Survival Guide
Graduate Student Board (GSB)
Computer Science, Purdue university

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1 Introduction

This guide provides information about the department, Purdue, the Lafayette area, Indiana, and surrounding states. The information in this guide is not complete and not guaranteed to be correct. If you are not sure about something, do not be afraid to ask a fellow student or to e-mail the CS Graduate Student Board (*gsb@cs.purdue.edu*). If you would like something added or changed in the Guide, please e-mail the GSB.

Disclaimer: This document is not intended to describe departmental and school policies and is not a publication of the Department of Computer Sciences nor the School of Science.

Contents

2 Acronyms

During your first few weeks here at Purdue, you'll encounter many new acronyms and buzzwords. Here is a list of those used most frequently.

- ACM — Association for Computing Machinery. An international organization for computer scientists. Locally, ACM refers to the student ACM chapter which performs numerous services for the students.
- BO — Business Office. This is the office that handles the money and some other matters related to the CS department. Located on the third floor.
- BOSO — Business Office for Student Organizations. This is the office that handles the money and some other matters related to official student organizations. Hopefully, you will not have to deal with them unless you are an officer in a student organization in campus.
- CoRec — Cordova Recreational Sports Center. This is one of Purdue's main sports facilities, where you can go practice a large number of sports and physical activities. In 1998 it was officially renamed the Recreational Sports Center, but many people still call it the Co-Rec.
- GSB — Graduate Student Board. Represents the interests of graduate students in the department of computer science.
- ITaP — Information Technology at Purdue. This is the university group that operates and maintains the main university computer system.
- PMU — Purdue Memorial Union. The building next to Stewart Center.
- PAL — Purdue Air Link. Purdue's wireless network.
- PUSH — Purdue University Student Health center

3 Useful Links

- Off campus apartments — https://www.purdue.edu/offcampushousing
- Boiler apartments — https://www.boilerapartments.com
- Purdue Exponent — https://www.purdueexponent.org/classifieds
- Parking — https://www.purdue.edu/parking
- List of CS courses — http://www.cs.purdue.edu/academic-programs/courses
- Exam schedule — https://roomschedule.mypurdue.purdue.edu/Timetabling/exams.do
- Register for the semester, pay fess, register for classes — https://mypurdue.purdue.edu
- Blackboard — https://mycourses.purdue.edu
- CS Profile — https://my.cs.purdue.edu
- Research — https://www.cs.purdue.edu/research
- Master's Curriculum — https://www.cs.purdue.edu/graduate/curriculum/masters.html
- Ph.D. Curriculum — https://www.cs.purdue.edu/graduate/curriculum/doctoral.html
- People — https://www.cs.purdue.edu/people/index.html

4 Housing

If you do not have any housing by the first week of the semester, run, do not walk, to the Dean of Students Office in Schleman Hall to obtain the Off Campus Housing listing and advice on obtaining a place to live. This information can also be accessed online via:

https://www.purdue.edu/offcampushousing

Also check the Exponent:

https://www.purdueexponent.org/classifieds

and Boiler apartments:

https://www.boilerapartments.com/

for housing ads and roommate classifieds.

Grad students often live in one of the Grad Houses or in Purdue Village. If you wish to live in Purdue Village (PV), you should apply ASAP. Purdue Village, which used to be only for married students, does allow single students. Spots in PV tend to fill up fast.

There are a numerous student apartment complexes all around campus and many old houses that have been divided into multiple living units. The apartments right around campus tend to be leased in January and February for the following fall semester, so start your search early in the spring for your fall housing. In addition, if you have a group of friends that you can live with, you can usually find an older house for rent if you check the classifieds. One other resource available to grad students is the Purdue Research Foundation (PRF), which has many old houses around campus for rent. Unfortunately for undergrads, PRF will only rent to faculty and grad students.

Apartments within walking distance of campus tend to be quite expensive but if you have transportation, there are numerous apartment complexes all over the Lafayette area that are quite reasonable. If you don't have a car, you can see if the bus line runs nearby. Of course, you always run a risk if you depend heavily on the buses. One more thing to consider when deciding on off-campus housing is related to restrictions on obtaining parking permits. The University will not sell you a parking permit if you live too close to campus. If you plan on driving to campus, make sure you live far enough away to get a university parking permit.

