In addition, student resources are available such as the Academic Enhancement Center, a study room, and a computer lab. It also houses meeting space, revolving art gallery, and a full service kitchen.

Nuclear Reactor

The UMR nuclear reactor is a 200 kilowatt pool-type reactor that is primarily used to support the Nuclear Engineering program by providing laboratory and research support. The reactor is fueled with enriched U-235 and is cooled by natural convection of the pool water. The reactor pool is 27 feet deep and contains approximately 32,000 gallons of water. The reactor generates a brilliant blue glow (Cerenkov radiation) when at power.

The open pool design allows students easy access to the reactor core where experiments can be positioned to study various reactor and radiation phenomena. The facility is equipped with several experimental facilities including pneumatic sample irradiation facilities, a neutron beam port that provides collimated neutron beams, a thermal column that provides a diffuse thermal neutron source, gamma, neutron and alpha spectroscopy systems, and computer data acquisition and control systems. Radiation levels at the facility are well monitored and kept very low to ensure a safe environment for the students.

Oak Ridge Associated Universities (ORAU)

Since 1981, students and faculty of the University of Missouri-Rolla have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 85 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunity for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education, the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other

opportunities, their disciplines, and details on locations and benefits can be found in the *ORISE Catalog of Education and Training Programs*, which is available at

<http://www.orau.gov/orise/resgd/htm> or by calling either of the contacts below.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research, and support programs as well as services to chief research officers.

For more information about ORAU and its programs, contact: Y. T. Shah, Provost, Academic Affairs, ORAU Councilor for University of Missouri-Rolla (573) 341-4138; Monnie E. Champion, ORAU Corporate Secretary (865) 576-3306; or visit the ORAU Home Page (<http://www.orau.org>).

Office of the Registrar

Absence from Class

Work missed due to absence from class must be made up to the satisfaction of the instructor concerned. Excessive absences from class may result in the student being dropped from the course at the request of his or her instructor.

Application for Graduation

Students planning on graduating must do the following:

- Fill out an Application for Graduation form at the Registrar's office.
- Submit to Registrar's Office for processing.
- Check application deadlines for semester in which you are applying for graduation.

Certification of Enrollment Status

Certifications of enrollment status to lending agencies should be made through the Registrar's Office, 103 Parker Hall. Certification of full-time or half time status is based upon the number of credit hours scheduled by the student and includes courses in which the student is enrolled as a hearer. For undergraduate students, full-time is based on at least 12 credit hours; half-time is at least 6 credit hours during a normal fall and winter term. For the summer session: full-time is 6 semester hours and half time is at least 3 credit hours.

Confidentiality Policy

The Family Educational Rights and Privacy Act of 1974

These statements are set forth as guidelines and procedures to implement the University of Missouri Policy on student records developed from The Family Educational Rights of Privacy Act 1974.

The University of Missouri-Rolla as charged in the Act will annually inform its eligible students by including in the Manual of Information and the General Catalog the following information:

1. "Educational Records" are those records, files, documents, and other materials which contain information directly related to a student and are maintained by the university. Those records made available under The Family Educational Rights and Privacy Act of 1974 are student financial aid, the student's of mutative advisement file, student health records, disciplinary record, the admissions file and the academic record. The University of Missouri-Rolla "Educational Records" do not include:

- (a) Records of instructional, supervisory, and administrative personnel and educational personnel ancillary thereof which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except a substitute.
- (b) The records and documents of the University of Missouri Police Department that are maintained solely for law enforcement purposes and are not available to persons other than law enforcement officials of the same jurisdiction.
- (c) In the case of persons who are employed by the university but are not in attendance at the university, records made and maintained in the normal course of business which relate exclusively to such person and person's capacity as an employee where the records are not available for any other purpose.
- (d) All records on any university students which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his or her professional or paraprofessional capacity, or assisting in that capacity, and which are created, maintained, or used only in connection with the provision of treatment to the student, and are not available to anyone other than persons providing such treatment, provided, however, that such records can be personally reviewed by a physician or other appropriate professional of the student's choice.

2. The University of Missouri-Rolla recognizes "Directory of Information" to mean a student's name, address, e-mail address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic

teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended. All students must inform the Registrar's Office before the end of the two-week period following the first day of classes that any or all of the information should not be released without the student's prior consent. The information listed above will become directory information as of the first day of classes following the end of the one-week period during the summer session.

