# Table of Contents

**Introduction** ............................................................................................................................................ 6

ABOUT THE HANDBOOK AND STUDENT RESPONSIBILITY ........................................................................ 6

THE COMPUTER SCIENCE DEPARTMENT ................................................................................................ 6

**Academic Information** .................................................................................................................................. 7

ACADEMIC ADVISOR ........................................................................................................................................ 7

ACADEMIC CALENDAR ...................................................................................................................................... 7

ACADEMIC DISHONESTY ..................................................................................................................................... 7

ACADEMIC INTEGRITY AND CODE OF CONDUCT .......................................................................................... 7

ACADEMIC STANDING ......................................................................................................................................... 7

ACADEMIC WARNING .......................................................................................................................................... 7

AUDITING COURSES ........................................................................................................................................... 8

CURRICULUM PRACTICAL TRAINING (CPT) (International Students Only) ......................................................... 8

DEGREE APPLICATION ....................................................................................................................................... 8

GRIEVANCE POLICY & PROCEDURES ............................................................................................................ 9

GRIEVANCE REVIEW COMMITTEE .................................................................................................................. 9

LAPTOP PROGRAM .............................................................................................................................................. 9

LEAVE OF ABSENCE FOR MASTERS STUDENTS .......................................................................................... 9

OPTIONAL PRACTICAL TRAINING (International Students Only) .................................................................... 9

PRE-REQUISITES ................................................................................................................................................ 10

PRINTING AND PHOTOCOPYING .................................................................................................................... 10

REDUCED COURSELOAD (International Students Only) .................................................................................... 10

REGISTERING ...................................................................................................................................................... 10

STUDENT RESPONSIBILITY ............................................................................................................................. 10

TRANSFER OF GRADUATE CREDIT EARNED ELSEWHERE ............................................................................... 11

**Information Technology Services** ............................................................................................................ 12

COMPUTING RESOURCES ................................................................................................................................. 12

SOFTWARE DEVELOPMENT ENVIRONMENT .................................................................................................. 12

HARDWARE .......................................................................................................................................................... 12

COMPUTER SCIENCE DEPARTMENT SYSTEMS ADMINISTRATOR .................................................................. 12

EDUCATIONAL COMPUTING LABORATORY ..................................................................................................... 13

CLUSTER ACCOUNTS .......................................................................................................................................... 13

WIFI ........................................................................................................................................................................ 13

ADDITIONAL SUPPORT SERVICES .................................................................................................................... 13
### Miscellaneous Information

COUNSELING AND PSYCHOLOGICAL SERVICES ................................................................. 14
REQUESTS FOR DOCUMENT PROCESSING AND SIGNATURES ..................................... 14

### Admission to Graduate Study

Preparation in Computer Science and Mathematics ..................................................... 15

- NON-DEGREE ADMISSION ......................................................................................... 16
- THE GRADUATE RECORD EXAMINATION ................................................................ 16
- THE TEST OF ENGLISH AS A FOREIGN LANGUAGE (TOEFL) ............................... 16

The Master’s Program .................................................................................................... 17

- INTRODUCTION ........................................................................................................ 17
- FORMAL CANDIDACY FOR THE MASTER’S DEGREE .............................................. 17
- THE DISCRETE MATHEMATICS REQUIREMENT .................................................... 17

Program Course Requirements ....................................................................................... 19

- GRADING OF GRADUATE COURSES ..................................................................... 19
- CORE COURSES ....................................................................................................... 19

The Internship, Project or Thesis Requirement ............................................................ 20

- THESIS .................................................................................................................. 20
- PROJECT ............................................................................................................... 20
- INTERNSHIP ......................................................................................................... 20
- CURRICULAR PRACTICAL TRAINING .................................................................... 21
- SPECIALIZATION REQUIREMENTS: theory, applications, systems ...................... 21
- ELECTIVES AND TOTAL CREDITS ....................................................................... 23
- SAMPLE THREE SEMESTER MS PROGRAM ............................................................ 23
- FURTHER STUDY – THE PH.D. ........................................................................... 24
- FURTHER STUDY – THE PSM CERTIFICATE ......................................................... 24

The Doctoral Program .................................................................................................... 25