5 Utilities

If you are moving into an apartment or house, you will probably need to hook up some utilities. When you sign a lease, check with the landlord to see what utilities are not included in the rent. Then a few days before you move in to your new domicile, call the utility companies to hook up the necessary utilities. Many of the utility companies will demand a deposit for new service if you did not have an account with them previously. Examples of *some* carriers are shown in the table below:

Utility	**Company**	**Phone**
Cable	Insight Communications	765-447-6886
Electric	Cinergy/PSI	800-521-2232
Gas	Indiana Gas Company	800-666-3090
Telephone	Verizon	800-483-4600
Water	West Lafayette Water Company	765-463-5531
Water	Lafayette Municipal Water System	765-742-8404

The city of West Lafayette provides curb-side service for recycling and garbage pickup only for houses with four units or less. If you live in a complex or house with more than four units then a private contractor must be hired for garbage disposal. Labeled bins are provided for anyone wishing to drop-off recyclable materials at 705 S. River Road. There are also bins for recyclable materials around Purdue Village.

6 Books

There are a number of bookstores around campus that will be happy to take your life savings in exchange for a text book. University Book Store's main location is across the street from the Union at 360 W. State Street. University Bookstore is the original home of Purdue Pete. The Book Store used Purdue Pete for their logo, and the University later adopted him as the Purdue Mascot. University Book Store also has a smaller branch across from Mackey Arena at 720 Northwestern Avenue. Follett's Bookstore has two locations, 1400 W. State Street in Purdue West and 714 Northwestern Avenue across from Lambert Fieldhouse.

Name	Location	Phone
Follett's Bookstore	Purdue West	765-743-9642
Follett's Bookstore	Northwestern Ave	765-743-9696
University Book Store	State Street	765-743-9618
University Book Store	Northwestern Ave	765-743-9432

Text books are sometimes held on reserve in the Undergraduate Library or the Math Library. A few CS text books are also available in the Undergraduate Student Office and the Graduate Student Office in Lawson.

7 Parking

Note! Purdue is increasing its efforts towards a greener campus. If you don't already own a car, consider alternative means of transportation. **CityBus** offers **fare-free** access to the CityBus system with a valid Purdue ID. In 2018, state street has been renovated to be more **bike** friendly.

In addition consider these parking options:

- Low Emission Parking
- Charging stations for electric vehicles
- Use a Zipcar

Parking at Purdue can be a nightmare. Public parking near campus is in very short supply, and permit parking isn't much better. The largest public parking lot is behind the Stadium, quite a hike from the CS building. A, B, and C parking permits allow you to park on campus. A and B parking permits are for faculty and three-quarter time staff only, so students are normally limited to C parking permits.

https://www.purdue.edu/parking/

A C parking permit allows you to park in C parking places, which are marked by red signs. Unfortunately, the C parking places are generally not close to the CS building with most of the C parking in a lot off State Street by the dorms, and near CoRec. To obtain a C parking permit, you must prove that you live more than 1.5 miles from campus (what they call walking distance). C Garage permits are also available. These allow you to park at the top of a specific parking garage.

If you drive but don't buy a permit, there is public street parking near the building on some of the side streets. However, these spaces are generally all gone by 8:30 am daily and most have a 3 hour time limit, for two reasons:

Many folks forget about this time limit, and their vehicles become easy prey for West Lafayette police who roam about with ticket pads armed and ready. The pointless shuffling of vehicles from one parking spot to another amuses the neighborhood children. Note that cars are time-stamped with a swatch of chalk on one of the rear tires so that the time they've been parked in one spot is known, and, therefore, the time that they're eligible for ticketing is known. Parking at night is no problem. All A, B, and C spots are open after 5 pm and on weekends. Also, never park in a 24 hour reserved spot; you will be ticketed and towed.

Residence hall parking permits are available to people living in Grad Houses or the Dorms. Stop by the Grad House or Dorm main office to inquire about permits, and check early since the number of residence hall permits is limited. One final note for students living in Purdue Village, you should stop by the PV office on Nimitz Drive after obtaining your Purdue permit in order to get a PV permit. It's free and allows you to park your car near your apartment.

8 First Week on Campus

This section presents, roughly, an outline of some of what you should do in your first week on campus.

- Select courses (http://www.cs.purdue.edu/academic-programs/courses/) and register (https://mypurdue.purdue.edu). For late registration or for research credits, you need to ask your instructor/advisor to sign a Form-23 which you then need to take to the Registrar's Office (Hovde building).
- Get your student ID card: http://www.purdue.edu/business/card/
- Start a boiler express account (https://dining.purdue.edu/, look for eAccount or http://www.purdue.edu/business/card/) if you want, which you can use in dining courts cafes and other places on campus.
- Get a mailbox by asking someone in the mail room.
- If you are an International Student, you should have gone through the orientation for International Students. If not, report to the ISS in Schleman Hall as soon as possible.
- Set up your profile in https://www.cs.purdue.edu/people/graduate-students/index.html which you can do via https://my.cs.purdue.edu/.
- Set up your personal webpage in your $HOME/.www/ directory.
- Get a locker on Recreational Sports Center.

