



# **CSEG Guide to Graduate Life 2009-2010**

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## About this guide

This guide is the product of the collected experience of the members of CSEG (Computer Science and Engineering Graduates). We have attempted to include here as much as possible of the information we ourselves found useful when we first came to Michigan for graduate school. This guide is not meant to be comprehensive. Therefore, wherever possible we have tried to point you to official sources of information. If you have any questions, just contact any of the CSEG officers. Good luck, and welcome to Michigan!

All information in this publication is complete and correct to the knowledge and understanding of the editor at the time of writing. Neither the editor nor CSEG nor EECS nor The University of Michigan nor anyone else assumes responsibility for any anachronism or error that may be found. Should the reader find an error, he or she should contact CSEG for correction in later editions.

This guide can also be found on-line at <http://cseg.eecs.umich.edu/guide/Guide-2009-10.pdf>

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Benjamin Wester  
CSEG Vice-president

# 1 What is CSEG?

CSEG is the Computer Science and Engineering Graduate student organization. Every graduate student in the CSE division is automatically a member. CSEG representatives sit on a number of departmental committees, acting as liaisons between students and faculty. We also serve as a focal point for student activities and interests. Much of our effort goes into organizing social activities like cookouts, happy hours, and casual sports events, to bring together students with similar interests and goals. For more information on CSEG, check out: <http://cseg.eecs.umich.edu/>.

## 1.1 CSEG events

Throughout the year, CSEG provides a venue for students to get together. On every Thursday or Friday, students gather for happy hour. These happy hours are organized by members of the CSEG community and are often held in the graduate student lounge on the second floor of the CSE building. At the discretion of the organizer, they may also be held at an off campus venue. This weekly break provides an opportunity to meet other students outside of an academic setting, unwind, discuss the events of the week, and enjoy food and drinks. It also provides a good opportunity for newer and more senior graduate students to mingle.

CSEG also organizes a department wide Tea Hour every Wednesday afternoon where an assortment of teas and snacks are served. Unlike the happy hours, these events are attended by students as well as faculty and provide both groups an opportunity to interact. It also provides a welcome mid-week respite from work.

CSEG sponsors a variety of recreational sports, including intramural softball, basketball, soccer and volleyball teams. CSEG owns some sport equipment and encourages graduate students to organize pickup games of basketball, volleyball, and ultimate Frisbee.

Each semester we have a formal meeting at which our members discuss issues affecting graduate students and our relationship with the faculty and administration. In past years, we have introduced new faculty members, talked about departmental financial aid, discussed new course offerings, and talked with members of the Graduate Employees Organization.

We close out the academic year with another big cookout to celebrate the beginning of summer and the end of the May qualifying exams. We held last year's cookout outside CSE on north campus, and included food and games.

## 1.2 The 2009-2010 CSEG board

CSEG is entirely student-run; a new board of officers is elected each year at our winter term meeting. The board consists of four officers and six representatives to various departmental committees. Professor Quentin Stout is our faculty advisor. The list of officers and their email addresses is also available on the CSEG web page.

The entire CSEG board can be reached via e-mail at [cseg-board@eecs.umich.edu](mailto:cseg-board@eecs.umich.edu).

<b>Name</b>	<b>Title</b>	<b>E-mail</b>
Nate Derbinsky	President	nlderbin@umich.edu
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Alex Kuhn	Intramural Chair	kuhnalex@umich.edu
(vacant)	Curriculum Committee Representative	
Quang Duong	Faculty/Graduate Committee Representative	qduong@eecs.umich.edu
Denny VandenBerg	DCO Committee Representative	devanden@eecs.umich.edu
Dave Meisner	UMEC/GSAC/GSF Representative	meisner@umich.edu
Quentin Stout	Faculty Advisor	qstout@eecs.umich.edu

### 1.3 Communication

CSEG maintains several e-mail lists. Incoming students are automatically put on all e-mail lists. For others, to subscribe to any of these mailing lists, send an email to [name-request@eecs.umich.edu](mailto:name-request@eecs.umich.edu), where *name* is the name of the mailing list, with "subscribe" as the subject. To unsubscribe, send "unsubscribe" as the subject. Should a problem arise, send an email to [cseg-request@eecs.umich.edu](mailto:cseg-request@eecs.umich.edu).

<b>E-mail List</b>	<b>Purpose</b>
cseg	Official CSE department announcements
cseg-ads	Items for sale
cseg-announce	General announcements from CSEG
cseg-apts	Apartments for rent, sublets, looking for roommates
cseg-disc	Unmoderated discussion
cseg-jobs	Job postings
cseg-seminar	Seminar announcements
cseg-social	Social events

You can also find CSE students chatting over IRC on the #cseg channel at [irc.freenode.org](http://irc.freenode.org).

### 1.4 Description of CSEG offices

The president of CSEG is responsible for overseeing major events and ensuring that the organization is running smoothly. The president is also the main contact for students or faculty members who are interested in CSEG activities.

The vice president is responsible for organizing the fall orientation for new graduate students and editing this guide. The vice president is also the treasurer, overseeing the CSEG budget.

The responsibilities of the secretary include keeping records of meetings, handling the publicity for special events, and maintaining our email lists and web page (<http://cseg.eecs.umich.edu/>).

The social chairperson is one of our busiest officers. He organizes the weekly happy hours and is in charge of our other major social activities such as the fall and spring cookouts. Because the job is an arduous one, the social chair has a committee to assist with happy hours, cookouts, and pretty much everything involving food. All members of CSEG are asked and encouraged to help out the Social Chairperson by volunteering to host happy hours and cook/setup/clean at the cookouts. Having lots of help will ensure that CSEG events will continue to be successful and fun.

The representative on the CSE curriculum committee is involved in discussions about new course offerings and changes to existing courses on both the graduate and undergraduate levels.

The representative on the CSE faculty committee attends monthly faculty meetings and provides us with information about the issues they discuss.

The faculty search committee representative has a number of responsibilities, including helping to evaluate applications for faculty positions, coordinating meetings between faculty candidates and graduate students, and gathering student opinion about prospective faculty members.

We also have a CSEG representative to the CSE graduate committee and the executive committee. They are responsible for broad departmental policy decisions, making the holder of this position a key liaison between students and the faculty.

The graduate student forum representative attends meetings with grad students from other departments to discuss mutual concerns.

The student representative on the Departmental Computing Organization (DCO) advisory committee is responsible for setting the policies of DCO.

## 2 People and Places

Your activities as a student will carry you to a number of different buildings, and will require you to meet many different people.

### 2.1 The Computer Science Building

In January of 2006, the CSE Division (formerly co-located with the ECE Division) moved to its new home on 2260 Hayward St. The building has two main entrances, one on the north side of the building and one on the south side. The center of the building is a large open atrium, four stories high, with a glass roof.

#### Department Offices

This is a list of several people you will contact during the course of your stay here.

Name	Title	Phone	E-mail
Dawn Freysinger	Graduate Student Coordinator (CSE) Financial Aid Officer	647-1807	dawnf@eecs.umich.edu
Professor John P. Hayes	Graduate Program Chair	763-0386	jhayes@eecs...
Professor Farnam Jahanian	Chair, CSE	764-8504	farnam@eecs...
Professor Michael Wellman	Associate Chair, CSE	764-6894	wellman@umich.edu
Karen Liska	Human Resources Coordinator	647-4255	liska@eecs...

#### Graduate Student Lounge

The Graduate Student lounge is located on the second floor of the CSE building right by the long straight staircase. Among other things, there is a foosball table and refrigerator here that students can use. CSEG happy hours are sometimes held here, and students often come here to relax or take a break.

#### Foo Bar Café

The Foo Bar is a coffee shop located on the first floor of the CSE building by the spiral staircase, serving your usual assortment of coffees, bagels, muffins, drinks, sandwiches, etc.

#### Entrances

All entrances to the CSE building are locked from 7 P.M. until 7 A.M. and the entire weekend. If you have an office in CSE, you can enter during these hours by swiping your current student ID (Mcard) through card readers posted at the main entrances. If you do not have an Mcard, or if you have trouble entering the building using your card, visit one of the registrar's offices for assistance. Elevator use during these hours also requires you to swipe your Mcard.

#### Mail Rooms

Mailrooms are located on the second, third, and fourth floors for the CSE building near the spiral staircase. **Every student has a mail folder on the third floor.** Please check this folder periodically.

If you are part of a lab, the lab may also have a mailbox on a different floor, typically the floor where the lab is located.

### **Tishman Hall**

Tishman Hall is the main lobby area of the CSE building, where one can almost surely find a group of students transfixed on the screen displaying their Nintendo Wii game, or studying at a table by the café.

### **Soda Machines (2420 EECS and outside 3330 EECS)**

(And now a word from our sponsor) CSEG rents two soda machines, which are located in the EECS GSI Room (2420 EECS), and outside 3330 EECS. CSEG derives most of its income from these machines. We sell soda for \$1.50 a bottle. Note that these are in the **EECS** building and not in CSE.

### **Additional Rooms of interest in EECS**

The EECS building (1301 Beal Avenue) was the old of home of the CSE division and continues to house certain relevant groups, items, and offices of interest.

