University of Missouri - St. Louis
Department of Biology

The BGSA
Biology Graduate Student Manual

A Survival Guide

1st Edition
A Letter from the Chairperson

The Department of Biology regards its graduate program as perhaps the most valued component of our diverse and somewhat complicated department. Graduate students are at the core of our research mission, and they contribute directly to our undergraduate teaching mission as well. Our graduate program holds students to very high standards, but in an atmosphere that we hope is supportive and friendly. We want you to have what you need to succeed, and are prepared to work closely with you in designing, funding, executing, and disseminating your research. We are also prepared to work with you in the classroom, as we train the next generation of scientists. We are aware that we will some day be replaced by you and your future students, and we want you to be as good as you can be.

Our graduate program has two broad areas, each of which offers both M.S. and Ph.D. degrees. The Evolution, Ecology, and Systematics (EES) program is large, and the Cell and Molecular Biology (CMB) program is smaller but growing. Within EES is also a Certificate in Tropical Ecology and Conservation, and within CMB is a Certificate in Biotechnology. In addition, the Department of Biology, in cooperation with the Department of Chemistry and Biochemistry, also offers a M.S. program in Biochemistry and Biotechnology. Although the EES and CMB programs are administered somewhat differently (for example, the qualifying exams are structured differently, as appropriate for the sub-disciplines they represent), our graduate program and department work as a cohesive unit in all department activities. Our program also is the home for the International Center for Tropical Ecology, and cosponsors the Center for Neurodynamics with the Physics Department.

Our partnerships with other departments on campus are amplified in our partnerships with other institutions in the St. Louis community. Our students go regularly to seminars and classes at Saint Louis University and Washington University, and their students come to us as well. Non-academic community partners are equally important. We have professors jointly appointed at the Missouri Botanical Garden and the Saint Louis Zoo, accompanied by lots of student movement among these institutions, and a new professor joins us in fall 2004 for a joint position with the Danforth Plant Science Center. These positions cut across the EES/CMB boundaries, creating a strong fabric of department, campus, Graduate connections that offer a staggering menu of opportunities to students in our program. We encourage you to take advantage of them, and we are ready to help you make the connections that will best serve your academic plan. As you begin your graduate studies at UMSL, do not hesitate to explore these possibilities. Best wishes for a productive and satisfying professional development at the UMSL Department of Biology. You will work very hard, and it will be worth it.

Chair,
Department of Biology
A Welcome Note to the New Students From the BGSA

The Biology Graduate Student Association (BGSA), would like to welcome you, its newest members, to the University of Missouri - St. Louis biology graduate program. You have accepted the many challenges of graduate school by entering the program and the BGSA is here to help you overcome those challenges. The BGSA is composed of us, the graduate students, and it has but one goal, which is to support us in our endeavors in the graduate school by addressing the issues and concerns that face us. The BGSA is an organization well supported by our graduate students as well as our department. In the past years we have successfully lobbied for important issues such as an increase in our stipend, as well as unlimited computer and internet access. We also request and obtain an annual budget from the Student Activities Fee to be used to invite a distinguished scientist to speak at our spring and fall BGSA Invited Speaker Seminars. As an incoming biology graduate student you are automatically a member of the BGSA and your support of the organization is essential for its survival. This manual is a guide, which has been put together for you by the BGSA. In reading this manual, please keep in mind that it is only a guide and that graduate school rules precede the information contained in this manual. The purpose of this manual is to ease your transition into our graduate program as well as to serve as a reference for other information that you may need. The components of this manual have been assembled by your fellow graduate students based on the information that we have found to be essential for incoming students, as well our own personal experiences in the graduate school. Please take some time to read the entire manual, for the information contained may indeed save you from many headaches later on.

Best Regards,

President,
BGSA

First Things First

Critical things to do immediately upon arrival to campus:

Meet with your advisor and sign up for classes . . . . . . 6
Get your UMSL ID card . . . . . . . . . . . . 9
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Get your parking sticker . . . . . . . . . . . . 9
Sign up for health insurance . . . . . . . . . . . . 9
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Grad School Academics

EES and CMB

Based on research interest, biology graduate students are part of the Cell and Molecular Biology (CMB) division, or the Ecology, Evolution and Systematics (EES) division of the biology department. Biology graduate students take courses related to their own research; therefore it is relatively infrequent for EES and CMB students to share courses.

- **Course load** – 9 hours is considered full-time however 3 credit hours are waived for those supported on TA or RA. Especially if you are a TA for the first time, your first semester can be very stressful. If possible, we recommend taking a lighter (less challenging) course load your first semester. *In addition to maintaining a 3.0 GPA to remain in good standings, all students receiving support and all international students must maintain a full-time status at all times.*

- **Rotations** – Most CMB Thesis Masters and PhD students will rotate among labs that are accepting students. This is your time to get a taste of the research done in each lab and choose a lab to conduct your research in that best suits your needs.

- **Forms** – At each step along the path to graduation (i.e. appointment of committees, proposals, etc.) there are forms to be submitted to the graduate school. Current versions of all forms required by the graduate school, where to turn them in and when they are due are available at [http://www.umsl.edu/divisions/graduate/formsregs/gradforms.html](http://www.umsl.edu/divisions/graduate/formsregs/gradforms.html).

- **Planning ahead** - Most courses are not offered every semester or even every year. In order to avoid course overload or scrambling to find courses to fill your schedule, we highly recommend that you check the 3-year course schedule on the biology web page then sit down with your advisor as soon as possible and work out a tentative schedule for completion of your degree. Plan the courses you will take and when you will take them. Also set goals as to when you will complete other requirements, such as a research proposal and qualifying/comprehensive exam (QE).