3. University of Missouri-Rolla students have access to the educational records identified in Paragraph 1 above. In accordance with Pub. L. 93-380, as amended, the University of Missouri-Rolla will not make available to students the following material:

- (a) Financial records of the parents of students or any information contained therein.
- (b) Confidential letters and statements of recommendation which were placed in the education records prior to January 1, 1975, if such letters or statements are not used for the purpose other than those for which they were specifically intended.
- (c) Confidential recommendations respecting admission to the university, application for employment, and receipt of an honor or honorary recognition, where the student has signed a waiver of the student's rights of access as provided in 6.0404 the University Policy on Student Records.

4. The director of financial aid, the appropriate academic dean, the director of the student health service, the vice chancellor for student affairs, the director of admissions, and registrar are the officials responsible for the maintenance of each type of record listed in Paragraph 1.

5. Any student may, upon request, review his or her records and if inaccurate information is included, may request the expunging of such information from his or her file. Such inaccurate information will then be expunged upon authorization of the official responsible for the file.

6. Students desiring to challenge the content of their record may request an opportunity for a hearing to challenge the content of his or her educational record in order to ensure that the record is not inaccurate, misleading or otherwise in violation of the privacy or other rights of the student, and to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein and to insert into such records a written explanation respecting the content of such records.

7. The university official charged with custody of the records will attempt to settle informally any disputes with any student regarding the content of the university's educational records through informal meeting and discussions with the student.

40 □ General Information

8. Upon request of the student or the university official charged with custody of the records of the student, a formal hearing shall be conducted, as follows:

- (a) The request for a hearing shall be submitted in writing to the campus chancellor who will appoint a hearing officer of a hearing committee to conduct the hearing.
- (b) The hearing shall be conducted and decided within a reasonable period of time following the request for the hearing. The parties shall be entitled to 10 days prior written notice of the item and place of the hearing.
- (c) The hearing shall be conducted and the decision rendered by an appointed hearing official or officials who shall not have a direct interest in the outcome of the hearing.
- (d) The decision shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.
- (e) Either part may appeal the decision of the hearing official of officials to the campus chancellor. Appeal from the chancellor's decision is to the president is to the Board of Curators.

9. The University of Missouri-Rolla may permit access to or release the educational records without the written consent of the student to the parents of a dependent student as defined in Section 152 of the Internal Revenue Code of 1954.

10. If any material or document in the educational record of a student includes information on more than one student, they may inspect and review only such part of such material or document as relates to him or her or to be informed of the specific information contained in such part of such material.

11. Students desiring reproduction of copies of educational records will be charged \$.10 per page. Official copies of transcripts are free to currently enrolled students and \$4.00 to alumni.

Course Information

The number in brackets following the name of the course indicates the number of credit hours given for successfully completing the course. It also reflects the section type; for example, (Lect 3.0) designates a lecture course of three hours credit; (Lab 1.0) designates a laboratory course of one-hour credit. A lecture credit hour is usually the credit granted for satisfactorily passing a course of approximately 15 classroom hours. A laboratory course of one-hour credit would normally meet three classroom hours per week for 15 weeks.

Three credit hour courses normally meet during a 50-minute class period, three times per week, for 15 weeks. For flexible scheduling, some sections of a course meet for 75 minutes twice a week. The time in class is the same in each case. If you have two classes in succession, there will be at least 10 minutes between classes. Classes normally begin on the half-hour and end 20 minutes past the hour.

Students must have completed the stated prerequisite(s) for the course for admission to the course or obtain the 'Consent of the Instructor' of the course.

Course Numbers

This section has been prepared to give you a listing and description of the approved undergraduate courses at the University of Missouri-Rolla. Courses listed are those approved at the time this publication went to press. Changes are made at regular intervals. Electronic catalog descriptions, which are updated during the academic year, are available on the Web at www.UMR.edu/~regwww. This will enable you to keep abreast of new course additions. For current information on when courses are available, consult the campus schedule of classes available from the Registrar's Office, 103 Parker Hall.

0-99 Courses normally taken by freshman and sophomores. May not be used as any part of a graduate degree program.

100-199 Courses normally taken by upper-class students. May not be used as any part of a graduate degree program.

200-299 Upper-class and restricted graduate courses. Courses so numbered do not give graduate credit for an advanced degree in the field of the department offering the course.

300-399 Upper-class and graduate courses. Not restricted as to the major subject of the student.