### **ACM Office (1219 EECS)**

You can pick up an ACM membership form here if you are interested in joining ACM.

### **IEEE Office (1236 EECS)**

The Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM) sell bagels, juice and coffee every morning outside the IEEE office. The office is located at the far east end of the atrium. IEEE also has a fax service. They have membership forms if you are interested in joining IEEE.

### **HKN Office (1221 EECS)**

Eta Kappa Nu (HKN) is the Electrical and Computer Engineering honor society. HKN is an extremely active organization and a good way to make friends. Undergraduates and graduates in the top of their class are invited to join. Every morning HKN sells donuts, juice, and coffee in front of their office. The HKN office is in the atrium across from the elevators.

### ***Important note regarding building safety:***

Make sure to familiarize yourself with the exit routes in the building. **When an alarm goes off, no matter what time of the day or night, leave the building immediately.** Some of the research labs (particularly the chip fabrication lab in EECS) deal with highly toxic and flammable materials.

## **2.2 The Pierpont Commons**

Located at the center of North Campus, at 2101 Bonisteel Blvd., the Pierpont Commons is the closest thing we have to a student center. There are quite a few useful services located here, including:

- The North Campus Information Center, which features a bulletin board and a person on duty during business hours to answer questions about campus life.
- A bookstore, carrying textbooks for most North Campus classes.
- A registrar's office, where you can get your student ID card (and also arrange to be on the meal plan if you are living in a dormitory).
- A branch of the University of Michigan Credit Union.
- A quiet lounge for studying.
- A piano lounge to play or listen to music.
- Automatic Teller Machines.
- Cafeteria (second floor).
- Panda Express, Sushi by Panda, Quizno's Subs, and Beanster's Coffee
- U-Go's convenience store.
- A pool table and TV lounge.
- UM Computer Showcase, for discounted computer hardware, software, and accessories.

While the scope of activities cannot hope to compare to the Michigan Union on Central Campus, the Commons has in the last year hosted a series of art exhibits, several poster and T-shirt sales, and evening concerts.

### **2.3 Buildings adjacent to CSE**

The CSE building and the Commons face each other at opposite ends of the North Campus Green (also called the "Diag"). The EECS building lies at 1301 Beal Ave., to the west of the CSE building. The EECS building houses CAEN computer labs and several classrooms that are used for CS classes and discussions. The Herbert H. Dow Building, kitty-corner to EECS at 2300 Hayward St., is the home of chemical engineering and material sciences. The Dow building also contains several large auditoria on the ground floor which are sometimes used for CSE classes. The G. G. Brown Laboratory is at 2350 Hayward St. On the lower floor of G. G. Brown is the Blue Lounge (GGB 1040), which has several vending machines and is used as a study space.

The Duderstadt Center (formerly called the Media Union, located at 2281 Bonisteel Blvd.) is adjacent to the Chrysler Building and Pierpont Commons. It houses the Engineering Library, several multimedia classrooms, auditoria, instructional labs, and some parts of the art and music departments, and it is just across the quad from CSE.

The Lurie Building is located to the south of EECS behind the auto lab. It contains offices for the Engineering Deans and conference rooms. There is a large reflecting pool in front with benches, which is a nice place to sit in good weather.

## **2.4 Central Campus**

The main buildings of the University are located in a cluster off of State Street, on the west side of Central Campus. These include:

### **Michigan Union**

The cultural center is for the students of the University. This building contains the offices of student organizations, a billiards room, a Ticketmaster outlet, and fast food restaurants in the basement. There is a Campus Information Center on the first floor. (530 S. State St.)

### **Literature, Science and the Arts Building**

This building is next to the Union, and contains the Registrar's office and the Cashier's office. (500 S. State St.)

### **Student Activities Building**

This is located behind the LS & A building. The student housing office is on the second floor. (515 E. Jefferson St.)

### **Graduate and Undergraduate Libraries**

The main libraries are located on the south side of the Diag. There are two: the Harlan Hatcher Graduate Library (a.k.a. the "Grad library," 920 S. University Ave.), where the bulk of the University collection is kept, and the Shapiro Undergraduate Library (a.k.a. the "UgLi"). The Shapiro Library building also houses the Shapiro Science Library. If you are a Theory student, you will probably be almost as familiar with this library as you are with the Engineering Library.

## **2.5 Organizational Structure**

The EECS department is composed of two divisions: Computer Science and Engineering (CSE), and Electrical and Computer Engineering (ECE). The EECS department has three distinct Graduate Programs: Computer Science and Engineering (CSE), Electrical Engineering (EE), and Electrical Engineering: Systems. Professor Farnam Jahanian is the CSE Chair with Professor Mike Wellman as CSE Associate Chair. The ECE interim department chair is Professor Brian Gilchrist, and the ECE Associate Chair is Professor Jeffrey Fessler. The EECS department is part of the College of Engineering, which is under the direction of Dean David C. Munson, Jr.

All graduate degrees at the University of Michigan are granted by a part of the University called the Horace Rackham School of Graduate Studies. This is usually referred to as "Rackham" or "the Graduate School." Rackham sets part of the requirements for graduate degree programs. Each department takes these as a minimum and adds to them. The main offices of the Graduate School are in the Rackham building on Central Campus.

Like all graduate students at the University, you will register as a Rackham student. You even get to elect representatives to the Rackham Student Government. As a member of the EECS department, you are also part of the College of Engineering.

### 3 Dealing with the University

The University of Michigan is one of the largest public universities in the country. As such, it has a huge weight of bureaucracy that can sometimes be difficult to deal with. The EECS department tries to shield us from this as much as possible but there are still times at which you will have to interact directly with the University. Here is some miscellaneous advice:

#### 3.1 Mailing address

As soon as you find a place to live (and every time you move) don't forget to notify the University about your new address. Do this on the *Wolverine Access* website <http://wolverineaccess.umich.edu/>. **Note:** don't list a permanent address back home, unless you really plan to go home every summer. If you list a permanent address different from your local address, the University will send its mail to you there during the summer.

Whenever you change your address, you should also give your new address to your Graduate Student Coordinator.

#### 3.2 Getting money from the University

If you will be getting money from the University for any reason (such as getting a scholarship, or being a GSI or a GSRA) then you have two choices as to how to receive the money. First, you can have the University deposit payments directly into your bank account. This is called *direct deposit*. The form is available in Wolverine Access. Second, you can have the check mailed to your home address. Likewise, the form for authorizing a check to be mailed is available in Wolverine Access.

#### 3.3 Health care

If you are going to be a GSI or a GSRA with an employment fraction of at least 0.25, or if you have a department designated eligible scholarship or fellowship, you will get health benefits. The University pays for these from September to April, and it has been the department's practice to continue them over the summer for returning GSRA's and guaranteed financial aid students. This extra summer coverage is not mandated, and the department could change its policy. Make sure that you check with your lab coordinator (if you are a GSRA), Karen Liska (GSI), or Dawn Freysinger (fellowship recipient) to ensure that you are covered during the summer **before** April 1<sup>st</sup>.

If you are a GSI, you will have the chance to pick from a few plans that are offered to all University employees. By default, only you will be covered under a plan known as GradCare (through the Blue Cross Network). This plan is not as complete as others, but it still provides coverage for hospital care and doctor visits (you pay a fixed fee "co-pay" each visit, and all other costs are covered by the plan). It is **important** that you act without delay to enroll your dependents or select an alternate plan. If you miss the 30-day deadline, you cannot enroll your dependents or change your insurance until a **year** from next January! You will receive an e-mail from the Benefits Office regarding your enrollment options once your appointment is in the system.

If you are a GSRA, you do not get to choose your plan: you will be covered under GradCare. By default, this is a single-person plan covering only you. It is **important** that you act without delay to enroll your

dependents. If you miss the 30-day deadline, you cannot enroll your dependents until a **year** from next January!

Even if you are covered on your parents' insurance, **do not decline the coverage!** It is free to you, and if you are dropped from your parents insurance, it is very difficult to enroll in a University plan outside the enrollment period. You will receive an e-mail from the Benefits Office regarding your enrollment options once your appointment is in the system.

If you are on a fellowship, you may or may not be eligible for GradCare (depending upon which fellowship you hold.) Check with Dawn Freysinger to find out. If you are eligible, you will be enrolled automatically and will receive a confirming e-mail from the Benefits Office. Watch for it and contact Dawn if you don't receive it.

If you are on a non-eligible fellowship, or if you are paying your own way, you are responsible for your own health care. If you are under 25 years old, you may be eligible for coverage under your parents' plan. If you are working part-time, you may be able to arrange health benefits through your job. As a last resort, the Michigan Student Assembly has arranged for a health plan that students may purchase. It does not give very good coverage, but is better than nothing.

### **Health plan options**

The Benefits Office contains information on the exact plans available to graduate students. The relevant information is located at <http://www.umich.edu/~benefits/jobgroups/grads.htm>.

Make sure that you fully understand your health care options. If you are a GSI or GSRA, and if the staff in the Benefits Office cannot answer your questions, ask Karen Liska (3709 CSE). Verify that your coverage is active by reviewing your pay stub each month.