- **Committees** – At some point (prior to research proposals) Thesis and PhD students must appoint faculty members to a thesis or dissertation committee. Master’s students may appoint any three-faculty members. PhD students must also appoint a faculty member from outside of the biology department. In both cases, the chair of the committee must be someone other than the research advisor. CMB PhD student must also choose a similar qualifying exam committee, but all members can be within biology. In all cases your advisor should work closely with you to arrange the most beneficial research advisory committee structure.

**PhD Requirement:**

- **Course work** - Total 60 hours (up to 30 hours can be research credit, Bio 6905). Specific course requirements are available in the online bulletin at [http://www.umsl.edu/~biology/gradprogram/phd.html](http://www.umsl.edu/~biology/gradprogram/phd.html)

  *(Note that there are different courses required for CMB and EES students.)*
**Qualifying examination** - Must be completed and passed and along with completion of all course work, it is required for formal acceptance to candidacy.

**CMB** – Students must complete a NIH style grant proposal in an area of research other than the student’s area of interest. The proposal will be presented written and orally to the QE committee for approval during or immediately after the 4th semester. For more details contact your CMB advisor.

**EES** – In your third semester as a PhD student, students are expected to choose 2 major areas and 3 minor areas of 6 subject areas in the EES component of biology (Conservation Biology, Systematics, Evolution, Population Biology and genetics, Animal Behavior and Behavioral Ecology, and Community Ecology). You are given questions in those areas that you are expected to answer in the form of 1 to 4 page essays. You will present your answers to a QE committee for approval. The QE committee will be assigned based on the topics you have chosen. Your advisor will not be a member of this committee.

**Written and oral dissertation research proposal** - A detailed research plan, including preliminary results, must be presented to and accepted by your dissertation committee, the department, and graduate school.

**Teaching** – All PhD students must complete at least one semester of teaching (TA).

**Candidacy** - After completion of QE and course requirements, PhD students apply for admission to PhD candidacy. After this point, full time status requires registration for at least 1 credit hour and it is expected that you concentrate on completing your dissertation research.

**Dissertation and defense** – An oral defense of your dissertation must be completed prior to graduation and accepted by your dissertation committee. Your written dissertation must also be submitted to the graduate school for approval. Remember to file the appropriate forms and frequently check deadlines set by the university (see Maryann).

**Master’s Requirements:**

There are two options when seeking an M.S. thesis option (requires research and presentation of a thesis on that research) and non-thesis option (no research requirement). All students are considered non-thesis unless accepted in a lab by a faculty member to work under his/her supervision.

**Thesis** – 30 hours (up to 13 hours can be research, Bio 6905) - Detailed course requirements are available in the bulletin and online at [http://www.umsl.edu/~biology/gradprogram/ms.html](http://www.umsl.edu/~biology/gradprogram/ms.html)

- Written and oral proposal of thesis research project - A detailed description of research plan, including preliminary results, must be submitted to and approved by a thesis committee. This is usually completed within the 3rd semester.
Written and oral defense of thesis. Must be approved by your thesis committee, the department, and graduate school. Remember to file the appropriate forms and frequently check deadlines set by the university (See Maryann).

- Non-thesis –
  - 30 hours of course work alone - Detailed courses and specific requirements are available in the bulletin online at [http://www.umsl.edu/~biology/gradprogram/ms.html](http://www.umsl.edu/~biology/gradprogram/ms.html)

**Advisor**

An advisor will be assigned upon admission. This is usually a professor within your anticipated field of study. However, as your research interests develop you may want to change advisors. They are to advise you in developing research as well as completion of tasks required for graduation.

**Bulletin**

Contains detailed course descriptions and degree requirements. Everyone needs study it carefully for it has the final say. You can look it up online at [http://www.umsl.edu/bulletin](http://www.umsl.edu/bulletin).

**Transfer Credits**

Credit for graduate level courses taken at other accredited institutions may be transferred to UMSL and applied toward your graduate degree. Less then half of the total credits required for your degree may be transferred credits. The graduate department recommends writing a letter for approval to your advisor, listing the courses to be transferred, including the institution and detailed description of the course. Once your advisor approves the credits, the letter should be forwarded to the departmental committee on graduate studies and then to graduate school where they will approve and apply your credit transfer. Please note that as long as these courses are graduate academic courses from a reliable institution and approved by your advisor and the graduate studies committee, any course, including seminars, may be transferred in.

*Note: Credit transfers do not apply to research hours.*

**Seminars and Discussion Groups**

- **Departmental Seminars** - Usually on Tuesdays at 4pm. These seminars are organized by the department and have a wide range of topics. Most speakers are invited faculty members from other institutions.

- **BGSA Invited Speaker** - Once every semester. These seminars are organized by BGSA. The topics will alternate between EES and CMB.
Journal Club - The molecular and cellular journal club takes place every Friday at noon. The papers for discussion in each semester will focus on a specific cellular or molecular biology topic. You may also enroll for the class for 1 credit hour of graduate work.

Biolunch – It is every Wednesday at 1pm and it is forum for students and faculty to present their research. You may also enroll for the class and receive 1 credit hour of graduate work.

UMSL & WASH.U. Yeast Club – The yeast club meets once a month at Washington University. It is a gathering of the yeast labs of UMSL and Wash U. in which both faculty and students present their respective research.

Animal Behavior Discussion Group – Every Friday 3:00 to 4:30pm. This group discusses journal articles and topics in animal behavior.

Evolution Discussion Group - This group reads and discusses journal articles and occasionally book chapters about evolution—how it’s measured, the rates, etc. The group mainly consists of graduate students but ALL are welcome. They meet Fridays at the University City St. Louis Bread Company in the Delmar Loop, but meeting times and places are subject to change. To be put on the mailing list or inquire about the upcoming paper contact our biology department.