Student levels

0-29 hours Freshman
30-59 hours Sophomore
60-89 hours Junior
90- hours Senior

Degree Requirements/Catalog Year

The semester (term) that you enter college, after graduation from high school, is stored in the UMR Student Information System database. This permanent record is referred to as your catalog year and provides the definition of the catalog of graduation that describes the degree requirements that you should follow to reach your degree goal. Your catalog year can change if you do not remain continuously enrolled. The Academic Council, on April 26, 1990, addressed the issue of students that discontinue enrollment with the following regulation:

Students are responsible for knowing and meeting degree requirements stated in the Undergraduate Catalog, current at the time of their

initial enrollment as freshmen. Transfers from community colleges and other universities are permitted to complete degree requirements in effect at the time of their initial enrollment as freshmen. Transfers from community colleges and other universities are permitted to complete degree requirements in effect at the time of their initial enrollment at the community college or university. Students may elect to be graduated under the most recent degree requirements.

Students who interrupt their enrollment for two consecutive semesters, excluding summer sessions, must meet the degree requirements in effect at the time of readmission. Students who interrupt their enrollment for extenuating circumstances may appeal this regulation to the chairman of the degree-granting department. The chairman will notify the Registrar's office if the student's original catalog of graduation is reinstated.

Non-enrolled students who intend to complete the degree requirements by transferring work from another institution or through correspondence courses must do so within a year of leaving UMR. Otherwise, students who exceed this time limitation must meet the degree requirements in effect at the time of graduation. The student may appeal to the chairman of the degree granting department to reinstate the catalog in effect during the last term enrolled.

In order to meet accrediting standards and to upgrade course offerings, the degree requirements specified by your catalog can be changed by the faculty under certain conditions. On October 29, 1992 the Academic Council approved the following regulations specifying these conditions:

Students are responsible for knowing and meeting degree requirements stated in the current Undergraduate Catalog at the time of their initial enrollment as freshmen. A student whose initial enrollment is in the summer will use the catalog current the following fall. A student whose initial enrollment is in the winter will use the catalog current the previous fall. Because of the rapid changes in the world today, the Faculty may feel it is in the best interests of the University's students to make changes in their degree requirements. In the event of such changes after a student enters UMR, that student will be required to satisfy the new degree requirements, provided the following conditions are met:

- 1) The total hours required to graduate cannot be increased for a continuously enrolled student, without that student's permission.
- 2) The total number of semesters needed to graduate cannot be increased for a continuously enrolled student, without that student's permission.
- 3) A new course cannot be substituted for an old course which a continuously enrolled student has already satisfactorily completed, without that student's permission.

Transfer students from community colleges or other universities will complete the UMR degree requirements in effect at the time of their initial enrollments at their community colleges or universities. If there are changes in UMR degree requirements after such students' initial enrollments at their community colleges or universities, the rules stated above apply.

Grading System

The following system of grades is used:

A-Excellent	4 Grade Points per Credit Hour
B-Superior.....	3 Grade Points per Credit Hour
C-Medium.....	2 Grade Points per Credit Hour
D-Inferior.....	1 Grade Points per Credit Hour
F-Failure.....	0 Grade Points per Credit Hour
I-Incomplete	

S-Satisfactory (Indicates credit has been earned for course scheduled)

U-Unsatisfactory (Indicates credit has not been earned for course scheduled)

Grades of "S" and "U" are permitted only for orientation courses, seminars, special problems, special readings, independent study courses (numbered 200, 300, 350, and 390), and pass/fail courses. Standard grades also may be used for all of the above courses except the pass/fail courses.

Pass/Fail Courses

Grading options cannot be changed after the end of 2 weeks of class. "S" and "U" grades are used for pass/fail courses and are not used in GPA calculations. Only one pass/fail course per semester is permitted. Degree requirements specified by discipline cannot be taken pass/fail. Graduate students cannot take courses pass/fail. See departmental policy in the *Student Academic Regulations* handbook for other possible restrictions.

Schedule of Classes

The most current information regarding the Schedule of Classes is located at www.umar.edu/~regwww. All courses offered during a specified term will have current course descriptions and prerequisites. Refer to this site for added features.

Residential Life

UMR recognizes the significant role that environment plays in a student's education. Living on campus is an important part of the learning experience provided UMR students. Living with peers, involvement in the campus community, exposure to out-of-class learning experiences, and the opportunity to develop new interests are all significant components of the UMR educational experience.

The university's residence halls are intended to provide you with a well-rounded, academically oriented, community living environment.