Useful Links:

- http://www.cs.purdue.edu/academic-programs/courses/ — List of CS courses
- https://mypurdue.purdue.edu — Register for the semester, pay fess, register for classes
- https://mycourses.purdue.edu — Blackboard, some instructors use this to upload course materials and for homework submissions
- https://my.cs.purdue.edu/ — CS Profile, e.g., classes taken, requirements fulfilled, advisor on record etc

9 History

Purdue Computer Science Department is the oldest CS department in the United States!

In case you didn't know, Purdue's CS department is the oldest in the country, formally authorized in October 1962. Dr. Sam Conte was the first department head, serving until July 1979, when Dr. Peter Denning took over. Dr. Denning took a position with NASA in June, 1983 at which point Dr. John Rice became department head. After 13 years of distinguished service, Dr. Rice stepped down and returned to teaching. He was succeeded by Dr. Ahmed Sameh who came aboard during the 1996-1997 academic school year. Dr. Susanne Hambrusch, was appointed in the year 2002 and held the position until the summer of 2007. At that point in time Aditya Mathur took over as department head. In June 2012, Dr. Sunil Prabhakar has been appointed Head of the Department of Computer Science after a period of serving as an interim department head.

We are also one of the largest and most highly-rated departments in the country. We received more than 4,000 undergraduate applications for Fall 2017. Currently, 1,708 students are enrolled in the undergraduate program, an all-time high that more than doubles the number of students enrolled just five years ago.

The CS department was originally located in the Math building. In 1985, the CS department moved into a building all to itself. This building was formerly the Memorial Gymnasium. (The Memorial is to a group of Purdue students and alumni who died in a train wreck while traveling to a game). It has been completely renovated to hold us. During the renovation it was rumored that a swimming pool would be left in the basement, but this idea was apparently dropped. Finally, in the fall of 2006, the department moved into our new location, the Lawson Computer Science Building.

10 Research

Part of the reason that the department is highly-regarded is that the faculty are active in research, publications, and service to the CS community. It would take pages to describe all the current research projects. Therefore, for reference, the department Research page and Annual Reports page contain a summary of current projects:

https://www.cs.purdue.edu/research/

https://www.cs.purdue.edu/about/annual_reports.html

There is a research project for anyone here. There are research centers and institutes specializing in particular topics, a complete list of which is given at:

https://www.cs.purdue.edu/research/centers.html

Most notably, the Center for Education and Research in Information Assurance and Security (CERIAS) is currently viewed as one of the world's leading centers for research and education in areas of information security that are crucial to the protection of critical computing and communication infrastructure. CERIAS is unique among such national centers in its multidisciplinary approach to the problems, ranging from purely technical issues (e.g., intrusion detection, network security, etc) to ethical, legal, educational, communicational, linguistic, and economic issues, and the subtle interactions and dependencies among them. CERIAS evolved from the COAST (Computer Operations, Audit, and Security Technologies) lab in 1999, which was a multiple project computer security research laboratory in Purdue's computer science department. For more information please refer to https://www.cerias.purdue.edu.

In addition, there are a number of groups that offer research seminars on a weekly basis:

https://www.cs.purdue.edu/research/seminars.html

11 Courses

First, look at the list of courses being offered on the CS Department web site:

https://www.cs.purdue.edu/academic-programs/courses

If you are a first-year Master's students, you will face many choices of classes. The choices for a first-year Ph.D. student are somewhat restricted. Talk to second or third year graduate students. The best place to get information about a course and a professor is from someone who has taken the course, and not necessarily your advisor or professors in the department. This is probably the most important step in the registration process.

Most people find it best to select courses so that their workload is balanced among various types of work: reading, programming, theory, mathematics (calculus, real analysis, linear algebra), etc. Taking two heavy programming courses together is a lot of work, three can be suicidal.

There is also the number of course hours to consider. Typical and maximum course loads are shown below. Keep in mind that what is said to be "typical" below may be a lighter or heavier load than what is right for you. If you are a Master's candidate, how much of a rush you are in to complete your degree will also be a factor. Taking the maximum number of credit hours in your first semester, however, is probably a recipe for disaster.