History And Philosophy of Science Brownbag Seminar - Washington University, Life Sciences Building on Wednesdays. For further information contact the Washington University Biology Department.

Scientific Reading Group - This is an informal group, mostly consists of graduate students interested in this area of study. They focus on issues concerning the evolution of size, shape, and structure. The reading group will cover theoretical, technical, and methodological problems encountered in comparative studies of morphology, quantitative genetics, and development. Meets at Washington University, every other Wednesday. For further information Contact the Washington University Biology Department.

Libraries

UMSL Library- You may access our library thru the following link
http://www.umsl.edu/services/library/

Washington University
  o Becker Medical Library – For more information go to http://becker.wustl.edu/
  o Main Campus Library – For more information go to http://library.wustl.edu/

Missouri Botanical Garden Library – For more information go to http://www.mobot.org/MOBOT/molib/
Graduate School Finances

Graduate Teaching and Research Assistantships (TA/RA)

Most departments with established graduate programs offer teaching and research assistantships to qualified graduate students. Teaching assistantships are available to graduate students on a competitive basis and appointments are made directly by the departments. Inquiries and applications for assistantships should be addressed to the director of the graduate program of the biology department. Applications should be submitted no later than December 1st for the following fall semester. More information on these opportunities can be found at the Department of Biology’s Application and Admission website http://www.umsl.edu/~biology/gradprogram/applic.html. Research assistantships are only awarded by individual faculty members and at their individual discretion.

- **Appointments** – Assistantship appointments are usually considered half-time (20-hours per week) and currently carry standard stipends $16000 per year. Students warded a TA are expected to teach, study, and research during each academic semester and continue to conduct their research during the summer. You may choose the distribution for the payment of your stipend. The stipend may be divided for payment into 12 or 9 monthly installments. *We recommend that you choose the 12 installments option. You may choose the 9 installments option if you are guaranteed funding from “other sources” for the remaining 3 months, otherwise not only you will not get paid for those 3 months but also your tuition for those months will not be waived. “Other sources” include personal grants, scholarships, and lab grants.*

- **Payment of Educational Fees (tuition)** - Graduate Teaching Assistantships and Graduate Research Assistantships who hold a 0.25 FTE appointment (10 hours per week or one course) are eligible to pay fees at the in-state educational fee rate. They will not be required to pay at the out-of-state rate. However, students will be required to pay any non-educational fee related charges or any tuition surcharges. Graduate Teaching Assistants and Graduate Research Assistants who hold a 0.5 FTE appointment (20 hours per week or two courses) will have their educational fees (both in-state and out-of-state) paid by the Graduate School. However, students will be required to pay any non-educational fee related charges (student activity, health fee, computing fee) or any tuition surcharges.

*NOTE: The Graduate School will only provide payment of educational fees for 9 hours of graduate level courses (6 hours in summer).*

- **Possible Impact of Tuition Coverage on your Financial Aid Package** - Students who receive tuition remission after their financial aid is awarded must undergo another financial analysis, and the tuition grants must be deducted from the total award. It is in your best interest to check with a Financial Aid advisor to make sure know how your TA/RA salary, tuition remission and any other awards may affect your financial aid package.

- **Enrollment Requirement** - In order to qualify for the fee waivers, TAs or RAs with a 0.25 appointment must be enrolled in a minimum of three credit hours for the regular 16-week semesters and one credit hour in any of the summer semesters. TAs or RAs with a 0.5 FTE
appointment must be enrolled in a minimum of six credit hours for the regular 16 week semesters and three credit hours in any of the summer semesters.

*NOTE: Contracts to pay TAs/RAs/Graduate Instructors cannot be approved until the student is enrolled in the appropriate number of graduate credit hours.

- **Length of Financial Support** - Ph.D. Students: The department is committed to 4 years of support, with the 5th year contingent upon performance. Extensions beyond the 5 years residency are not guaranteed and must be specifically requested and approved by your advisor, graduate studies, and the department. Thesis Master’s Student: For students admitted with support – the support is for 2 years, with the 3rd year contingent upon performance. For student admitted without support – it is often possible to request and receive support on a semester-by-semester basis. The support from the department is through a combination of research and/or teaching assistantships.

**Scholarships and Grants**

There are a number of scholarships available to graduate students through the Biology Department, the International Center for Tropical Ecology, as well as other outside sources. A list of these can be accessed at UMSL’s Student Financial Aid Office. The office’s website also allows access to information on grants, student loans, and work-study opportunities. For graduate financial considerations please visit [http://www.umsl.edu/divisions/graduate/prospective/financial.htm](http://www.umsl.edu/divisions/graduate/prospective/financial.htm)

**Tax Matters**

All students, both domestic and international, must fill out proper tax forms (including international students with external funds). Domestic students must fill out proper forms in the biology department and International students must go to the Office of International Student and Scholar Services. For more information and for an international visitor handbook please visit [http://www.umsl.edu/services/intelstu/](http://www.umsl.edu/services/intelstu/)

**Grad School Miscellaneous Matters**

**UMSL ID Card**

Once you enroll, you may obtain your UMSL ID from the Admissions Office, 351 Student Millennium Center. Your ID is required for the use of campus facilities.

**Parking/Metrolink**

Students must park in the student parking lots. Parking stickers can be obtained from the cashier’s office and the fee is based on the number of credit hours enrolled. UMSL students also
get a free Metrolink pass for each semester enrolled. This is an unlimited free use of bi-state bus and metro public transportations. The Metrolink pass can also be obtained from the cashier’s office.

**Door Key Information**

To obtain necessary room keys you must fill out a key request form, which can be obtained from the Biology Office, and turned in to the Biology Office. A key pick up notice will be send to the biology office and you will be informed when your key(s) is ready for pick up from the University Police.