The residence hall program is administered by the Residential Life department. Two residence hall complexes, Thomas Jefferson (primarily undergraduate students) and the Quadrangle (undergraduate and some graduate students); and two apartment complexes, Stuart (upper-division and graduate students) and Nagogami (married, graduate, and some upper-division students), make up the different university housing communities. Each residence hall complex is administered by a professional live-in resident director. Also, each complex is staffed by paraprofessional students called resident assistants (RA's). The apartment communities are administered by an apartment manager. All residence hall staff members work to develop academic living environments and are trained to help students cope with the challenges associated with college. Their efforts are supervised by the Residential Life staff and they work closely with the counseling center staff and other members of the Student Affairs Division.

The residence hall administrators strive to provide students with facilities and services that will best serve the lifestyle needs of UMR students. Various living arrangements are available to students, including quiet floors, a separate community for upper-division students, double rooms, and a limited number of single rooms. All rooms are furnished with one or two beds, closets, desks, chairs, bookshelves, and study lamps. Students have the option of bringing personal items to give their room their own individual touch. Each floor has its own bathroom, study room and TV lounge. Other facilities in the residence hall include laundry facilities, computer resource centers, fitness rooms, meeting areas, game rooms, vending machines and convenience stores.

The residence hall communities are administered with input from students. Each complex has its own governing body and the Residence Hall Council is a representative group of all residence hall students. These groups play a major role in defining the policies that govern the residence halls and sponsor a significant number of social and educational programs. Representatives for these groups are selected by popular election.

Meals are served in cafeterias located in each complex. They offer full-meal service on the days and weekends that school is in session. Throughout the year special meals and pace changers are served to provide more variety in the cafeteria service. Six meal plans are available, ranging from traditional board options to a declining balance, all-points plan that also can be used at the University Center.

Being a residential university, UMR requires freshman and sophomores to reside in the residence hall complexes, an approved fraternity house, or an approved sorority house. Exceptions may be granted for married students, students whose homes are in the immediate Rolla area, military veterans, students over 21 years of age, or for other justified situations.

How to Apply

Applications and information regarding university housing are sent, beginning in December, to students who are accepted for admission. If you are interested in more information about university housing, contact the Residential Life Office, 107 Norwood Hall, University of Missouri-Rolla, Rolla, MO 65409-0510 or call (573) 341-4218.

Housing Expenses (Estimated)

Residence Halls

	TJ	QUAD
Fall Semester	\$2,530	\$2,349
Winter Semester	<u>\$2,530</u>	<u>\$2,349</u>
Total	\$5,060	\$4,698

Several factors influence the cost of affiliating with fraternities and sororities. Consequently, the cost varies from chapter to chapter, but compares favorably with other types of student housing. To obtain the most accurate information, contact and individual fraternity or sorority or the Office of Student Activities (Meals are available with a university meal plan.)

Student Conduct

A student enrolling in UMR assumes an obligation to behave in a manner compatible with the university's function as an educational institution. The University's "Standard of Conduct" and "Rules of Procedures in Student Conduct Matters" are printed in the "Student Handbook" and the "Student Academic Regulations" and can be found on the Web. Other departments and organizations, such as Residential Life and Computer Services, have specific policies and standards for their residents and/or users, as well as procedures for handling violations. See: www.umar.edu/~stu-aff/discipline.html.

Student Health Services

No student is required to patronize the Student Health Service. At their own expense, students may employ another physician. An optional student group plan of accident and sickness insurance is available to all students. Information on this plan may be obtained at the Cashier's Office.

Measles and Rubella Immunization Policy

No incoming student born after 1956 shall be registered for classes at the University of Missouri-Rolla without documented proof of two doses of live measles vaccine. Students matriculating only in off-campus or continuing education/extension courses are excluded.

The incoming student shall present acceptable documentation of immunization before registration to the University of Missouri-Rolla is complete. Acceptable documentation shall be defined by the campus and may include a measles immunization record signed by a physician, or a health record from a high school or a branch of the military.

Students not in compliance with this policy will be notified of the need to provide acceptable documentation in order to register for classes. In addition, a hold will be placed on the records of students not in compliance.

Exemptions from immunization are permitted for medical, religious or philosophical reasons. Students who exempt themselves from immunization for religious or philosophical reasons must sign the University of Missouri-Rolla measles/rubella form (parents must sign for persons under the age of 18). For medical exemptions, the University of Missouri-Rolla measles/rubella form must be signed by a physician. This form will be on file in the student health clinic or other office designated by the Chancellor. For their own protection, students who have an exemption may be required to leave campus in case of a measles or rubella outbreak.

Other Immunizations

The following immunizations are recommended by the American College Health Association.