### **3.3.1 University Health Services**

If you just have a cold, or something else minor that won't require extensive treatment, you can go to University Health Services. This is free to all students. However, you may have to wait in line and you have to take whichever doctor happens to be available. They also offer prescription drugs at a discount.

## 4 Academic and Research Plans

Perhaps the hardest part of life as a new graduate student is the lack of organized guidance. Many students find themselves for the first time in their lives completely responsible for planning and scheduling their progress. Academic requirements, research, and exploration of your new environment will vie with each other for a limited number of hours in each day, while long-term planning must take into account many confusing and conflicting goals.

Many sources of guidance and support are available to you. However, such support must be actively sought out. Everyone assumes that graduate students are able to take care of themselves and that they know when to ask for help. Sometimes no one notices that a student is in trouble until he or she is hopelessly behind. This may sound menacing, but it is also true that the department contains lots of people who are perfectly willing to give you advice and guidance if you just ask.

### 4.1 *What to expect during your first year.*

Being a graduate student is quite different from being an undergraduate. In general, you'll find that there are many more demands on your time, and that you will be expected to do a lot more thinking for yourself and a lot less busy work. Managing your time wisely and getting accustomed to this new sort of education will be a major adjustment.

Most students experience a lot of uncertainty and fear in their first year. If you're coming from a smaller school, the size of the EECS department can be intimidating. Also, you're surrounded by a lot of other really bright folks. It's easy to feel inferior or to think that you don't belong. Don't worry; everyone has this feeling at some point. First of all, always keep in mind that it's not a competition between you and other graduate students. You are all here to do research and get a Ph.D. or M.S. If you see other students as potential allies and resources, rather than competitors, life will be easier. Also, don't assume that every other student has the answers. Students in EECS classes tend not to ask questions, but instead just sit and nod, even if they're not following the lecture. If something isn't clear, it's probably because it wasn't explained well. So, raise your hand and ask. Not only will you get a better explanation, all the other students in class will thank you for asking the question they were afraid to ask.

You'll also find that graduate courses (500 and above) tend to be more thought-oriented than 400-level classes. Rather than doing lots of homework, often you'll read papers and do a final project. The emphasis here is not on learning of well-known techniques, but critical analysis of current research in a particular field. While the sheer number of hours spent on 500-level classes is usually less, the intellectual demands are often new to first-year students. The skills learned in these classes (reading and synthesizing papers, evaluating hypotheses, thinking about unsolved problems) are essential for doing your own research.

During your first year, you'll be looking for an advisor and a research program. (More on this below.) Don't feel that you have to know exactly what your dissertation will be about. You have a long time to adjust and refine this. Instead, focus on finding an area that has some questions and issues you find interesting. Also, when selecting an advisor, make sure you think about whether this is a person you can get along with. You'll be spending a lot of time with this person over the next few years, and depending upon them for a lot of guidance and advice, so you want it to be someone you feel comfortable talking to and receiving advice from.

Most students do an independent research project during the summer after their first year. Often, this work is the basis of a prelim paper. During your second semester, it's a good idea to start thinking about what this project might be and talking with potential advisors. If you know the area you want to focus on, it can be helpful to take a 500-level class in that area and use the class project as a springboard for your own research. Keep in mind that a summer project is probably not going to be very big; you're not going to create a computer that passes the Turing test in 2 months, and no one expects you to. The purpose of this project is to learn how to: (1) formulate a hypothesis or a research question; (2) determine a means for testing this hypothesis or answering this question, and (3) evaluate and explain your results. The point is not that the results are earth-shattering, but that you are able to get through the process. Faculty view this as a microcosm of the two or three years you'll spend working on your dissertation.

Finally, graduate school can be very stressful. Your first year will probably be the worst. You'll have lots of uncertainty about your life, lots of work to do, and quite a few demands on your time. Managing your schedule and dealing with stress are very important, both to succeeding in your program and keeping your sanity. You will often find yourself spending late nights working to get things finished, especially if you are a GSI. Being a GSI is a very rewarding experience, but it can also place a lot of demands on your time. Try not to procrastinate; things will always take more time than you expect. Also, it's very important to not let school completely consume your life. (It'll take up a pretty big chunk.) Try to do something fun (athletics, music, social activities) every week to relieve stress. If necessary, schedule this the same way you would a class. It'll help you keep your focus and maintain perspective. Also, it can be a means of meeting new people.

#### **4.2 *Where can I go for help?***

- Your advisor: often the best person to ask about research and coursework.
- Other faculty members: be prepared to get a different opinion from each professor you ask.
- The Graduate Student Coordinator: Dawn for CSE. Always a good person to ask about schedules and requirements.
- Your peers: hang around the department, introduce yourself to students and ask them questions. If you are in CSE, go to the CSEG peer counseling session and orientation. We've been here for a while, and most of us are glad to tell you about graduate life from the inside track.

#### **4.3 *Who is this advisor person, anyway?***

Incoming students are each assigned a professor in their area of study to be their academic advisor. Your academic advisor will help you choose your first semester classes. Talk with your advisor before you make your final decision of which courses to register for. Once you have decided on a research advisor, they will also likely function as your academic advisor as well.

Advice from current students: the most important criteria in picking a research advisor are whether you can get along with them and whether they respect you and your goals. Don't worry so much about a prospective advisor's exact area of research. Professors are almost always interested in more than they personally have time to investigate. Likewise, don't let money be an overriding concern. If you can find a good topic to work on, your advisor will be able to apply for a grant.

Finally, remember that you do not have to make a long-term commitment to any faculty member at the start. If you think someone's work is interesting, try doing a "directed study" (EECS 599) with them for a semester. If things work out, you can keep going. Most students say that they either knew who their long-term advisor was going to be before they started school here, or else they made their decision sometime between the end of their first year and the end of their second year. Several ended up switching to a different advisor after one or two years. Most ended up switching research topics at least once.

#### **4.4 Planning your program**

How you schedule your time is a personal decision and a very important one. Here are some considerations offered by current students. Different people have differing opinions about the relative importance of each of these.

- 1) Which program? Even if you plan to stop with a Master's degree, it is a good idea to keep the doctoral program requirements in mind. A significant number of students change their mind and continue on for their Ph.D. The Master's degree requirements are a subset of the requirements for qualification in the doctoral program, but the latter are somewhat more stringent.
- 2) Get requirements out of the way early. Many people think that this is a good idea.
- 3) Patch holes in your knowledge of computer science. This often requires taking some 400-level classes, aimed at both undergrads and beginning grad students. These classes usually involve a lot of work, including programming assignments and problem sets.
- 4) Move towards research. The 500-level classes are oriented towards in-depth study and preparation for research. They tend to require less "grinding" and more insight than undergraduate courses. Most of these courses are offered only once a year, some once every other year. Most of them have 400-level prerequisites, which you can skip if you have already taken the equivalent classes. Ask your peers and your advisor for guidance here.
- 5) Start research early. If you can find a topic that interests you (not necessarily the one on which you'll do your thesis) and a professor you can work with, go for it! After all, that's what you're here for, right?
- 6) Avoid burnout. Advice from current students is:
  - Don't take more than one course with a large project during any given semester. Watch out for **427, 470, 472, 482, 483, 487, 627**.
  - Don't take more than two serious classes if you're a GSI or GSRA, or three in any case. You may have to bend this rule a little bit, but be prepared for a tough semester.
  - If you are a GSI or GSRA with a 50% appointment, expect to work at least 20 hours each week.

#### **4.5 Registering for classes**

In general, you should register early. Each course has an enrollment limit, with all subsequent registrants placed on a "wait list." If you are taking only EECS courses, then don't panic: most professors in our department have a policy of giving overrides for all graduate students, enabling them to get into the course. However, if you are taking courses from other departments you may have trouble getting in if you wait too long.

The University will charge you a \$50 penalty fee if you register after classes have started—so don't wait that long! If you haven't been able to see your advisor before classes start, just sign up for one or two classes you think you might want to take. You can easily change your schedule any time before the add/drop deadline.

Register for classes online using Wolverine Access (<http://wolverineaccess.umich.edu/>). In order to register, you must have a username and password, which are required to log onto the computer system.

It is very simple to add and drop courses during the first three weeks of class. In fact, it is a good idea to register for more courses than you plan to take, and drop whichever ones you are less interested in after the first few class meetings. If you find out about a good course after classes have already started, sit in on it for a few meetings and ask the professor for a copy of the syllabus. Usually, it is easy to catch up. The drop/add deadline is three weeks after classes start, so you should make all of your course decisions by then.

Most classes on North Campus begin at 10 minutes after the half-hour (for example, 8:40 and 9:40). Most classes on Central Campus begin at 10 minutes after the hour (for example, 8:10 and 9:10). This is known as “Michigan Time”. The class times are staggered this way so that there is time to travel between Central Campus and North Campus between classes. In my experience, ten minutes is not sufficient time to make it from North Campus to Central Campus, so don't schedule classes too closely.