**Mailbox**

All full time graduate students are issued a mail-slot in the biology office as space permits. Your mail should be checked daily.

**Health Insurance Information**

UMSL provides a fairly comprehensive health insurance plan for students. The problem is that the policy, through a company called Student Assurance Services (SAS), is poorly administered, and you need to be aware of some issues before you have problems. However, in spite of the problems, getting independent insurance is much more expensive, and there is no guarantee the coverage will be any better. So we recommend getting the student plan, but be aware of the potential difficulties, unless you can get good insurance through a spouse or something! For international students, you may want to read below about the health care system in the US.

- **Enrollment**
  Make sure you are enrolled early. Graduate students get part of their insurance paid by the Graduate School. To enroll, you need to contact Mary Ellen Heckel there (516-5898), and she will sign you up. Do this well before the term starts, otherwise it will take too much time for SAS to receive the payment, and your coverage status could be unclear for several months. Make sure you get your insurance card from SAS. If you do not get a card, it may be because you are not enrolled. International students may bring their own insurance from their respective country, as long as the it is approved by the International Student Office.

- **Which plan to choose: Plan I vs. Plan II**
  Domestic students have a choice between two insurance plans. Plan I provides basic coverage; Plan II provides thorough coverage for a little higher premium. We **strongly** recommend getting **Plan II**. For example, Plan I pays only $300/day for a hospital bed, but if you need one, it will cost at least $500. Similarly, the limit for all outpatient services per illness is $1000, and this includes chemotherapy, where one dose can be $7000 or more. In short, Plan I does not cover worst-case scenarios, which are the reason for getting insurance in the first place. Out of $100,000+ of my medical charges over the last year, Plan I would have paid $10,000. If you can afford Plan I but not Plan II, put the money in a bank and hope you don’t get really sick.
*Ways to avoid problems with SAS:*

1) Make sure your providers are in-network - If you are ever hospitalized, while you are in pain and worrying about your health, don’t forget to also ask if your providers are in-network. This will save you a lot of money you can’t afford to spend – at least 20% on all bills. All diagnostic procedures such as CT scans, X-rays, mammograms, AIDS tests, tissue pathological examinations, and colonoscopies may be billed by separate providers, and you should get as many of them done in-network as possible. However, there may be some situations in which there are no in-network providers available, and you may just be out-of-luck. Just because you are at an in-network hospital does not mean all the doctors there are in-network.
   - *Finding out whether or not providers are in-network can be a morass.* If you check Beech Street’s web site (they’re the PPO organization associated with SAS, [www.beechstreet.com](http://www.beechstreet.com)), it lists in-network providers, but a disclaimer pops up that status may have changed recently and you need to check with the provider. Basically, to be on the safe side, check with both Beech Street and the doctor.

2) Avoid the emergency room - Remember that the first doctor’s visit for each injury or sickness is not covered, and that emergency room doctors are counted as doctors for insurance purposes. Many students in the department have been surprised to find themselves stuck with $500+ bills from emergency room doctors. Avoid the emergency room if possible – it’s much more expensive.
   - *If you need to go to the emergency room in St. Louis, do not go to Barnes-Jewish Hospital.* Saint Mary’s (SSM) on Clayton Road, St. John’s Mercy Medical Center, Missouri Baptist Medical Center, and St. Louis University Hospital are all in-network. Barnes-Jewish has much longer waits and SAS will not cover as much of the bill for various reasons.

3) How to Get the Master Policy - The brochure that you will get is not the Master Policy, which has all the fine print. If you want a copy of the Master Policy, contact Renée Dattoli at Lockton Co., rdattoli@lockton.com, 812-3296. Lockton Co. is the firm that helps the University of Missouri system negotiate a contract and deal with SAS, and Renée may be able to help you with some problems, especially if they are simple.

4) Check and double-check all SAS’s calculations - Always check all documents from SAS carefully, especially any Explanation of Benefits statements about your claims. SAS is very poorly managed, and a number of mistakes have been made in processing our claims. We believe it is not maliciousness, just incompetence, since a number of the errors hurt SAS financially. But they will be very technical about adherence to the fine print of the plan (which they don’t always understand so well), so be forewarned.

**Information Technology**

- *Getting an email account*
  IT services will provide you with a user ID consisting of your initials and three random characters. Go to [https://sso.umsl.edu/perl/id_search.pl](https://sso.umsl.edu/perl/id_search.pl) to look up your ID. Your email address will be xxxxxx@studentmail.umsl.edu. Silly as it seems you can’t get a personalized
user id. Don’t bother to try. Go to mygateway.umsl.edu and click on login to access your account and find out more. You can access web email from any internet connection at http://studentmail.umsl.edu.

- **Getting on the biograd list**
  You will want to get on biograd, the department’s graduate student list serve, as soon as you can – important announcements, including all BGSA announcements, will come through the biograd. You are not automatically put on the list, so you must see Maryann or Glenda in the Biology Dept. office and give them your email address so they will put you on.

- **Getting our own computers**
  We are working on providing all grad students with a personal computer. The department has a buy-back program for used faculty computers and BGSA’s IT committee maintains a list of the grad students who would like to have one for their use on campus. If you would like to have one, see your BGSA- IT committee head.

- **Other computer access on campus**
  There are labs around campus that we can use, including the labs in the library and the basement of SSB. However, the lab you will use most is in Benton Hall 232. Graduate students’ ID cards should allow them 24-hour access to this room, even when an attendant is not on duty. (If your card doesn’t work, contact IT services, ext. 6034.) In return, we must follow some strict rules or risk losing our privilege: 1) *No eating or drinking in the lab.* 2) *Swipe your card before you leave so you don’t trip the alarm.* 3) *Do not load paper or anything else into the printer.* Do not mess with the printer.