- Diphtheria/Tetanus (in past 10 years)
- Hepatitis B (series of 3 injections)
- Hepatitis A
- Meningococcal
- PPD (tuberculosis test-in past year)

University Police Office

Parking

All student-operated vehicles in the Rolla area shall be registered with the University Police Department and shall have either a valid campus parking permit or student registration decal affixed properly to the vehicle. UMR Parking, Security and Traffic Safety Regulations, as adopted by the Parking, Security and Traffic Safety Committee and approved by the Chancellor, provide for the payment of established fees for parking privileges and set fees for violation of those regulations. The University Police Department has the responsibility of enforcing parking regulations at UMR.

The size of the student body, faculty, and staff, coupled with the fact that a large number of students live off-campus, leads to a relatively large number of motor vehicles on and near the campus. This traffic load, in turn, complicates parking for the campus citizen and creates a hazard for vehicles and pedestrians. The Committee has prescribed the rules governing the classification and use of parking lots, the qualifications for parking on those lots, and the rules for application, issuance, and use of parking permits.

Specific information on current regulations and other details pertaining to parking can be obtained at the University Police Department, H.I.S. Building, 14th and Bishop Ave., 341-4303. The regulations may also be found at:

<http://umr.edu/~police/parking/parking.htm> on the web.

UMR Parking-Rules in Capsule Form

1. All vehicles shall be parked HEADING into appropriately marked parking spaces.
2. Visitors to the campus should park in the visitor's lot but may park in any lot by notifying University Police, Ext. 4300. A visitor is anyone other than an employee, student, or member of their family (Sections .02.0205, .02.206, .08.06, .10.1002.03). Employees and students lending their vehicle to a visitor will be responsible for any violations occurring on campus.
3. Parking Permit subscribers shall park only in lots to which the permit purchased provided access.
4. Students and employees without parking permits shall use only metered spaces.
5. Regulations pertaining to lot permits and metered parking are enforced from 7:30 a.m. to 4:30 p.m. throughout the year, except on Saturdays, Sundays, and official University holidays. Other regulations are enforced at all times as noted below.
6. The Chief of Police, with the concurrence of the Committee Chair, shall have the authority to

44 □ General Information

suspend all or part of the parking regulations for specified periods of time.

7. Specially marked disabled parking, driveways, yellow curbs and zones, spaces marked for 24-hour enforcement, fire lanes, vehicle types, and areas not designated as parking areas, etc., shall be enforced at all times.
8. University driveways, yellow curbs and zones, and any other area not specifically designated as a parking area shall not be used at any time.
9. Parking at Thomas Jefferson Residence Hall shall be enforced 24-hours.

The complete set of the University of MO-Rolla parking rules and regulations can be found at:

<http://www.umar.edu/~police/parking/parkrule.htm>

Lost and Found

The University Police Department is the central "Lost and Found" repository for the campus. Any lost and found items should be turned in to University Police for reclamation purposes. If an item is lost, information should be filled out with University Police, 341-4308, in case the item is turned in at a later date.

Campus Security

GENERAL GUIDELINES: This section describes the principles that guide campus decisions pertaining to the reporting of incidents occurring on University of Missouri-Rolla property, as required by the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act.

The University endeavors to provide a safe and secure environment for students, employees, and campus visitors. Therefore, reporting crime to the University Police, as it occurs on campus, should be done in a consistent and reliable manner so as to assure students, parents, and interested citizens that a desirable environment exists in which educational opportunities can be found and where appropriate learning takes place.

University Police:

The mission of the University Police, as a vital part of the administrative staff is to support the academic and campus community in fulfilling its commitment to teaching, research and service. The responsibilities of the University Police, as set forth in Chapter 172, Missouri Revised Statutes, are:

"To protect and preserve peace and good order in the public buildings and upon the campuses, grounds, and farms, over which they may have charge and controls."

Chapter 172 also provides University Police with:

"The same power to maintain order, preserve the peace, and make arrests as is now held by police officers."

Duties include, but are not limited to, crime prevention through active campus involvement, individual interactions, and public educational

endeavors, preventative patrols, service to students and others in emergencies, maintenance of peace and order, special event coverage, control and supervision of traffic, the enforcement of state laws and university rules and regulations, and the investigation of crimes.

University Police to be Notified:

The University Police Department is to be notified as soon as practical of incidents involving alleged violation of state statutes that occur on campus property and other circumstances requiring police service, including health or safety emergencies.

The University Police shall be responsible for the maintenance of peace and order, and the investigation of crimes occurring on University property. To help insure that this accomplished, the campus community must report incidents in a timely manner.

The University Police Department shall attempt to monitor and record, in cooperation with local police agencies, criminal activity at off-campus student organizations with off-campus housing facilities.