#### **4.6 On-line Academic Information**

Many parts of the University offer on-line information access to students. Here is a selection:

<b>U-M</b>	<a href="http://www.umich.edu/">http://www.umich.edu/</a> Web page for the University of Michigan.
<b>Rackham</b>	<a href="http://www.rackham.umich.edu/new_students/">http://www.rackham.umich.edu/new_students/</a> Information for new graduate students. Graduate Student Handbook. Academic calendar.
<b>EECS</b>	<a href="http://www.eecs.umich.edu/">http://www.eecs.umich.edu/</a> EECS Department web page. Contains information about the courses, activities, people, offices, and laboratories that make up the EECS Department.
<b>CSE</b>	<a href="http://www.cse.umich.edu/">http://www.cse.umich.edu/</a> Contains information on the undergraduate and graduate CSE curriculum.
<b>CSEG</b>	<a href="http://cseg.eecs.umich.edu/">http://cseg.eecs.umich.edu/</a> The CSEG web page has pointers to some useful information about how to succeed in graduate school. The on-line version of this guide is also there.
<b>ECE</b>	<a href="http://www.eecs.umich.edu/ece/">http://www.eecs.umich.edu/ece/</a> Contains information on the undergraduate and graduate ECE curriculum.
<b>MIRLYN</b>	<a href="http://mirlyn.lib.umich.edu/">http://mirlyn.lib.umich.edu/</a> The University library catalog.
<b>Wolverine Access</b>	<a href="http://wolverineaccess.umich.edu/">http://wolverineaccess.umich.edu/</a> Access your class schedule, get transcripts, or change your address.

#### **4.7 How to be a successful graduate student**

There are several on-line guides written by graduate students that give advice on how to have a successful graduate school experience. Here are a few:

***How to Succeed in Graduate School***

<http://www.cs.umbc.edu/~mariedj/papers/advice-summary.html>

***Information for graduate students & those considering graduate study***

<http://www.cs.umbc.edu/csgradinfo.html>

***Graduate Student Survival Guide***

<http://projects.ischool.washington.edu/wpratt/survive.htm>

***Advice on Research and Writing***

<http://www.cs.cmu.edu/afs/cs.cmu.edu/user/mleone/web/how-to.html>

## 5 Avenues of Communication

Unlike the undergraduate curriculum, the majority of graduate education takes place outside of the classroom. Learning often occurs through interaction with faculty members, fellow graduate students, and books. A good introduction to the opportunities for research and learning can be had by attending the various seminars, discussion groups, and visiting lectures that are offered each week.

### 5.1 Seminars and Discussion Groups

Seminars tend to be informal lectures, usually ending with a question and answer session. Abstracts are usually provided in advance. Seminars are open to everyone, whether or not they have any background in the subject area. Discussion groups tend to be a more private, and are typically composed of a group of graduate students working on the same project. If a particular professor is working on a topic in which you are interested, they will probably be happy to have you sit in on one of their “working groups” if you inquire ahead of time.

The department plays host almost every week to one or more visiting scholars or industry representatives who give presentations about their research. Some of these are candidates or potential candidates for faculty positions. Their lectures are open to the public, and provide an opportunity to become acquainted with some of the research work going on outside the department.

Following is a partial list of regular seminars. For more information, check the bulletin boards, located outside of the Graduate offices on the third floors of the EECS building and the CSE building, and the CSE web site (<http://www.cse.umich.edu/>). These are updated every Monday to show all of the scheduled lectures and seminars for the upcoming week. Note that all of these events run on “Michigan time,” just like class meetings. This means that they actually start 10 minutes after the hour.

Seminar series marked with an asterisk on the list below may be taken as courses for 1-3 credits.

- EECS 770 (ACAL seminar) \*
- EECS 880 (Software seminar) \*
- EECS 874 (Theory seminar) \*
- AI seminar -- contact Cindy Watts ([cwatts@eecs.umich.edu](mailto:cwatts@eecs.umich.edu))
- ITS (Intelligent Transportation Systems) Speaker series -- contact James Rogers ([jlrogers@umich.edu](mailto:jlrogers@umich.edu))

## 5.2 E-mail Lists

Much of the communication within the department takes place via electronic mail. It is possible to find out about many of the seminars and lectures mentioned above by getting your name placed on various mailing lists. Much of the communication within the CSE division goes through the CSEG mailing lists, detailed on page 3. Shown below are some of other lists of interest as well as the e-mail contact necessary to get your name on each. Anyone may send mail to any of these lists, but please keep it relevant to the intended purpose.

<b>List name</b>	<b>Contact</b>	<b>Audience or purpose</b>
eceg	<a href="mailto:beths@eecs.umich.edu">beths@eecs.umich.edu</a>	Announcements to EE students
system-students	<a href="mailto:bturansk@eecs...">bturansk@eecs...</a>	Announcements to Systems students.
acal-students	<a href="mailto:acal@eecs...">acal@eecs...</a>	Students in the Advanced Computer Architecture Lab (ACAL)
ssrl-students	<a href="mailto:qstout@eecs...">qstout@eecs...</a>	Students in the Software Systems Research Lab (SSRL)
reallab	<a href="mailto:counsel@eecs...">counsel@eecs...</a>	Students in the Real-Time Computing Lab (RTCL)
ai-students	<a href="mailto:ai-list-request@eecs...">ai-list-request@eecs...</a>	Students in the ATL or studying AI
eesgrads-jobs	<a href="mailto:eesgrads-jobs-request@eecs...">eesgrads-jobs-request@eecs...</a>	Job announcements for EE:Systems graduate students

## 6 Computing Facilities

By some accounts, the University of Michigan has some of the best computing facilities of any university in the country. Whether or not this is true, there are several different computing environments available to you.

### 6.1 Computing Organizations

There are three major computing support organizations with which you will have contact: CAEN, DCO, and ITCS.

#### 6.1.1 CAEN

CAEN (Computer Aided Engineering Network) is responsible for providing computing services to the students and faculty of the College of Engineering. They maintain hundreds of public workstations throughout North Campus, which are available to both undergraduate and graduate Engineering students. An overview of the computing environment can be found at <http://www.engin.umich.edu/caen/>.

#### 6.1.2 DCO

Most of the machines in the EECS department research labs are maintained by DCO (Departmental Computing Organization). DCO is a part of the EECS department. This is a much smaller organization than CAEN, and usually easier to deal with. They maintain approximately twenty public Linux servers. These machines are available for remote login and they handle e-mail, file, and compute service for the department. Information can be found at <http://www.eecs.umich.edu/dco/>.

#### 6.1.3 ITCS

Computing support for the rest of the university is provided by ITCS (Information Technology Central Services). The current ITCS *was* known as ITD until recently, and this may lead to some confusion when talking to people who have been here awhile. You are eligible for an account with them (useful if you need more disk space), and they also run the X.500 directory service for the entire University (see <http://directory.umich.edu/>). ITCS's webpage is <http://www.itcs.umich.edu/>.

### 6.2 Uniqnames

Before you can get a computer account on any of these systems, you must first get your *uniquename*. This name will be unique throughout the University, and will be your e-mail address and login name on each of the computing systems you will be using. Your unquname will be chosen by ITCS to be some combination of letters from your first and last name. It will be printed on your student ID (Mcard) along with your full name.

### 6.3 Computing Environments

There are many different computing environments at your disposal. You will probably have reason to access all of these during your stay here.

## **DCO workstations**

If you join one of the EECS department's research laboratories, the workstations in the lab will likely be maintained by DCO. Linux (Fedora, Red Hat, and Ubuntu), Windows (Vista and XP), and Mac systems are all widely used. DCO also provides e-mail service, and many faculty members and EECS graduate students use this as their primary e-mail address.

## **CAEN workstations**

CAEN maintains several hundred workstations running Linux and Windows in a dual-boot configuration. All these machines all share a common distributed file system. Most classes that involve programming use these machines. They are found in “workstation clusters” in all of the Engineering buildings. There are two labs of these machines on the ground floor of the CSE building.

## **Macintosh workstations**

There are several high-end Mac clusters around campus. The largest of these is located on the 2<sup>nd</sup> and 3<sup>rd</sup> floors of the Duderstadt Center. They are loaded with a variety of software including word processors, graphics and spreadsheet programs, and network interfaces. DCO maintains a small Mac cluster in the west CAEN lab in the CSE building.

## **Wireless**

Wireless network coverage is available in almost all engineering buildings, including large portions of the EECS building, CSE Building and the Duderstadt Center. To access the network, you may need to download and install the Cisco VPN (Virtual Private Network) client software, and you need to authenticate using your CAEN or ITCS account. More details are available at <http://wireless.engin.umich.edu/> along with downloads of the necessary VPN client.

## **6.4 Accounts and E-mail**

CAEN, DCO, and ITCS each provide computer accounts to students. All accounts provide remote login and file space and can be used for your work. Additionally, DCO and ITCS provide e-mail and space for a personal web site. Using the campus network, you can use any of your accounts to access the files on your other accounts.

### **CAEN accounts**

Once you have your unickname, you can fill out a form to obtain a CAEN account. This will allow you to use any of the CAEN machines. Your unickname and CAEN password will also let you log into the personal computers maintained by ITCS (most of these are located on Central Campus).

### **DCO accounts**

Once you have obtained a unickname, you can register your DCO account. Pick up an application at 3909 CSE, or when you meet with Dawn. You need Dawn's signature to complete this application. This account (which will also use your unickname as the login name) will allow you to access the DCO

public machines. If you are part of a departmental research laboratory, you will be able to use your DCO username on the workstations in that laboratory as well.