- **Other IT Info**
  Contact IT Services at ext. 6034, 211 Lucas Hall, helpdesk@umsl.edu, http://www.umsl.edu/technology/tsc/studentres.html

**People to Know**

- **Maryann Hempen**
  Maryann is an administrative assistant to the biology department. She keeps track of all of the graduate student files, records, and forms.

- **Glenda Jackson**
  Glenda is an administrative associate in the biology department. She handles all non-grant and class accounts. She is also responsible for all personnel records and contracts.

- **Pat Hinton**
  Pat is an administrative assistant to the biology department and the ICTE focusing on administration of grants and ICTE scholarships. She is also the webmaster for the department.
Personal Matters

Food

○ On-Campus
The most convenient way of having a meal when you’re on campus is to go to the Millennium Student Center. On the first floor, you’ll find the Nosh, which offers pizza, salads, meat, sandwiches, etc. Aroma’s bakery, on the second floor, offers pastries and sandwiches. Beware that on Fridays, and break periods the restaurants close earlier (by 2:30), and that both are closed on the weekends. For regular hours, check on [http://www.umsl.edu/~msc/food.html](http://www.umsl.edu/~msc/food.html). You can also get chocolate and snacks at the Convenience store on the second floor of the Millennium Center, and on the vending machines on the first floor of Benton and Research Buildings. On the first floor of the Research Building there is a coffee place called Pony Espresso, which offers a limited selection of muffins and sandwiches. They are open from Monday to Thursdays (closed on Fridays and Weekends). If you don’t enjoy the food in the campus or are on a budget, you can do like most of the graduate students and bring your food from home and heat it in the microwave in the biology office. If you feel like getting a different meal and don’t mind walking a little, the Breakaway Café (8418 Natural Bridge Rd) is a short walk from the department, and offers a good selection of sandwiches and pastas, including vegetarian dishes. Right next to it is Spiro’s, which offers Greek Food but is a bit pricier.

○ Off-Campus:
There are many restaurants around town and here are two helpful sites that can help you find addresses, times, and some reviews: [http://www.stltoday.com/entertainment/dining](http://www.stltoday.com/entertainment/dining) and [http://www.riverfronttimes.com/issues/current/dining_toc.html](http://www.riverfronttimes.com/issues/current/dining_toc.html). If you feel like wandering a bit, though, you might want to try going to University City (west of Delmar metro station), Central West End (close to the Central West End metro), or Grand (south of Delmar, close to the Botanical Garden). Some of the good value options on Delmar are Mai Lee (8440 Delmar), a tasty Vietnamese restaurant that is both relatively cheap and offers big portions, any of the Thai Restaurants in the Loop (three locations on Delmar, not so good, but filling), and Tomatillo (6333 Delmar Blvd, really big burritos).

Housing

○ On-Campus
There are three types of housing facilities for students offered by UMSL; however, you will probably want to choose between two (Mansion Hills and The University Meadows) because the third option is living in a dorm. One important note here is that even though this is available to any student who wishes to live there (sometimes there is a waiting list), the vast majority of students who live on campus are undergraduates and NOT graduate students. Living on campus has many academic benefits; most importantly it is close to libraries, labs, student events and activities, faculty and administrative offices. However, on-campus living (renting) is more expensive in comparison to renting off-campus.

○ **Mansion Hills.** Mansion Hill Condominiums are located adjacent to the campus and offer one- and two-bedroom units for students who are 21 and older. These unfurnished
units offer dishwashers, ceiling fans, a recreational area, pool, and laundry facilities. Rent is billed to the student’s University account. Rates for one and two bedroom apartments are available at:
http://www.umsl.edu/services/reslife/housing_rates/housing_rates_index.htm

- **THE UNIVERSITY MEADOWS.** “The Meadows” is a residence hall that is styled like an apartment complex. Most units are furnished and are fully electric. University Meadows also offers you numerous amenities at no additional charge, such as basic cable TV in every room, computer network ports in every bedroom, dishwasher, garbage disposal, icemakers, clubhouse, pool, limited access gates, sand volleyball court, barbeque pavilion, hot tub, and shuttle service to campus from the front gate. Rates for these apartments are found at: http://www.campushousing.com/umsl/floorplans.htm

- **Off-Campus... Neighborhoods**
  As a graduate student you are most likely to live in an apartment off-campus. There are several neighborhoods to choose from in St. Louis with respect to where to live, however the following three are those neighborhoods most commonly chosen by students because of accessibility, prices and surroundings. Note that all apartments come with a kitchen stove and refrigerator, most have some sort of laundry service in the basement, and some also come with a dishwasher.

  - **UNIVERSITY CITY.** This neighborhood is located in the heart of the St. Louis metropolitan area; it is a district known for its restaurants, shopping, arts & entertainment. The U-City Loop has many apartment buildings occupied mostly by college students. Prices vary and may range from $450 to $550 for a one-bedroom apartment, and from $550 to $750 for a two and a half bedroom apartment (this type of apartment can house 3 students). In terms of connectivity, U-City can be reached by metro directly from the university, and it takes approximately 30 minutes to get from U-City to the university by bike.

  - **THE GARDEN.** This neighborhood is located next to the Missouri Botanical Garden (MBG) in south St. Louis. The Garden neighborhood is surrounded by many one-bedroom apartments, and it is especially convenient for students who will spend a lot of their time at the MBG. Thus, the majority of graduate students who work at the Garden live here. With respect to connectivity, you need to take both the metro and the bus to get to the university.

  - **NORTH COUNTY.** Within North County there are several neighborhoods located close to the university. There are several apartment buildings that house students. The biggest advantage to live here is that you are relatively close to the university; however, the area is not well connected and you probably will need a car to get around.