- INTRODUCTION ..................................................................................................... 25
- FORMAL CANDIDACY FOR THE DOCTOR OF PHILOSOPHY DEGREE .................. 25
- COMPLETION OF MASTER’S PROGRAM COURSEWORK ..................................... 26
- STATUTE OF LIMITATIONS PhD Degrees .............................................................. 26
- THE ANALYTIC REQUIREMENT ......................................................................... 26
- RESEARCH TOOL REQUIREMENT ....................................................................... 28
- RESEARCH ACTIVITIES ....................................................................................... 28
- CONTINUOUS REGISTRATION REQUIREMENT FOR DOCTORAL STUDENTS .... 28
- UNIVERSITY RESIDENCE REQUIREMENT ......................................................... 28
DOCTORAL DISSERTATION COMMITTEE ........................................................................................................... 29
ORAL QUALIFYING EXAMINATION ................................................................................................................... 29
MINOR PROGRAM OF STUDY ............................................................................................................................... 29
PROGRAMMING PROJECT ................................................................................................................................. 29
DISSERTATION ....................................................................................................................................................... 29
Financial Assistance ............................................................................................................................................... 30
ASSISTANTSHIPS .................................................................................................................................................. 30
SUMMER APPOINTMENTS .................................................................................................................................... 32
STUDENT ASSISTANT AND GRADER POSITIONS ............................................................................................... 32
Research ................................................................................................................................................................. 33
INTRODUCTION ..................................................................................................................................................... 33
FACULTY RESEARCH INTERESTS ......................................................................................................................... 33
Graduate Committees ........................................................................................................................................... 38
THE GRADUATE CURRICULUM COMMITTEE ....................................................................................................... 38
THE GRADUATE ADMISSIONS COMMITTEE ........................................................................................................ 38
THE COMPUTER OVERSIGHT COMMITTEE ......................................................................................................... 38
Appendix A: Contact Information ......................................................................................................................... 39
Appendix B: Internship Forms ............................................................................................................................... 40
Appendix C: Academic Integrity and Department Grievance Policy ..................................................................... 45
ACADEMIC INTEGRITY ......................................................................................................................................... 45
DEPARTMENT GRIEVANCE POLICY .................................................................................................................... 45
DISCUSSION WITH FACULTY/INSTRUCTOR ....................................................................................................... 45
PEPEALS TO THE DEPARTMENT ....................................................................................................................... 45
PEPEALS BEYOND THE DEPARTMENT ............................................................................................................... 46
Introduction

ABOUT THE HANDBOOK AND STUDENT RESPONSIBILITY
This handbook contains information about procedures and requirements to assist students in the Department of Computer Science. It should be used as a supplement to the University's Graduate Bulletin, the Schedule of Classes, Academic Calendar and other official publications of the University and Department of Computer Science. It must be remembered, however, that programs, courses, and requirements are frequently modified. As a result, this Handbook may not include the most recent information. It is essential that students maintain frequent and close contact with their advisors to ensure that all requirements are met.

The final responsibility for pursuing a successful graduate program, organizing and concluding its many parts, remains with each student. Each student has the primary responsibility for being aware of and satisfying the requirements and policies of his/her program. Students are encouraged to seek advice from their advisors, department chair and professors. Ultimately, the student is responsible for navigating a successful program schedule to the award of his/her degree.

THE COMPUTER SCIENCE DEPARTMENT
The first course in computing at the University at Albany was given in 1966 as a special offering of the Division of Science and Mathematics (later the College of Science & Mathematics). A formal Department of Computer Science was established in 1967. The Department’s first degree program was the Master of Science, chartered in 1968. Its first baccalaureate program began in 1973, an interdisciplinary program leading to a B.A. in Computer Science and Applied Mathematics. A strictly Computer Science B.S. program was started in 1975. A third Baccalaureate track was established in 1985. The Department’s Ph.D. program was chartered in 1983.

Today, with its solid foundation in computer science theory and practice, the Computer Science program is excellent preparation for a career in computing or research activities. The program develops the student’s ability to recognize and formulate significant research problems, to express those using appropriate abstract models, to apply theoretical and/ or experimental techniques for their solution, and to transmit the results to the scientific community.
Academic Information

Faculty and students are urged to consult the current Graduate Bulletin (see the University’s web site at https://www.albany.edu/graduatebulletin/) for the full, official descriptions of the University's admission and graduate requirements, regulations, degree requirements, thesis and dissertation regulations, and all graduate programs and courses. The following highlights key issues of information arranged in alphabetical order.