Your DCO e-mail address will have the form: [username@eecs.umich.edu](mailto:username@eecs.umich.edu).

If you want your e-mail forwarded to another account, send a request to [help@eecs.umich.edu](mailto:help@eecs.umich.edu).

## **ITCS accounts**

Your ITCS account will give you access to the computers in the ITCS public computer labs. You can also use your CAEN password at these computers. Simply use [username@engin.umich.edu](mailto:username@engin.umich.edu) and your CAEN password to login. The e-mail address of your ITCS account is [username@umich.edu](mailto:username@umich.edu). You can forward your e-mail to another place by modifying your entry in the X.500 server (see next section).

## **6.5 Campus-wide X.500 directory**

The University maintains an X.500 directory service which contains information about all University students and employees. You can modify your directory listing to tell people how to contact you.

The directory allows everyone to have an e-mail address alias of the form [username@umich.edu](mailto:username@umich.edu). Your X.500 entry determines to which of your computer accounts this e-mail address alias points. You can access X.500 at <http://directory.umich.edu/>.

The Office of the Registrar updates the name, title, address, and phone fields in your X.500 entry each month. If you do not want them to do this, you can set the “batch updates” field to OFF in your entry.

You can view your X.500 information (or anyone else's) by typing “finger [name@umich.edu](mailto:name@umich.edu)” at any Unix prompt. The name can be either a username or part or all of the full name of the person whose entry you wish to view.

By changing your X.500 entry, you can also change where mail is delivered when it is sent to your main university account: [username@umich.edu](mailto:username@umich.edu).

## **6.6 Connecting from home**

ITCS provides the BlueDisc software bundle to help home computers connect to campus networks (available at <http://www.itd.umich.edu/bluedisc/>).

You have two basic options for broadband connectivity off campus. Comcast offers cable modem service for around \$60 per month. Download speeds are approximately 6 Mbps and upload speeds around 350 Kbps. As an alternative, AT&T offers DSL service. DSL availability and speeds are subject to where you live, and if available, DSL costs around \$60 per month. Advertised speeds are 6 Mbps download and 768 Kbps upload (but don't be surprised if it's less).

## 6.7 Printing

DCO maintains several public printers around CSE. You can get a list of them at:

<http://www.eecs.umich.edu/dco/files/drivers/drivers.php>.

CAEN provides laser printers in its computer labs, located in most engineering buildings (but not Duderstadt Center). You start with an allocation of \$60 towards printing. B&W pages are 3¢ apiece; color pages are 12¢. Once that allotment is used, you pay for your own prints.

ITCS manages printers in the Duderstadt Center and other computer labs. You can print 700 B&W pages before being charged 6¢/page. Color prints always cost 40¢.

## 6.8 How to Get Help

### 6.8.1 Help from DCO

E-mail: [help@eecs.umich.edu](mailto:help@eecs.umich.edu)

Web: <http://www.eecs.umich.edu/dco/contact.php>

Office: 2917 CSE

DCO is helpful at supporting nonstandard, customized Sun hardware configurations and Linux (especially Fedora, RedHat, and Ubuntu).

### 6.8.2 Help from CAEN

Phone Hotline: 763-5041 between 8:00 A.M. and 5:00 P.M.

Walk in: 1315 Duderstadt Center between 8:00 A.M. and 5:00 P.M.

On-line: Run the `caenhelp` program or on the web <http://www.engin.umich.edu/caen/>.

Classes: CAEN offers computer classes at the beginning of each semester. Schedules are posted outside the CAEN labs.

Handbook: The CAEN handbook is available at 1315 Duderstadt Center and at CAEN labs.

Newsletter: CAEN publishes a monthly newsletter. You can get a copy in the CAEN labs or in the EECS mail room.

Tip Sheets: Available outside 1315 Duderstadt Center.

### 6.8.3 Help from ITCS

Phone: ITCS's help line operates 24 hours a day. Dial 764-HELP.

E-mail [online.consulting@umich.edu](mailto:online.consulting@umich.edu)

Walk in: The larger ITCS sites (e.g. Angell Hall) have counselors on duty during the day.

Web: <http://www.its.umich.edu/>

Newsletter: Every month ITCS publishes *Information Technology Digest*. Copies are available at ITCS labs and in the EECS mail room.

## 7 Bookstores and Libraries

### 7.1 Libraries

The University of Michigan Libraries are spread all over campus; the two branches you will probably use most are the Duderstadt Center and the Graduate Library. The Duderstadt Center contains the entire collection of engineering-related books and periodicals in a special compact shelving system. The Harlan Hatcher Graduate Library is the hub of the university library system, containing books from almost every academic discipline.

If you are a GSI or GSRA, you are entitled to have a “GEO account” in addition to your “student account.” Books may be checked out under either account using your Mcard, but books checked using the GEO account usually have a longer due date, and you will **not** be charged a fee if you return the books late.

If you live in Ann Arbor, you can also get a free library card to use at the Ann Arbor public libraries. The main branch is at the corner of Fifth Ave. and East Williams downtown (343 Fifth Ave). The nearest branch to campus is the Traverwood branch, found by heading north on Huron Pkwy to Traverwood (3333 Traverwood Dr). In addition to the usual books and periodicals, branches have videos, tapes, compact discs, and DVDs available for checkout.

### 7.2 Textbooks

Your staff ID card (for GSIs and GSRAs) may get you a discount from some of the bookstores that sell textbooks. Several of the stores that used to do this have stopped, so ask at each store. GEO (995-0221) has a list of local stores that offer discounts to those with ID cards. There are three major stores that sell textbooks in Ann Arbor.

#### **Barnes & Noble**

There are two of these: in the Pierpont Commons and in the basement of the Michigan Union. The Commons store is fairly small, but carries most of the textbooks used in classes on North Campus (Engineering, Computer Science, Art, Architecture, Music). It also sells newspapers, art supplies, and some snack foods. The store in the Union is much bigger, and carries textbooks for all of the courses offered at the University.

#### **Ulrich's Bookstore and Electronics**

Located at the corner of E. University and S. University (549 E. University Ave., to the southeast of Central Campus), Ulrich's has textbooks for all University courses (including Computer Science). It also carries a large selection of souvenir clothing, school and art supplies, and general-interest books. There is an annex next door that sells computers, software, and calculators.

#### **Michigan Book and Supply**

This store carries much the same selection of textbooks and merchandise as the other two, but offers more clothing and art supplies and fewer general-interest books. Michigan Book and Supply is located at the corner of State St. and North University (317 S. State St.)

All three stores buy and sell used textbooks, with special buy-back drives at the end of each term. If you have time, it pays to shop around for used books. One more warning: try not to buy books during the first week of classes – it takes hours to get through the long lines.

### **Student Book Exchange**

This is a student organization that runs a used book exchange during 2 days at the beginning of each term. Prices for buying and selling books are usually better than the bookstores. Look for flyers announcing the time and location of the book exchange when you arrive on campus. Go early and expect long lines.

## **7.3 Course Packs**

### **Dollar Bill Copying**

Expect very long lines. Go early in the morning or after the first few days of class. (611 Church Street)

## **7.4 Book dealers (new)**

There are many bookstores around Ann Arbor, both new and used. We list a few here:

### **Borders Books and Music**

This is the best bookstore in Ann Arbor. They have a wide variety of books in many subjects, and a well-informed staff to help you. Borders has the largest selection of computer books of any bookstore in the area. They also have a complete music, video, and software section. (612 East Liberty, Arborland Mall on Washtenaw, and 3140 Lohr Rd.)

### **Barnes & Noble**

This is the other large bookstore in Ann Arbor. They also sell software. (3245 Washtenaw at Huron Parkway)

## **7.5 Book dealers (used)**

If you're looking for used books, here are some good places to start:

### **Afterwords**

Located at 219 S. Main Street. Most of their books are overruns and returns.

### **Books in General**

Books in General is one of the few used bookstores in town that tries to get technical books. Occasionally they'll also get special shipments of like-new books, which sell for 60-75% of retail. (332 S. State Street)

### **David's Used Books**

Located next to Border's on E. Liberty at S. State, David's has a large selection of used paperback and hardcover books of all genres.

### **Dawn Treader**

The biggest used bookstore in Ann Arbor (514 E. Liberty Street). Good selection here too.

### **Friends of the Public Library**

Located in the basement of the public library, at 343 Fifth Ave. Only open on Saturday and Sunday, from 1:30 to 4:00, and only during 9 months of the year.

## 8 Study spaces

Quiet space in which to study is a rare commodity on campus. Here are some of the favorite places of EECS students:

- The Blue Lounge in the G. G. Brown building (connected to EECS) is pretty quiet and has vending machines.
- The Duderstadt Center has a number of study rooms on the second floor, as well as plenty of tables in the stacks for quiet study. Tends to be packed during the last weeks of class.
- In the central campus area, the School of Public Health and the public health library are usually quiet and empty.
- If you really need absolute quiet, try the Reading Room or the carrels in the Harlan Hatcher Graduate Library (3<sup>rd</sup> – 6<sup>th</sup> floors) or the Reading Room in the Law Library on Central Campus.
- Tishman Hall in the CSE building is a large open atrium and a popular place to study. There are also many conference rooms scattered throughout the building that are usually available.