**Money**

- **1st Month**
  Beware that you don’t get paid until the end of September, so you need to have some cash
saved for your initial expenses around US $1000 if you’re very thrifty and are moving in with someone who already lives in St Louis, probably US $1,500 to be on the comfortable side. Apart from daily expenses with food and such, you’ll need to pay a deposit if you’re renting your own place (usually one or two month’s worth of rent), plus the rent (see the previous section for some estimated values). You’ll also need to pay a deposit to get your gas service started (around US$60) and phone service installed. If you’re a TA, you’ll pay some school fees and, if you’re an international student, you’ll also have to get health insurance. For six credits, this means paying around US$600, which you can probably divide into two payments (CHECK DATES FOR PAYMENT AND REGISTRATION). Also, you’ll probably want to buy a bed or a futon to sleep on, kitchen utensils, cleaning material, maybe a desk and a lamp, and so on, although you might be able to borrow some stuff from other students. There are a number of thrift value stores on St. Charles Rock Road (Value Village 7400 Natural Bridge Road). You may find even more stores on http://www.garagepunk.com/lowlifeguide/thrift.html), but you’ll definitely need a car for that. Most of us bought used furniture at some point, so ask around for tips and directions. Paychecks are issued on the last workday of each month and will be direct deposited into your checking or savings account. Yes, Direct deposit is required.

- **Banking**
  One of the first things you’ll need to do after you get here (and after you get your social security) is to open a bank account. Because your paychecks will be direct deposited into your bank account. The only bank with a branch on campus is UMB (http://www.umb.com/personal/checking/studentcheck.html). Besides UMB, there are many other banks in the area that you might want to check out including Commerce Bank (http://commercebank.com/personal/checking/studentservices/forstudents/managingmoney/managingmoney.asp), which has a branch on the Loop (on Delmar), and Bank of America (http://www.bankofamerica.com/deposits/checksave/index.cfm?template=check_student) to compare services and benefits.

**Safety**

The most peculiar characteristic of St. Louis is that it is a very patchy town. One minute you may be walking in a luxurious neighborhood and the next minute, two blocks away, be in a bad neighborhood! So it’s important too keep track of where you are. Most of the times nothing will happen; however, as in any town in the world you want to be careful of being alone, at night a neighborhood you are unfamiliar with. At the university, if you have stayed working until late at night and need to walk to the metro by yourself (a 10 minute walk from the department of Biology), the university police offers an escort service, available free of charge anywhere on campus, so that you don’t have to walk alone to the metro or, if you live on-campus, to your apartment.

**Driver’s license**

Even if you don’t intend to drive in Missouri, you should get a driver’s license as a form of identification - some places won’t even let you in if you don’t have a document showing you’re over 21, the minimum legal age to drink. If you don’t drive, you can get a non-driver driver’s
license. To get both kinds of documents, you will need to go to the Missouri Department of Revenue (DOR) and you’ll need two proofs of identity (the Social Security Number counts as one of them), your Social Security Number, and pay a tax of US$6-15. You would need to take both a written exam and a driving test (and you do need to bring you own car). For information on procedures and local DOR locations, go to http://www.dor.mo.gov/mvdl/drivers/dlguide/.

Social Security Number (SSN)

While temporarily in the United States and while attending college with a nonimmigrant student F-1 or J-1 classification, you will be asked for your Social Security number. A Social Security number is only assigned to people who are authorized to work in the United States (e.g. on campus as a Teaching or Research Assistant). Social Security numbers are used to report your wages to the government. Social Security will not assign you a number just to enroll in school. In the United States, your SSN may be the most important number in your life, so be sure to protect it well. Your SSN will be used to start a bank account, to apply for a credit card, to get paid from the university, and in some cases to be able to rent an apartment, to mention a few examples.

During your orientation week at the university, you will be taken to an office to apply for your SSN (you will need your passport, visa and I-20 form). Once you apply, the Social Security offices will verify your immigration documents with the Department of Homeland Security (DHS) before assigning a Social Security number to you. Social Security will assign your number and issue your card within two weeks of receiving the verification from DHS.

Recreation

Riverfront Times… Bars: You can use the same websites listed in the restaurants section to look for bars in town. Both the Loop (west of Delmar metro station) and Central West End (close to Metrolink station) are accessible places that offer a variety of options of bars. Blueberry Hill (http://www.blueberryhill.com/, 6504 Delmar Blvd) has a good variety of beers on draft, and you can play darts and admire the memorabilia while you sip your beer. They usually check for ID, so make sure you have it before heading there. Right in front of the Blueberry Hill is Brandt’s (http://www.brandtscafe.com/), which is both pricier and cozier, and usually has live music at night. Another option for live music is Riddles Penultimate (http://www.riddlescafe.com/, 6307 Delmar Blvd), which is known for its wine selection but also offers beers. If you head to Central West End, you’ll find a few pubs, such as Dressel’s (419 N. Euclid), a Welsh pub famous for its potato chips.

- **Entertainment in St. Louis**
  St. Louis has a variety of places where you can go and have fun. These include restaurants, bars, museums, amusement parks, movies, Broadway and shopping centers (malls).

- **FOREST PARK.** This park has been called the soul of the city. Forest Park is one of the largest urban parks in the United States. It is much larger than Central Park in New York
and it is the home to the region’s major cultural institutions—the Zoo, Art Museum, History Museum, Science Center and the Muny Opera. It also serves as a sports center for golf, tennis, baseball, bicycling, boating, fishing, handball, ice-skating, jogging, cricket, rugby and more.

- **Museums.** Most of the museums in St. Louis are free and open all year round with different exhibitions.