ACADEMIC ADVISOR
Each computer science graduate student is assigned a computer science department faculty member as their advisor. Your advisor should be your first point of contact for academic questions. Student advisors may not assume the responsibility of a students’ academic requirements, and the advisors may not substitute, waive, or exempt students from any established requirement or academic standard.

ACADEMIC CALENDAR
It is the responsibility of students and faculty members to examine the University's Academic Calendar to note the days and times in which classes are suspended, deadlines for registration, and other important dates. The Academic Calendar can be found in the Schedule of Classes on the University at Albany website http://www.albany.edu/registrar/schedule-of-classes.php

ACADEMIC DISHONESTY
University policies are already in place to handle cases of alleged academic dishonesty. According to the University at Albany Community Rights and Responsibilities, when such allegations arise, the instructor is given the power to decide on a penalty for the student and must inform his/her Chair and the University. If a student wishes to appeal this decision, however, he/she may file a grievance through the appropriate channels as described in Appendix C of this Handbook.

ACADEMIC INTEGRITY AND CODE OF CONDUCT
It is every student’s responsibility to become familiar with the Code of Conduct and Standards of Academic Integrity as described in the Graduate Bulletin and the Community Rights & Responsibilities. The Community Rights and Responsibilities is the official code of conduct to which all University at Albany students are held and applies to all student conduct and behavior. These sources also describe penalties and procedures to be followed if a student is suspected of violating either the Code of Conduct or Standards of Academic Integrity. Examples of academic dishonesty include but are not limited to: plagiarism, cheating on exams, multiple submissions, forgery, sabotage, unauthorized collaboration, falsification, bribery, and theft, damage or misuse of library or computer resources. Additionally, the judicial system of the School and the process a student would undergo once charges are brought against them are outlined in detail.

ACADEMIC STANDING
To remain in good standing, graduate students must maintain a B average (3.0 GPA) overall. A student whose average falls below this minimum is normally not considered eligible for financial aid, and a student with severe deficiencies may be terminated from the program. University at Albany policy regarding academic standards is as follows: “Graduate students who are candidates for a graduate degree or certificate must earn an average of B in all resident graduate courses and credits applicable to their degree completed with grades other than S (satisfactory) or U (unsatisfactory) and receive grades of S in all resident graduate courses applicable to their
degree which may be graded S/U. Only courses completed with grades of A, B, C, or S may be applied to
gradient course requirements and to credit requirements for graduate degrees. All graduate students are
expected to remain in good academic standing during the course of their study; that is, to maintain an academic
record consistent with the standard above. A student whose record falls much below those standards or which
otherwise indicates a lack of ability or effort needed to succeed in graduate study will be denied permission for
further study.” [Link to academic standards]

Generally, only courses completed with Grades of A, A-, B+, B and S may be applied to graduate course
requirements and credit requirements for graduate degrees. These requirements can also be met by courses
graded B-, C+ and C only if they are balanced to a B (3.0 GPA). For example: three credits of B must be balanced
at least by three credits of B+.

ACADEMIC WARNING
Students on academic warning are required to develop an Academic Progress Plan in consultation with their
advisor, outlining a strategy for achieving a GPA of at least 3.0 as soon as possible. Students generally have two
semesters from the time they are originally placed on probation to achieve the required GPA of 3.0 and end
academic probation. Please note that satisfactory performance (obtaining a 3.0 GPA for the semester) during
each semester of academic probation is required for continuation in the graduate program.

AUDITING COURSES
With the permission of the instructor, students may formally audit appropriate courses that will enhance their
programs and/or assist them in achieving career and personal objectives. Formal auditors are ones who register
as auditors, pay tuition, and receive recognition on their transcripts, as well as other benefits enjoyed by
registered students. An audited course, however, may not be applied toward satisfying the credit requirements
established for any graduate degree or certificate program. The course would appear on the student’s transcript
with a grade of N. More information on auditing courses can be found at
[Link to auditing courses]

CURRICULUM PRACTICAL TRAINING (CPT) (INTERNATIONAL STUDENTS ONLY)
For a student to be eligible, employment must be an integral part of the student’s program of study. The
academic advisor is responsible for verifying that the employment/internship is being used toward the
completion of the student's academic program requirements.