The Student Affairs Division at UMR has developed a "Protocol for Responding to Survivors of Sexual Assault" for Student Affairs personnel which outlines the options for support and services available to the victim during a time of crisis caused by a sexual assault.

Reporting options include direct reporting, where the victim speaks directly with law enforcement officers, whether it be UMR Police or Rolla Police. If the victim does wish to participate in the prosecution of the offender, direct reports are required and should be made as soon as possible.

Reporting by third party involves law enforcement being contacted by someone other than the victim, such as University personnel, who reports the details of the assault. This option should only be used when the victim is unwilling to report the assault directly. However, it is unlikely any prosecution of the assault will be made unless the victim agrees later to make a direct report.

Through an anonymous report the victim contact authorities and reports the details of the assault but does not disclose her/his identity. Again, although this type of reporting may be useful in preventing additional assaults on campus, it cannot be used for investigation and prosecution of the assault.

Security of Campus:

Accountability of the security of campus facilities originates with the department chair. Areas of responsibility include, but are not limited to, both interior and exterior entryways, exits, and windows, and items of value within the department. Areas not under a specific department shall be under the responsibility of the next higher level within the division.

The department chair is ultimately answerable for security problems existing within his/her area of control, but can designate a dependable and reliable individual(s) areas of security responsibility.

A particularly sensitive area in building access control is the issuance of keys by departments to faculty, staff, and students. Department key issuance and control shall comply with guidelines set forth in section 07-13, under the title, "Property & Capital Equipment, Keys To University Buildings (UMR)."

Buildings shall be secured during the evening hours at the earliest reasonable time. Any facility open for an extended period after normal operating hours for that building shall require a permit to be open for the hours specified on the permit.

During the academic year in which residence halls are open, those halls shall be secured during the evening hours according to Housing Department regulations. Faculty, staff, and students are encouraged to prevent access by unauthorized personnel, in both residence halls and other campus buildings, by verifying any door entered or exited has closed and locked.

Maintenance of campus facilities involving security problem areas, such as broken locks, windows, door, etc., shall involve reporting the security problem as soon as possible to the Physical Facilities department, who shall rectify the security breach within a timely manner.

Notification of Agencies

Local law enforcement agencies (i.e., Rolla Police Department, Phelps County Sheriff's Office, State Highway Patrol) are routinely notified of violations of law and other incidents occurring on campus that appear to may affect the off-campus community.

The Director of University Police or his representative will act as liaison between the University and local law enforcement agencies and make the determination as to when they should be notified of an incident occurring on campus.

Police Reports:

Police reports involving criminal activity will be turned over to the County Prosecutor for his/her disposition. The Director of University Police shall review each report and make every effort to establish a procedural relationship to permit campus disciplinary procedures to be implemented for minor infractions.

Certain University officials, because of the nature of their responsibilities, will be informed in cases involving students faculty, and staff. Information concerning student conduct not required is referred to the office of the prosecutor and will be forwarded to the University Student Conduct Officer.

Compilation of Crime Statistics:

The University Police will compile crime statistics and prepare annual reports for dissemination according to University, state, and/or federal guidelines. These annual reports shall be reviewed by the Director of Residential Life and, upon his review, be made available for public examination.

Timely reports shall be made to the campus community on crimes considered to be a threat to other students and employees. Those crimes include murder, rape, robbery, aggravated assault, burglary, and motor vehicle theft.

UMR Crime Statistics

The crime statistics for the University of MO-Rolla can be found at:

<http://www.umn.edu/~police/securityact/report.htm>
or by contacting the University Police Department, 341-4300.

Alcohol/Illegal Drugs Policies:

(Alcoholic Beverages)

The use, or possession of any alcoholic beverage is prohibited on all University property, except in the President's residence and the Chancellors' residences, and the sale, use or possession may, by appropriate University approval be allowed in approved University Alumni Centers of Faculty Clubs, and for single events and reoccurring similar events in designated conference, meeting, or dining facilities provided by University food services, subject to all legal requirements. Further information pertaining to alcoholic beverages can be obtained from the UMR Alcohol Handbook.

Illegal Drugs:

University of Missouri regulations prohibit the unlawful possession, use, distribution and sale of alcohol and illicit drugs by University students and employees on University-owned property and at University sponsored or supervised activities. Local, state, and federal laws also prohibit the unlawful possession, use, distribution, and sale of alcohol and illicit drugs. Violation of the University of Missouri regulations and federal and state laws can result in disciplinary action up to and including expulsion for students and discharge for employees.