- **Six Flags.** This is an amusement park open from April to October where you’ll find roller coasters, swimming pools, raging rivers, and lots to eat. It is approximately 40 minutes from St. Louis, so you definitely need a car to get there, but it is well worth the experience!

- **Movies.** There are several movie theatres in the St. Louis area, some of which can be reached by bus. There are two movie theatres, which show only independent movies, one of which is located in University City. Prices range from $6 or $6.50 (student fare) in regular theatres to $8 in theatres where they show independent films. Additionally, St. Louis has an IMAX theater located in the St. Louis Science Center, where specially formatted film is projected in a giant dome screen to give you a unique and powerful experience.

- **Broadway.** St. Louis has The Fabulous Fox Theater, which is the second largest theater in the U.S., second only to New York’s Roxy Theatre. Here you can enjoy many famous Broadway shows, which have included in the past The Phantom of the Opera, The Lion King, Les Miserables, and Jesus Christ Superstar.

- **Symphony.** Powell Symphony Hall is the home to the famous St. Louis Symphony Orchestra. It is a great place to relax while a world-class orchestra performs for you live and in the moment!

- **Botanical Garden.** The Missouri botanical garden is a place of serenity, beauty, and fun amid the bustle of the city. A must see in St. Louis.

- **Gateway Arch.** The world famous St. Louis Arch is the hottest tourist attraction in St. Louis and another must see! At the Arch you take a tram ride to the very top where you will get a stunning glimpse of the St. Louis region from a dizzying height of 630 feet.

- **Grants Farm.** Grants Farm is a 281-acre wildlife preserve and historical site located just south of the city of St. Louis and is operated by Anheuser-Busch, Inc. The Farm is home to hundreds of exotic animals from around the world.

- **Sports.** St. Louis is by definition a sports town. Its home of the St. Louis Rams (American Football), the Cardinals (Baseball), and the Blues (Ice hockey). So if you enjoy sports, there is a game going on at any time of the year.
Other Important Resources

International Center for Tropical Ecology
Taken from ICTE homepage: http://www.umsl.edu/~biology/icte
From Peter Stevens, Director and Patrick Osborne, Executive Director:

The International Center for Tropical Ecology (ICTE) at the UM-St. Louis was established in 1990 as a collaboration with the Missouri Botanical Garden to promote research and education in the biology and conservation of tropical ecosystems. Because of the urgent need to understand, conserve, and restore rapidly disappearing habitats in tropical regions, the ICTE strives to facilitate research and the training of the next generation of scientists who will face the challenge of solving ecological problems in tropical countries. The University of Missouri-St. Louis is ideally situated for this role owing to a strong group of ecology faculty in its Biology Department and its active relationship with the Missouri Botanical Garden, which include more than 55 Ph.D. botanists with programs in tropical countries. Together, these two institutions provide the largest concentrations of tropical biologists in the United States. The ICTE also has close links with the Saint Louis Zoo and this partnership has been strengthened with appointment of the E. Desmond Lee and Family Fund Endowed Chair in zoological studies.

The goals and activities of the ICTE reflect the University’s mission in the areas of teaching, research, and extension through its active participation in graduate and undergraduate education, its promotion of research productivity, and its outreach efforts to the St. Louis community. Moreover, the Center directly contributes to the University’s and Chancellor’s commitment to “internationalize” the campus and curriculum by promoting course offerings with an international perspective, by increasing the University’s stature and visibility in the international community, and by recruiting international graduate students.

The infrastructure of the ICTE facilitates multidisciplinary interactions with other departments at UM-St. Louis, as well as institutions in the St. Louis area, such as the Saint Louis Zoo, Center for Plant Conservation, The Nature Conservancy, and Washington University. Moreover, the Center has increased our ability to raise funds in the St. Louis community and from local and national foundations. In effect, the ICTE enhances visibility of UM-St. Louis in tropical biology and draws attention to our partnerships with the Missouri Botanical Garden and the Saint Louis Zoo.

From Peter H. Raven, Director of the Missouri Botanical Garden:

The International Center for Tropical Ecology, initiated by the University of Missouri-St. Louis, has grown rapidly during its short period of existence and promises to make outstanding contributions to international peace and harmony through the proper management of the world’s biological resources in the years to come. The Missouri Botanical Garden is proud to be affiliated with the University of Missouri-St. Louis in the operation of this Center. As an institution with a history of more than 130 years in pursuit of such aims, we will continue to strive to improve the performance of the Center and to make our cooperative arrangement a truly productive and important one.

ICTE- University of Missouri-St. Louis
B216 Benton Hall - 8001 Natural Bridge Road
St. Louis, MO 63121-4499 Office: (314) 516-6203 Fax: (314) 516-6233
Missouri Botanical Garden

The Garden Mission: “To discover and share knowledge about plants and their environment, in order to preserve and enrich life.”

Each year, more than 750,000 visitors come to the Missouri Botanical Garden to delight in the serene beauty of the grounds and enjoy special events from a wide array of countries and cultures.

While most visitors discover a heightened appreciation and understanding of the world’s rich botanical heritage, few realize that beyond the floral panoramas and exhibits there exists another realm; our internationally renowned research enterprise.

In 1859, Charles Darwin published his watershed work On the Origin of Species - the same year the Missouri Botanical Garden opened to the public. Darwin opened the door to a new era of scientific discovery, and the Garden has become a world leader in systematics - the study of plants and their evolution.

Plants are absolutely essential to sustaining the stability and quality of human life on this planet. Their loss threatens the future of our children and our grandchildren.

At the Missouri Botanical Garden, we have dedicated ourselves to helping conserve biological diversity while there is still something left to protect. Our research provides scientific information essential to decision makers, from conservation and land use to social and environmental policy. We have taken the lead in making information widely accessible via the Internet, maintaining the world’s largest botanical database and the premier botanical website.