## 9 Housing

Ann Arbor offers a large variety of accommodations. The Housing office (+1 734-763-3164) in the Student Activities Building (SAB) provides detailed information on both University-owned and private housing, including maps, bulletin boards and listings. This office is also a good place to find advertisements for roommates and sublets. The University Housing office web page is <http://www.housing.umich.edu/>.

To help incoming graduate students find apartment-mates, a mailing list has been set up so that you can communicate with other incoming graduate students. To join the housing mailing list ([cseg-aps@eecs.umich.edu](mailto:cseg-aps@eecs.umich.edu)), please send e-mail to [cseg-aps-request@eecs.umich.edu](mailto:cseg-aps-request@eecs.umich.edu) with the subject "subscribe".

### 9.1 Location

Many students feel that North Campus is too far away from the center of campus social life. Others like the peace and quiet of North Campus. The area between Kerrytown and the Hospital is recommended as a good balance between these. Housing is expensive close to either campus.

Places outside Ann Arbor offer better prices than those within the city. The apartment complexes in the neighboring city of Ypsilanti are a convenient 10 - 25 minute drive to campus. While a typical two-bedroom apartment within walking distance of campus might cost more than \$1000 per month, an equal-sized apartment in the Barrington Heights complex in Ypsilanti is about \$800.

#### 9.1.1 Residence Halls

University residence halls have both single and double rooms, but are small and cramped. Several different meal plans are available. The Vera Baits complex is a 10 minute walk from EECS, and there are other residence halls in the Central Campus area. The University's rent is high compared to a shared two-bedroom apartment. Rooms in the residence halls are connected to the campus network via Ethernet.

#### 9.1.2 Cooperative Living

The Inter-Cooperative Council is a federation of over a dozen cooperative living houses. The North Campus Cooperative consists of Renaissance and O'Keeffe Coops. They are a 10-minute walk from EECS. The residents are primarily graduate students from a variety of disciplines, but there are some undergraduates. In addition, there are many international students and non-students. Dinner is served every night and there is brunch on the weekends. The amenities include TVs, VCRs, a pool table, a music room with a piano, Ping-Pong table, and computer room. During the school year rent is under \$550/month for small, furnished singles. Over the spring and summer the cost is much less. Housing, food, electricity, water and usage of all recreational facilities are included in the rent. Residents are required to contribute 4 hours of labor (cooking and cleaning) each week. Call 734-662-4414 for more information.

#### 9.1.3 University Family Housing

Housing a family can be quite expensive in Ann Arbor. A comparatively cheap alternative is the University's family housing complexes. There are about 1700 units, ranging in size from efficiencies to 3 bedrooms, both

furnished and unfurnished. In general, the larger units are reserved for students with families. When there are vacancies, single students may apply for smaller units, but they have a lower priority than families. Most of the family housing is in the North Campus area. The Northwood I, II and III complexes containing apartments, and Northwood IV and V have townhouses. Northwood I-IV are within 5 to 10 minutes walking distance of EECS, and Northwood V is served by a free shuttle bus.

#### 9.1.4 Apartments

There are several large apartment complexes near North Campus. Most of them are unfurnished 1 and 2 bedroom apartments. Three bedroom apartments are rare, with a few in Huron Towers, Traver Ridge, and Island Drive. Prices range from about \$600-700 for efficiencies to \$800-1100 for 2 bedroom apartments. All of the apartment complexes near North Campus have adequate parking space.

Most of these places give a \$50-\$100 bonus to current residents who recruit new residents. You can probably find someone living there with whom you can split the bonus. Shop around for good deals.

Also, make sure to check out the Homestead Tax credit in the Michigan income tax forms. It can give you a substantial refund (hundreds of dollars) based on the amount of rent you pay and your income.

Here are some evaluations of local apartment complexes. Many have a pool, tennis courts, and common rooms. The list is not intended to be comprehensive:

- The Highlands on Broadway St. is a 10 minute walk from CSE. Apartments have dishwashers. Laundry is available in each building. You get a parking sticker for each bedroom in your apartment (1 or 2) and there are usually extra available. There is a small pool and picnic area. +1 734 769-3672.
- The Willowtree apartments on Plymouth Road are about a 10 minute walk from the CSE building. Close to grocery store. Swimming pool and tennis courts. +1 734 769-1313.
- The Parc Pointe apartments are also very close to CSE. They are very nice, but expensive. Each apartment has laundry hookups for your own washer and dryer. There is also a separate laundry building. Call +1 734 769-1450 for leasing.
- Traver Ridge is on Plymouth Rd. about a 15 minute walk from campus. The apartments are nice and the rent is reasonable.
- Broadview apartments are near north campus, next to the Highlands. It is in a convenient location, within 10 minute walk from North Campus and across the street from Wendy's and Subway.
- Greenbrier is a little further from campus, about 1.5 miles. Olympic size swimming pool. Exercise room with treadmills and weights. +1 734 665-3653.
- Huron River Plaza is about ten minutes from CSE. +1 734 996-4992.
- Huron Towers is close to campus, next to the Arboritum and Mitchell Field. +1 734 665-9161.
- The Island Drive Apartments are about a 25 minute walk from CSE. Their location is scenic (near a river and park), and they are very quiet. +1 734 665-4331.
- Medical Center Court Apartments is next to Island Drive Apartments.
- The Courtyards is located on north campus near CSE. +1 734 994 6007

## **Central Campus**

Closer to downtown, you can find houses that have been split up into apartments, or whole houses that are rented to groups of students. These get mixed reviews; depending upon the landlord, the experience can either be a blast or a disaster. There are also regular apartment complexes near Central Campus, and they usually have adequate parking space. Most apartments in the Central Campus area are furnished, and tend to be much more expensive than comparable apartments near the North Campus.

### **9.1.5 Other Options**

There are many small houses and condos that even graduate students may be able to afford. Rent in Ann Arbor can be more expensive than the corresponding mortgage payments. If you plan to be in Ann Arbor for a while, you may actually save money by not having an apartment. Just be sure you can accept the inherent risks associated with owning and reselling property.

### **9.1.6 Advice**

It's very expensive to live by yourself in Ann Arbor: expect to pay at least \$700 for a one-bedroom. Unless you are in a big complex, pay careful attention to parking.

## 10 Transportation

Getting to and from the University is one of the first challenges that you will face. This task can be complicated by the fact that there are two campuses, a little over a mile apart, but most of your classes will be on North Campus. You will also have to travel the Central Campus in order to visit the main libraries, University offices, and most of the bookstores, restaurants, and bars. If you choose to live near Central Campus, you will be closer to these things but will have to commute to North Campus every day.

Parking and Transportation Services (PTS) handle most transportation-related issues. The PTS home page is located at <http://www.pts.umich.edu/>.

### 10.1 University Bus

Transportation between the campuses is provided free by the University. Blue shuttle buses run every 5-10 minutes from the C.C. Little building on Central Campus to the Pierpont Commons. From there, one set of buses goes up the hill to the Bursley-Baits dormitory complex, while the others travel along Bonisteel Blvd. and up the hill behind EECS toward the Northwood housing units and the commuter lots. The best place to wait for a bus to Central Campus is the corner of Bonisteel and Murfin, right outside the Pierpont Commons.

If you travel to Central Campus by shuttle bus, you should get off at the main stop by the C. C. Little building (you can recognize it because there are permanent bus-stop shelters.) From here you can walk west down N. University Ave. to State street, and then turn left to get to the Union and the administration buildings. To get to the libraries, walk between Chemistry and Natural Resources and cross the "Diag".

Bus maps are available on board buses as well as at the Campus Information Center in the Pierpont Commons. The University buses run every 20-30 minutes at night and on weekends. You can find the approximate position of busses and wait times for most routes on <http://mbus.pts.umich.edu/>.

### 10.2 City Bus

The AATA (Ann Arbor Transit Authority) runs the city buses. City buses run about every half hour, and travel from the main terminal downtown out to the various parts of the city. One route goes through Central Campus, and another (the #3) goes through North Campus. Rides are free with your Mcard; otherwise full fare is \$1.25, and a monthly pass is \$48. Schedules and information may be obtained at the terminal at Fourth Avenue and Williams, downtown, or online at <http://theride.org/>.

### 10.3 Biking

This is a very popular option. Ann Arbor is a relatively bicycle-friendly city. Many of the major streets have bike paths or bike lanes. There is a bike path between the two campuses, running along Fuller road.

Even though the winters are fairly cold, there are only a few days each year when the roads and paths are too icy or snowy for safe biking. If you plan on riding a bike through the winter, it's good to get knobby tires and to clean and lubricate your bike frequently against damage from road salt. Lock your bike with a good U-lock, because thefts are prevalent. It is also recommended that you wear a helmet at all times, and reflective clothing at night.

If you don't have a bicycle, there are several stores selling both new and used bicycles and equipment, and Craigslist is another useful option. Your best source of information is to ask around the department to find out which shops people prefer. Consider buying a mountain bike or "hybrid" instead of a road bike. This will give you an advantage on hills and in snow and mud.