Note on Memorandum of Understanding (MOUs): If a student is engaged in an eligible position (such as a
student assistant position) under an MOU with a University at Albany department, the employment may be
considered on-campus employment. Please refer to the department with the MOU agreement. For complete
details and forms, visit the UAlbany website: [Link to MOUs]

DEGREE APPLICATION
If a student expects to complete all requirements for MS or PhD at the end of a particular semester, he/she must
file a degree application with the Registrar. The form can be obtained and submitted on the web via MyUAlbany
at [Link to degree application]. Deadlines for filing, which occur very early in a semester, are listed in
the University academic calendars and can be found on the University’s web page,
[Link to academic calendars]
EXTENSION OF PROGRAM OF STUDY FOR F-1/J-1 NON-IMMIGRANT STUDENT
If the F-1 or J-1 student requires additional time to complete his or her academic program requirements beyond the program end date listed on the I-20 or DS-2019, the student must apply for an I-20 or DS-2019 extension. The student must obtain departmental approval and submit additional proof of finances with the request. For complete details and forms, visit the UAlbany website: https://www.albany.edu/isss/forms.php#ext

GRIEVANCE POLICY & PROCEDURES
It is the policy of the Computer Science Department to address grievances in a fair and timely manner, and, in a process that is consistent with University policies and procedures. See Appendix C for complete details on Department grievance procedures. Procedures for reviewing cases will typically involve: a) hearing opening statements from all parties involved (referring and referred individuals, and witnesses), either in person or in writing; b) asking questions of any of the parties and reviewing their responses; c) discussing the allegations as a committee and presenting a recommendation to the Chair.

GRIEVANCE REVIEW COMMITTEE
The committee includes a team of faculty members who will provide the first line of action for addressing and resolving grievances. The Committee will not handle any complaints involving physical threats or sexual harassment. These allegations will be referred directly to the appropriate University-level authority.

LAPTOP PROGRAM
Due to the wide variety of hardware and software configurations possible, we do not guarantee that every computer will work on our campus network. The College of Engineering and Applied Sciences is participating in a laptop program in which students purchase laptops from Dell or Apple at special savings. These laptops have been configured to meet the needs of students in the College of Engineering and Applied Sciences. For complete information refer to the Program Document.

LEAVE OF ABSENCE FOR DOCTORAL STUDENTS
A PhD student may be granted an official leave of absence from his/her program for an appropriate academic or personal reason. A leave of absence must be approved by the student's department, the Computer Science Department, and by the University Dean of Graduate Studies. A leave of absence may not be granted after a doctoral student has advanced to candidacy. When the term of leave has expired and is not extended, the Doctoral student must register for the minimum three credits or be subject to dismissal.

LEAVE OF ABSENCE FOR MASTERS STUDENTS
Unlike Doctoral students, MS students do not need to maintain continuous registration and so are not required to provide the University with written notification of an official leave of absence. However, MS students are required to notify their department if they do not intend to register for classes. International students are bound by the regulations and policies set by INS and the Office of International Education and must register every semester.

OPTIONAL PRACTICAL TRAINING (INTERNATIONAL STUDENTS ONLY)
In most cases, a student will choose to do OPT after completion of all degree requirements. Academic advisors are therefore responsible for certifying that the student has completed all program requirements and is expected to graduate. Unlike CPT, students are not required to have a job offer in place while applying for OPT authorization. OPT employment must be directly related to a student's field of study. ISSS does not determine an employment situation's relevance to an academic program. Students applying for OPT must consult with the
computer science department to determine if the position is within the student's field of study. For complete
details and forms, visit the UAlbany website: https://www.albany.edu/iss/78221.php.

PRE-REQUISITES
Course prerequisites are established to ensure student success in our graduate level courses. Prerequisites for
individual courses are contained in course descriptions that are available on-line.
Undergraduate courses: https://www.albany.edu/undergraduate_bulletin/1_csi.html
Graduate courses: https://www.albany.edu/graduatebulletin/a_csi.htm
The Department of Computer Science is fully committed to the University Policies on Deregistration.

PRINTING AND PHOTOCOPYING
Fee based printing and photocopying is available in various locations on campus or through the Rapid Copy,
Center. Department copiers should not be used for personal use.