Our scientists are among the best at gathering, identifying, and classifying plants and contributing to the understanding of their place in the global ecosystem. In 1971 there were just three Ph.D. botanists at the Garden; today there are nearly 50. The Research Division maintains or participates in some 25 floristic projects and sends expeditions to investigate ecosystems in over 30 countries around the globe. With assistance from 75 technical and support personnel, over 30 graduate students from more than 15 countries, and 70 volunteers. Garden scientists conduct the most productive and geographically widespread botanical research program in the world.

The number of species threatened with extinction is large, the resources to identify them and understand them are small - and time is short. The Garden works to expedite conservation and sustainable development in countries where our scientists are active, and we are developing a dynamic program in conservation biology, an exciting prospect for the future.

-Peter H. Raven , Director of the Missouri Botanical Garden

Missouri Botanical Garden
4344 Shaw Boulevard, St. Louis, MO 63110
(314) 577-9400 - 1-800-642-8842

http://www.mobot.org
Donald Danforth Plant Science Center

Mission: The Donald Danforth Plant Science Center is a not-for-profit research institute with a global vision to improve the human condition. Research at the Danforth Center will enhance the nutritional content of plants to improve human health, increase agricultural production to create a sustainable food supply, and provide the scientific ideas and technologies that will contribute to the economic growth of the St. Louis region and of the State of Missouri.

Background:
The Danforth Center was founded in 1998 through gifts from the St. Louis-based Danforth Foundation, the Monsanto Fund (a philanthropic foundation), and a tax credit from the State of Missouri. Among the distinct features of the Center is the unique and innovative alliance joining the Danforth Center in collaborative research with the University of Illinois at Urbana-Champaign, the Missouri Botanical Garden, the University of Missouri-Columbia, University if Missouri-St. Louis, Monsanto Company, Purdue University, and Washington University in St. Louis.

Research Focus:
Research at the Danforth Center is fundamental in its nature, and each research project has short, mid or long-term applied goals. Research is focused in one or more of the following areas: biofortification of foods and feeds, drought tolerance of crops, novel genetic mechanisms to control pests and pathogens in plants, and developing plants as biorenewable resources. To achieve success, the Center has hired research leaders with strong interdisciplinary skills and diverse research backgrounds in crystallography, biochemistry, cell biology, genetics, whole organism physiology, molecular biology, and virology, among others. State-of-the-art facilities and equipment in crystallography, proteomics and mass spectrometry, integrated microscopy, cell and tissue culture, and transgenic plants along with advanced plant growth facilities provide essential resources for the research teams. Strong emphasis is placed on collaborations between research groups at the Danforth Center and the Danforth Center Alliance. This makes it possible for teams to engage in research in agriculture as well as in medical sciences.

A distinguishing feature of the Center is the commitment to translational research with colleagues from developing countries, targeting projects that lead to products designed for use in third world developing countries. A Director of International Programs is charged with engaging scientists in international projects and to seek funds for collaboration, implementation, and eventually field studies and product release.

Personnel Overview:
Dr. Roger N. Beachy, internationally known for his groundbreaking research on virus-resistant plants, is the president of the Danforth Center and oversees 12 principal investigators each managing their own lab. Two additional lead investigators are employees of the USDA-ARS. Of the Center’s 160 staff, 80 percent are researchers.

Donald Danforth Plant Science Center
975 North Warson Road
St. Louis, MO 63132
(314) 587-1000
http://www.danforthcenter.org
The Saint Louis Zoo
Mission: To conserve animals and their habitats through outstanding educational and recreational experiences, research and animal management.

The Saint Louis Zoo has educated, entertained and earned a place in the hearts of St. Louisans for generations. Since its beginning, when the City of St. Louis set aside 77 acres in Forest Park for a zoo and state legislation provided that “the zoo shall be forever free,” the Zoo has been accessible to millions of visitors ever since. Over three million visitors each year enjoy a day at the Saint Louis Zoo, one of the most fun and affordable ways for families to spend time together. One of the few free zoos in the United States, the Zoo is widely recognized for its natural exhibits that house over 800 species, for the family attractions like the historic Zooline Railroad, and as a leader in worldwide conservation efforts.

The Zoo has always been involved with conservation of animals. At the park, our scientists study the behavior, hormones, reproduction and nutrition of captive animals. All of which are invaluable tools for supplementing data on similar animals in the wild. And we use the latest developments in wildlife veterinary medicine to assure that the animals in our collection receive the very best health care available. The Zoo is one of only a few zoos studying the important effects of animals’ hormones on their reproduction. Our Research Department offers internships and research opportunities in animal behavior, endocrinology, reproduction, nutrition, conservation and Latin American conservation.

The Zoo is also home to the AZA Wildlife Contraception Center. The Wildlife Contraception Center includes scientists, veterinarians, and animal managers with research and management expertise in wildlife contraception. The contraceptive research carried out in zoos and aquariums is directly applicable to the management of wild populations in parks and reserves around the world.

Recently, the Zoo took its wildlife conservation work to a new level with the establishment of the Saint Louis Zoo WildCare Institute. With many species threatened in the wild by shrinking habitats, disease and poaching, the Zoo understood they needed to focus their conservation efforts. The WildCare Institute takes a holistic approach to troubled ecosystems by addressing three key ingredients in conservation success: wildlife management and recovery, conservation science, and support of the human populations that coexist with wildlife. The Zoo has identified 12 conservation centers where the Institute will focus on. With twenty-five distinguished scientists and conservationists serving as Conservation Fellows for the Institute, more than 62 field research projects and partnerships with several other like-minded conservation institutions, the Institute will create a sustainable future for wildlife and for people around the world.

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Acknowledgments

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