## 10.4 Cars

If you have a car, or choose to buy one here, your main problem will be on-campus parking. Soon after your arrival and after you have obtained a student ID, you should visit the PTS office at 777 North University (764-8291). They will give you a parking map and a rule book. When you go to PTS, be sure to take the following with you:

- 1) Student ID Card
- 2) License Plate Number(s)
- 3) Driver's License
- 4) Vehicle Registration(s)

### 10.4.1 Parking Options

For parking on North Campus, if you desire to be a law abiding commuter, there are basically three options:

- Buy a student parking permit, which permits you to park in special student lots.
- Feed the parking meters at metered parking spots.
- Use the park-and-ride lot on Green Rd (Lot NC37). Parking is free without permit, but overnight parking is not allowed. The AATA bus will take you to north campus for free if you show your student ID.

Refer to the PTS web site for parking lot maps.

**Warning:** The city and University aggressively enforce parking regulations. If you park illegally, you risk getting a parking ticket. Be aware that parking tickets are \$20 for parking illegally in the blue lots, and \$10 for an expired meter.

#### Student Parking Permits

A Student Orange Permit allows parking in any Orange lot. The North Campus Orange lots are NC7, NC46, NC51, NC52, and NC78. The price is \$70 (rates given for 2009-2010) and can be prorated based on when during the year you purchase your pass. These are available anytime, but there are only a fixed number of permits available. A Student Yellow permit is valid in NC40, or any Yellow lot – except on the Medical Campus, and is only available to graduate students. This means that the lot, at least on North Campus, is less likely (than Orange) to fill up. The North Campus Yellow lots are NC9, NC34, NC53, NC61, NC62, and NC63. This permit is also honored at any Orange lot except for NC40. Permits are available at the Parking Services office for Graduate Students. Cost is \$141.

All parking permits can be purchased online through the main PTS web site

## **After Hours Permits**

The After Hours Permit allows parking in any Blue parking area after 3 P.M. Monday through Friday and throughout the weekend. Permits are available at the Parking Services office for Graduate Students only. The annual cost is \$54. This permit can also be used in conjunction with an Orange or Yellow permit. A Student Orange permit with an After Hours decal is \$124. A Student Yellow permit with an After Hours decal is \$195 (and again all prices can be prorated).

## **Non-permit parking (metered spots)**

If you don't drive to campus all that often and don't mind feeding some meters, there are metered spaces at Pierpont Commons, behind the ATL, on top of the hill behind the Naval Architecture building, and just outside CSE. The meter rates are around \$1 per hour.

## **Free After Hours Parking**

The G.G. Brown parking lot and auxiliary lot are open for unrestricted parking after 5:00 P.M. Other lots on North Campus parking lots are free after 6:00 P.M. Except for the last week of the term you should have no trouble finding a spot.

## **Central Campus Parking**

The faculty/staff garages are sometimes free after 6:00 P.M., but some are restricted until after 10:00 P.M. Be sure to check the hours before entering — they seem to change with dizzying frequency! In some of the neighborhoods around campus (such as south of Hill on Church & Forest) you can find on-street parking, but you have to be willing to look around. If you park at a metered spot, feed the meter diligently. The city derives a lot of revenue from parking tickets! An After Hours permit can be very helpful for parking on Central campus after 3 P.M.

## **Registering your vehicle**

If you are making this state your permanent residence, you can register your car and get a Michigan driver's license at the local branch office of the Secretary of State (2121 West Stadium Blvd., 665-0627). This is located on Stadium Blvd., just south of Liberty — about three miles west of Central Campus. If you are already a resident of Michigan from another part of the state, it's probably a good idea to inform them of your move and get an updated driver's license.

## 11 Activities

When you've had enough of school and paperwork, there is plenty to do in Ann Arbor to take your mind off of your academic career. Here is a sampling of the favorite pastimes of some current EECS students:

### 11.1 Friends

One of the easiest ways to meet new people is to start talking to the other students in your classes. Many of them will also be new students who are similarly interested in meeting people. Many of the first year classes require group projects, which give you an opportunity to spend many hours with your classmates. The weekly CSEG happy hours are a good place to meet new and old graduate students, as well as a professor or two.

Rackham also hosts an interdepartmental happy hour on Friday afternoons. It is a good way to meet students from outside of EECS. For more information check out [http://www.rackham.umich.edu/student\\_life/](http://www.rackham.umich.edu/student_life/) (which also lists other Rackham social events) or [social\\_grads@umich.edu](mailto:social_grads@umich.edu).

Roommates are a good way to broaden your horizons. Room with someone outside the department or choose cooperative housing. There are usually many advertisements from people looking for roommates on the *cseg-pts* email list or posted on the bulletin boards in the EECS building.

How about table tennis or folk dancing? Religious groups, political groups (including the GSI union), sports clubs, art and music societies, clubs for students from different countries, and dozens of other special interest groups provide places to interact with people both within and completely outside of your academic world. There is sure to be one that matches your interests. For a listing of all student group activities on a given day, check out the U-M Calendar on page 3 of *The Michigan Daily*.

### 11.2 Fun and Games

There is plenty to do in Ann Arbor, most of it inexpensive. *The Ann Arbor Observer* (a local news magazine) has monthly entertainment listings, and *AnnArbor.com* and *The Michigan Daily* both have entertainment sections near the end of each week. Below are several ideas that we have come up with.

#### Athletics

CSEG fields teams in several of the intramural leagues, and there are often pickup games of volleyball, ultimate frisbee, etc. on the green in front of EECS. The North Campus Recreation Building, up the hill from the Pierpont Commons at the corner of Hubbard and Murfin, offers basketball, volleyball, and badminton courts, a weight room, and a pool. They also rent sporting and camping equipment to students. If you want to get a locker there, you have to show up at about 6:00 A.M. on the announced day and stand in line for several hours.

#### Parks and Gardens

- Matthaei Botanical Gardens
- Arboretum (near the Medical campus along Huron river, great place for a romantic walk)

- Gallup Park (good place to try out roller blading)
- Huron River (Canoe from Argo Livery to Gallup Park)

### **Concerts and Performances**

There are many student performance groups on campus, many of which are open to grad student performers as well as undergrads. Some of the more popular shows include the Halloween Concert given by the Orchestra and the Monsters of A Cappella put on by several informal singing groups.

Besides the usual concerts and performances by student bands, orchestras, theater and dance companies, the University owns two large auditoria which book touring performances. These are Hill Auditorium and the Power Center.

There are also several performance venues in Ann Arbor which are run by non-profit community organizations. The Michigan Theater, restored to the glory of its heyday, shows classic movies, art films, and live acts of various kinds. Performance Network (408 W. Washington St.) shows out-of-the-ordinary productions, by several local theater companies. One of Ann Arbor's best kept secrets is The Ark (637 S. Main St. between Liberty and Williams). Here you can find live folk music, jazz, progressive, world-beat, and much more. You can volunteer to usher at any of the places mentioned in this section, which often gets you in for free.

The University Musical Society has a half-price ticket sale for students at the beginning of each semester. This is a great way to get cheap tickets to the big name shows that come through Ann Arbor.

The new Walgreen Drama Center and Arthur Miller Theatre recently opened on north campus next to the CSE building. Over the next year, the Walgreen Center will host performances by the Departments of Theatre & Drama and Musical Theatre.

### **College Radio**

Ann Arbor is lucky to have one of the more prominent freeform college radio stations left in the nation, WCBN FM, 88.3. They play a variety of freeform, electronic, and jazz shows during the work week, with public affairs shows in the early evening. The weekends feature a variety of specialty shows, ranging from folk and blues to African and Indonesian music. You can listen on your radio or on the web at <http://www.wcbn.org/>. WCBN is a student-run organization and is a great group to meet new people, both students and non-students alike, as well as a chance to be exposed to a lot of new music. Email [training@wcbn.org](mailto:training@wcbn.org) if you're interested in being involved.

Other student favorites include WUOM FM 91.7 (NPR, <http://www.michiganradio.org/>) and WEMU FM 89.1 (Jazz/NPR, <http://www.wemu.org/>).

### **Movies**

- Michigan Theater (foreign, esoteric, film festivals, classics)
- State Theater (independent, cult classics)
- Quality 16 (first run)
- Showcase Cinema (first run)

- Film societies on campus (cheap or free – usually at Angell Hall or the MLB on Central Campus)
- Ann Arbor Summer Festival (“Top of the Park”) - Free outdoor movies in June and early July
- Dollar Movies at Briarwood (second run, \$1)
- Compuware Arena Drive-In Theaters (first-run)

### **Farmers' Market**

Every Wednesday and Saturday, local farmers gather at the municipal market at Catherine and Fifth Avenue. You can find good fresh fruit, vegetables, baked goods and plants.

### **Bars**

- Arbor Brewing Company (brew-pub)
- Alley Bar (martini bar)
- Ashley's (huge beer selection)
- Blind Pig (live music, cover)
- Casey's (townie)
- Connor O'Neal's (Irish themed, cheesy)
- Dominick's (The original CSEG hangout. Beer served in canning jars. Restaurant)
- Full Moon Bar (lots of pool tables)
- Good Time Charlie's (colleegy, late-night drink specials, restaurant)
- Grizzly Peak Brewing Co. (brew-pub, restaurant – Great burgers)
- Mitch's (also colleegy, but lots of cheap beer, pitcher specials)
- Old Town (townie)

### **11.3 Places to Eat**

Ann Arbor has approximately 200 restaurants that provide a wide variety of American and ethnic specialties ranging in price from \$5 to \$50 or more for a meal. For a complete listing of restaurants in the area see the phone book or the *Discover the Greater Ann Arbor Area* guide published by *The Ann Arbor News*. *The Ann Arbor Observer* and the *City Guide* also have good restaurant listings.