A variety of resources exist for drug and/or alcohol counseling, treatment, or rehabilitation program. For detailed information concerning University and community resources, students and employees may contact the Substance Abuse Prevention Program, 106 Norwood Hall, 341-4292. Confidential consultation, assessment, short term counseling, and referral services are available free of charge to faculty, staff, and students. A variety of prevention of education programs are also offered.

Sexual Assault Programs and Procedures

(Education Programs)

- Rape/sexual assault prevention
- Burglary/theft prevention
- Room or building security surveys
- Property engraving programs
- Campus watch
- Floor security programs
- Alcohol/liquor law programs
- Drug violation programs

There is no set agenda for giving these programs, but they are presented at least once a year and some of them numerous times during the school year. Any or all of them can be given upon request by any student, faculty, staff, or university related group. It is preferable that arrangements be made as far in advanced as possible to assure the program you may be interested in can be arranged at your convenience.

Possible Sanctions For Sex Offenses:

Possible sanctions for rape, acquaintance rape, or other sex offenses following an on-campus disciplinary procedure includes disciplinary probation, suspension, or expulsion. Information involving any crimes committed on campus and investigated by the University of Missouri-Rolla Police Department will be submitted to the Phelps County Prosecutor for his disposition and possible prosecution of the alleged assailant(s).

Preserving Evidence if a Sex Offense Occurs:

Receiving medical care immediately following a rape, attempted rape, or sexual assault is extremely important for the victim's well being. It is essential that the victim of the crime obtain:

- (1) emergency medical exam if the victim has serious injuries;
- (2) a general medical exam to ensure that she/he hasn't obtained injuries that she/he's unaware of or unable to determine;
- (3) a medical/legal examination for the collection of evidence if she/he thinks there is any possibility she/he will want
- (4) testing for Sexually Transmitted Diseases, AIDS, and possible pregnancy (as part of follow-up treatment).

For medical emergencies call UMR Police (341-4300) who will subsequently have an ambulance dispatched. It is strongly encourages that a report to the UMR Police be made as soon as possible after the sexual assault. A report can be made at the hospital or the police department.

Successful apprehension and/or prosecution of the offender depends greatly on a rapid and accurate report of the crime. Information about the assault can assist law enforcement authorities in providing and improving prevention strategies for the protection of the victim and others in the community.

Making a report assists the police in protecting the community. While the actual prosecution of the offender is pursued by the Phelps County Prosecutor (not by the victim), prosecution is unlikely to occur without the consent and assistance of the victim. University Police services are STRICTLY CONFIDENTIAL, and in no way does contacting this support unit obligate the victim to take any further action.

If the victim is considering a medical/legal exam, the only resource in this area is the Phelps County Regional Medical Center Emergency Room. To obtain physical evidence that will be useful, the medical/legal exam must be conducted within 48 hours of the assault.

If the victim pursues this course of action the UMR Police and the Rolla Police will be contacted by Phelps County Regional Medical Center. The police will be notified by the Emergency Room personnel who will arrive at the hospital to begin their investigation upon completion of the exam. The Director of Residential Life will be contacted by UMR Police and informed of the assault and the identity of the victim. The Director of Residential Life is subsequently responsible for coordinating the University response to the assault.

Other sources of emergency medical exams for victims include UMR's Health Services, whose services are available 24 hours a day (341-4284), and Planned Parenthood, where appointments are required (364-1509).

Sexual Assault On-Campus Disciplinary Action Procedures:

There are two possible situations which may arise as a result of an accusation of sexual assault or rape. The policy/procedures for dealing with the situations are defined in the Collected Rules and Regulations of the University of Missouri, Section 200.020, Part C: RULES OF PROCEDURES IN STUDENT DISCIPLINARY MATTERS, approved by the Board of Curators. The situations which may arise are:

1. The victim has reported a rape or sexual assault to a law enforcement agency. The Director of Residential Life is then notified by the UMR Police.
2. The victim does not report the rape or sexual assault to a law enforcement agency, but wishes the University to take action against the alleged perpetrator under Section 200.010 of the Collected Rules and Regulations of the University of Missouri: STANDARD OF CONDUCT. The campus judicial officer will inform the victim that

an investigation may take place, and that action may be taken without the victim's consent, if it is deemed in the best interest of the University community.

The accused will be contacted by the judicial officer immediately after initial information has been gathered. Both the accuser and the accused are entitled to the same opportunities to have others present during a campus disciplinary proceeding, and both will be informed of the outcome of any campus disciplinary proceeding involving a sexual assault complaint.