Credit Hours:

- fellowship or self-supported 9 - 12 hours typical, 18 hours maximum
- quarter-time assistantship 6 - 12 hours typical, 15 hours maximum

- half-time assistantship (most TAs) 6 - 9 hours typical, 12 hours maximum
- half-time research assistantship (most RAs) less than 18 hours, at least 6 hours thesis work
- full-time research assistantship less than 18 hours, at least 12 hours thesis work

You can find the requirements for a Master's and Ph.D. students here:
https://www.cs.purdue.edu/graduate/curriculum/masters.html

https://www.cs.purdue.edu/graduate/curriculum/doctoral.html

A graduate student is classified as a full-time student if he or she is registered for 6 credit hours when funded by an assistantship or 9 credit hours when funded by a fellowship. Master's students need (eventually) to complete 10 three-credit courses, or 8 three-credit courses with a thesis, for their degrees. One of CS 502 or CS 565, one of CS 503 or CS 536, and CS 580 are required; the others are chosen by the student. You should get an idea of the courses you might like to take now, but don't bother trying to work out a schedule more than a semester in advance — the actual scheduling of courses (regardless of what the course descriptions say) is quite variable. There are also "topics" courses that are offered each semester, some of which you might find interesting. A 590 topics course is directed study for students who wish to undertake individual reading and study on approved topics. A general topics course is worth three credit hours. It usually takes three to four semesters to complete the work for a Masters degree.

12 Courses Descriptions

This section contains descriptions of CS courses that are offered on the graduate level in our department. It does not include courses offered by other departments (i.e. MATH, EE, STAT, MGMT) that are also available to obtain graduate credit in the M.S. and Ph.D. programs in CS. For transferring credit check with your academic advisor, or with Secretary to the Graduate Office:
https://www.cs.purdue.edu/people/staff/index.html

As there are substantial differences among the courses offered in regard to the amount and type of work for assignments, projects, in-class presentations, term papers, and exams, we are presenting a table that shows the major differences among these courses. The info given is mostly drawn from an old survey among graduate students in our department in Spring 1993, although some additions have been made for courses which were not included in the 1993 survey. Although some of the courses have changed over the years, this list will give you a rough idea of the type of workload to expect. However, course contents and workload depend considerably on the professor who teaches the course. The same number of programming assignments for two courses does not necessarily indicate a comparable effort in writing the code. Therefore, nothing presented here should be taken literally, only as an outline. Do not be afraid to talk to the professor who will teach the course and ask him more detailed information. Note that not all courses are offered every semester. Furthermore, it is not our purpose to show you a way to a degree at Purdue with the least possible effort, but to give you the chance to balance your course load for each semester according to your interests and degree program requirements.

The official prerequisites listed on the course pages are not completely accurate in terms of what you really need to succeed in a course. The survey disclosed that unstated prerequisites for nearly every course. It is not absolutely necessary to know these to do well in every course, but knowing them can greatly increase your efficiency. A comment nearly everyone made at some point was: "Course are hard and require lots of work ... but in the end it's worth it." So, you can look forward to a lot of pain during the semester, and a very good feeling afterwards.

13 Acknowledgment

Compiled by **Savvas Savvides**<*savvas@purdue.edu*> using information from similar guides at other schools and an older version of this guide. The list of people who have helped over the years is far too long to list in its entirety, but includes many students, professors, and department secretaries. Most notable contributions:

Course	Course Name	Load
CS 502	Compiler Design	written(1), program.(5), proj.(1), quizzes(1), midterm, final - heavy programming
CS 503	Operating Systems	written(1), program.(5), proj.(1), midterm, final - heavy reading, heavy programming
CS 510	Software Metrics	- moderate reading
CS 514	Numerical Analysis	written + program.(8), midterm, final - math and programming
CS 515	Analysis of Linear Systems	- math
CS 520	Computational Methods	written + program.(10), proj.(2), midterm, final - math, problem solving, big projects
CS 525	Parallel Computing	written, program, midterm, final
CS 526	Information Security	written(5), project(3), midterm, final
CS 530	Intro. To Scientific Visualization	written, program, midterm, final
CS 535	Computer Graphics	program.(4), midterm - very heavy programming
CS 536	Computer Networks	written(5), program.(3),midterm, final - reading, heavy programming
CS 541	Database Systems	written(5), program.(2), midterm, final - reading, light programming
CS 542	Distributed Database Systems	written(3), proj.(1), midterm, final - reading, light programming
CS 543	Simulation and Modeling	written(2), program.(6), proj.(1), presentation(1), midterm, final - heavy programming
CS 555	Cryptography	written(6), proj.(1), midterm, final - moderate reading and problem solving, math
CS 565	Programming Languages	written + program.(5), proj.(2), midterm, final - heavy reading, theory, projects
CS 580	Algorithm Design	written(8), midterm, final - theory and problem solving
CS 584	Theory of Computation	written(10), presentation(1), quizzes(2), midterm, final - theory, participation in class
CS 603	Advanced Operating Systems	- reading, systems programming
CS 614	Ordinary Differential Equations	- math
CS 615	Partial Differential Equations	- math and programming
CS 636	Internetworking	program.(3), proj.(1), presentation(2), quizzes(2), oral final - heavy programming, participation in class

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