### **11.4 Other Sources of Information**

This guide is not big enough to hold all of the information that you will need. Here are some places you can look for more:

#### **Fellow graduate students**

Ask your fellow graduate students for recommendations.

## University sources

A good place to start is the Campus Information Center. The main center is on the second floor of the Michigan Union. A smaller one is at the Pierpont Commons. They can be reached at 763-INFO, and are usually able to answer even your strangest questions.

Pick up a copy of *Rounding out A<sup>2</sup>* (in case you don't already have it). Copies are usually available at Rackham (the Graduate School office) and at the International Center. It will also be available in 3310 EECS after classes begin. This is a very detailed book with lots of information about Ann Arbor and is a very useful reference.

## Local publications

*AnnArbor.com* is an online-only newspaper that recently replaced *The Ann Arbor News*, leaving Ann Arbor without a mainstream print newspaper.

*Current* is a complimentary entertainment monthly, with information on concerts, cinema, etc.

*The Ann Arbor Observer* is a monthly publication. It has a detailed restaurant section, and lists shows and events in the surrounding area. In addition, it is a good source of information about local history, politics, and personalities. The *City Guide* edition is published in the fall. It has excellent information about living in Ann Arbor and includes maps, listings of shops, restaurants, and things to do.

*The Michigan Daily* is the student newspaper, and has listings of various campus events.

*The Metro Times* is a weekly newspaper that lists entertainment events in Detroit.

<http://www.mlive.com/ann-arbor/> lists restaurants and entertainment events in Ann Arbor.

An excellent resource for all things Ann Arbor is the ArborWiki, located at <http://arborwiki.org/>.

### 11.4.1 International Students

The International Center (603 E. Madison St., +1 734 764-9310), adjoining the south side of the Michigan Union on Central Campus, is a wonderful resource. This should be one of your first stops as soon as you get to campus. There are several international student organizations. The International Center can put you in contact with them.

## 11.5 Libraries and Museums

Visit the North Campus Engineering Library in the Duderstadt Center.

Visit the Harlan Hatcher Graduate Library and the Shapiro Library (“UgLi”) on Central Campus. You can take the shuttle bus to get there. While on the bus, pick up a free bus schedule.

Check out the art museum across from the Michigan Union, and the museum of Natural History by the Central Campus shuttle bus stop.

## 12 How to Get to Campus

### By air:

Fly into Detroit Metro Airport (airport code: DTW). NOTE: do not fly into Detroit city airport, since there is no convenient transportation from there. Here are some of the shuttle services available:

#### **Michigan Flyer**

<http://www.michiganflyer.com/>.

(517) 333-0400

*Bus runs every couple hours, cost \$15 per-person one-way.*

*Must make reservations at least one hour before departure, through web site or over phone.*

#### **Ann Arbor Airport Shuttle Express**

<http://www.annarborairportshuttle.net/1.html>

(734) 394-1665

reservations@annarborairportshuttle.net

*Runs 6:00 am to 9-9:30 pm, cost \$35 per-person one-way, \$60 round trip.*

*Must call ahead for reservation*

#### **Custom Transit, Inc.**

<http://www.customtransit.com/>

(734) 971-5555

*Runs 4:30 am to 11:00 pm, cost \$30 per-person one-way.*

*Additional cost for pick-ups between 12:30 am and 4:30 am –contact them*

*Must call ahead for reservation*

#### **Metro Eddie's Super Shuttle**

<http://annarborsupershuttle.com/>

(734) 507-9220

*Runs 7 am to 7 pm, cost \$40 per-person one-way.*

*Must call ahead for reservation*

#### **Accent Transportation Service**

<http://www.atside.com/>

(800) 346-9884

*Runs 24/7, cost \$38–48 per-person one-way.*

*Must call ahead for reservation*

More information from the Ann Arbor Visitor's Bureau: <http://www.visitannarbor.org/>.

**By car:**

From the south or east, go to Toledo and take US 23 north to I-94. Go west on I-94, exit State St.

From the west, take I-94 east from Chicago. Take exit number 177, State St.

Go north on State St. for 3 miles to Central Campus. You will see the athletic complex on your left. Then cross Hill street, and look for a set of lovely gothic buildings on your right. This is the Law school. In the next block on your left is the Michigan Union, a large brick building with a big tower in the middle of the facade. There is a campus information booth in the Union.

The EECS department is on North Campus, which is about a mile and a half to the northeast. Continue going north on State Street. Turn right onto Ann Street. At the traffic light, turn left onto Glen Street. Glen Street becomes Fuller Road and passes the Hospital. You will pass the Huron River and some athletic fields. At the traffic light, turn left onto Bonisteel Boulevard. You will see a large sign for North Campus. Drive up Bonisteel. The Pierpont Commons is at the intersection of Bonisteel and Murfin. The EECS building is across the green behind the Pierpont Commons.

You can also get to North Campus from US-23 by taking the Plymouth Rd. exit. From US 23 going north, take a left onto Plymouth Rd. Go through several lights until you hit Murfin/Upland. Take a left, and you're on North Campus. This road runs right into Pierpoint Commons and Bonisteel Rd.

To get back to main campus, just take Bonisteel down the hill from the Pierpont Commons and turn right onto Fuller. As it passes the hospital, the road becomes Glen. Take Glen until it ends at Washtenaw, and turn right. Then turn immediately left onto Fletcher.

**On campus:**

The University operates free shuttle buses which run every ten minutes between Central Campus and North Campus. The buses are blue and have the word "Michigan" painted in gold on the sides.

These buses travel along Fuller road between the campuses, and stop at the Pierpont Commons before continuing on to the North Campus dormitories and housing complexes.

## 13 Acronyms

Here are some acronyms that you will want to know.

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<b>Acronym</b>	<b>Meaning</b>
ACAL	Advanced Computer Architecture Lab. Part of CSE.
ACM	Association for Computing Machinery. Professional society.
AI	Artificial Intelligence
ATL	Advanced Technologies Lab. Home of artificial intelligence.
CAEN	Computer Aided Engineering Network. Computing services for School of Engineering.
CSE	Computer Science and Engineering. A division of EECS.
DCO	Departmental Computing Organization. Computing services for EECS.
ECE	Electrical and Computer Engineering. A division of EECS.
EECS	Electrical Engineering and Computer Science Department
EES	Electrical Engineering: Systems degree program in the ECE division.
GSI	Graduate Student Instructor.
GSRA	Graduate Student Research Assistant.
HKN	Eta Kappa Nu. Student honor society for computer and electrical engineers
IEEE	Institute of Electrical and Electronics Engineers. Professional society.
ITCS	Information Technology Central Services. Computing services for all UofM.
ITS	Intelligent Transportation Systems
RTCL	Real Time Computing Lab. Part of CSE.
SSE	Systems Science and Engineering. Also called EECS Systems Lab. Part of ECE.
SSL	Software Systems Lab. Part of CSE.
UofM	University of Michigan

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## 14 Getting to know the right people

Starting graduate school can feel like being run through a maze. You have to introduce yourself to at least half a dozen different people, run around to various offices on campus, and sign many pieces of paper.

- Introduce yourself to Dawn Freysinger, the CSE Division Graduate Student Coordinator. Her office is in room 3909A CSE. Dawn can tell you who has been assigned to be your academic advisor. If you don't already have the following items, you can pick them up here: requirements for the Master's and Ph.D. programs, course schedule, instruction sheet for course registration, request for DCO account form.
- Make an appointment to see your advisor. Prepare for this by reading the requirements for your chosen degree program as well as the course schedule for the upcoming year. Try to have some idea of what courses you want to take during your first two semesters (peer counseling can help with this).
- If you have been offered a position as a GSI or GSRA, or if you want a job as a grader, introduce yourself to Karen Liska in 3709 CSE. She handles much of the paperwork involving those positions. If you are a GSI, she will give you your staff ID card. If you are a GSRA, your lab administrator will give you your staff ID card.
- If you have been given financial support, or want to apply for it, introduce yourself to Dawn Freysinger in room 3909A CSE.
- If you are interested in AI, introduce yourself to Cindy Watts in room 3816 CSE.
- If you are interested in Software or Real-Time Computing, introduce yourself to Mindy LaRocca in room 4820 CSE.
- If you are interested in architecture or hardware, introduce yourself to Denise DuPrie in room 4824 CSE.

### Peer Counseling

CSEG hosts two peer counseling sessions, where a few current graduate students can answer questions about classes, research, or graduate life in general. The first session will be held the week before classes begin, and the second will be held the first day of class before CSE orientation. Attend the first session if you can, since you must be registered for classes *before* the second session.

And of course feel free to contact any member of the CSEG board with any questions that have not been fully answered in this Guide.