Counseling, Mental Health Services For Sexual Assault Victims:

The UMR resource for crisis intervention is the UMR Center for Personal and Professional Development (341-4211). UMR counselors are trained professionals who will assist victims of rape, attempted rape, or sexual assault in coping with the trauma or long standing victimization issues. There is no cost to the student for these services. The victim has the right to decline an immediate interaction with the Center for Personal and Professional Development. These services are STRICTLY CONFIDENTIAL and contacting this support service does not obligate the victim to take any further action. Other counseling or mental health services in the community include Central Ozarks Mental Health Services, 364-7551, and the Phelps County Regional Medical Center Stress Center, 341-2350.

Changing Academic, Living Status After Alleged Sexual Assault:

If the accused and the victim may be in close contact with each other because of class schedules and/or living arrangements, two situations may arise:

1. The Director of Residential Life has the authority to give the victim and/or accused the option of changing living arrangements. If the victim and the accused refuse to change living arrangements, the Director has the authority to change the living arrangements of either person. Contact should be made with the Director of Residential Life office, 341-4218, for assistance in this area.
2. The judicial officer shall give the parties the option of changing class schedules to avoid contact. However, change of class schedules cannot be required until after disciplinary proceedings have concluded. Contact can be made with the judicial officer in the Student Affairs Office, 341-4292, for assistance in this area.

Writing Across the Curriculum/ The Dr. Beverley Bowen Moeller Writing Studio/The Center for Writing Technologies

UMR's Writing Across the Curriculum Program is designed to improve students' writing abilities and communication skills. In addition to required and elective writing courses in the English Department, Writing Intensive and emphasized courses in all disciplines give students experience writing in their academic and professional fields and satisfy the General Education Communication requirements. UMR graduates have reported that, in order to advance in their professions, they have had to learn to communicate their expertise much more than they had anticipated as students. Drawing on these experiences, Writing Across the Curriculum puts into practice the idea that proficiency in writing develops over time, through practical experiences in writing various kinds of documents for various audiences. Writing is seen not as a simple skill that can be learned in a single semester or course, but as a process that develops over the course of one's undergraduate years and throughout one's career.

The Dr. Beverley Bowen Moeller Writing Studio was established to help students become effective writers in their chosen majors and professions. It is staffed by peer tutors, called Writing Assistants (WAs), who are trained both to teach general writing skills and to offer help with more specialized, professional forms of writing, such as research papers, proposals, and laboratory reports. The WAs can help students with all phases of the writing process, from understanding assignments and organizing papers to revising and editing drafts. The Writing Assistants also maintain a collection of handbooks and other writing resources (in both print and electronic format) for students to use. The Studio occasionally offers special workshops and demonstrations related to writing. Students can use the Studio without charge on their own initiative or by faculty referral.

The Moeller Writing Studio is located in 113 Campus Support Facility. Students can see Writing Assistants by appointment or on a drop-in basis. Tutoring hours are generally held Sunday through Thursday in the afternoons and evenings, and specific hours are posted early each semester. Students should feel free to drop in whenever the

Studio is open, but making an advance appointment is the best way to ensure a tutor's availability.

The Center for Writing Technologies is located in 114 Campus Support Facility, connected to the Moeller Writing Studio. This is a Computer Learning Center equipped with writing, editing, and desktop publishing software. It is used for classes and workshops, and when it isn't occupied, it is available for general student use during Writing Studio office and tutoring hours.

The Writing Across the Curriculum Program is committed to providing opportunities for UMR students in all majors to develop their writing proficiency to the fullest. The WAC Program office (113 Campus Support Facility) is open Monday-Friday, 8-4:30.

For more information contact the Director of Writing Across the Curriculum, 223 Humanities/Social Sciences Building, University of MO-Rolla, Rolla, MO 65409; call 341-4436; or e-mail wac@umr.edu.

Women in Engineering Program

Through the Women in Engineering Program all female freshmen or transfer students entering an engineering curriculum at UMR may apply for a non-renewable \$500 scholarship.

Scholarship recipients are selected on the basis of academic success, interest in engineering and technology, recommendations from counselors, standardized test scores and financial need.

Support services available through this program include tutorial, counseling and employment placement services. Up to fifty scholarships are available each year. The application deadline is Jan. 15 and is available at www.umr.edu/~mep.

For more information, see your high school or college counselor or write to the Women in Engineering Program, University of Missouri-Rolla, Room 212 ERL, Rolla, MO 65409-0150 or phone 1-800-522-0938, ext. 4212.