REDUCED COURSELOAD (INTERNATIONAL STUDENTS ONLY)
F-1 and J-1 students must be pursuing a full-time course of study unless they are authorized for a reduced
course load for specific, federally accepted reasons when the student is in his or her final semester of
coursework. For complete information and forms, visit https://www.albany.edu/iss/78213.php. For a student
to be approved for an authorized reduced course load (RCL), the academic advisor must be in support of the
course load and indicate the appropriate reason. ISSS will only authorize a reduced course load with the
appropriate approvals and/or documentation from the advisor.

REGISTERING
All course registration directions, guidelines and important deadlines can be found in the Schedule of Classes,
which is available on the University's Web page, http://www.albany.edu/registrar/schedule-ofclasses.php. If you
miss these deadlines and cannot demonstrate extenuating circumstances, you will not be allowed to register,
add, or drop a course. Please note that having a "hold" on your record is not a cause for an exception to the
rules. In order to register for classes, you have to go to the MyUAlbany home page,
http://www.albany.edu/myualbany/. There you can log on with a Net ID and a password that is provided by the
University. An Advisement Verification Number (AVN) is needed for each student to register for classes. You will
receive an AVN after you consult with your advisor. A new AVN will be assigned each semester.
A student who is in arrears for any University charges for any session will not be allowed to register for the
succeeding session. Students will not be permitted to register until the balance due for any preceding session is
paid in full. Action will be taken to cancel registration for pre-registered students who do not pay the amount
due or make firm arrangements to pay. All inquiries concerning the cost and payment of tuition should be
referred to the Office of Student Accounts. All fees, assessments, health and accident insurance premiums are
payable at the time of registration. The schedule of tuition liability is provided on the Student Accounts website:
http://www.albany.edu/studentaccounts/

STUDENT RESPONSIBILITY
Graduate students are personally responsible for completing all requirements established for their degree by
the University, School, and Department. It is the students' responsibility to inform themselves of these
requirements. Student advisors may not assume these responsibilities, and the advisors may not substitute,
waive, or exempt students from any established requirement or academic standard. It is also the students'

responsibility to ensure that any appropriate paperwork is completed.

**TRANSFER OF GRADUATE CREDIT EARNED ELSEWHERE**

Under certain conditions and with the approval of the Department Chair or Associate Dean for Academic Affairs, credits for graduate work completed with a grade of B or above at another institution may be accepted and applied to a degree program in the Computer Science Department. The individual department or program determines the number of credits that may be transferred. The University's Procedures and Policies Pertaining to Transfer Credit are described on the back of the Request for Transfer of Credit to a Graduate Program form. The forms can be found on the University’s Graduate Student Resources page, [http://www.albany.edu/gradstudies/forms_publications.php](http://www.albany.edu/gradstudies/forms_publications.php). Supporting documentation requires an official transcript from the institution where the credit was earned and a detailed description of the course. In most cases, credits to be transferred must have been earned within six years of the request.
Information Technology Services

COMPUTING RESOURCES
All University at Albany students are provided a University Information Technology Services (ITS) account. This ITS account provides:

- Internet access to network provided services (ssh remote terminal, Office365 email, Blackboard course management, etc.).
- Login to the hosts that comprise the Information Commons: https://www.albany.edu/its/svcinfocommons.php

Useful information about University wide computing resources on campus is available from ITS Client Support Services. Representatives can be found in the main library, via email at ihelp@albany.edu, or by phone at (518) 442-3700.

SOFTWARE DEVELOPMENT ENVIRONMENT
Information Technology Services accounts provide a general software development environment under (Solaris) Unix plus personal web pages. These accounts are required for assigned work in many Computer Science graduate courses. They are also what are ordinarily used for master’s projects (ICSI 680). As of 2018, the central Solaris servers (itsunix) are being retired to be replaced by a cloud hosted service.

HARDWARE
The Computer Science Department maintains virtual servers hosted in the ITS IaaS Tenant Cluster providing Network File Services, Domain Name Service, centralized account management, etc.

Most of the equipment is in departmental laboratories that support particular research groups. Specifics for these systems are available from the research faculty. Other equipment provides general computing resources to faculty, staff and teaching or research assistants, to support special research projects, particularly at the Ph.D. level, and to support a few regular courses for which Information Technology Services is insufficient. Access to the CS Cluster is provided to Ph.D. students in good standing and to other graduate students upon the approval of the faculty member under whose supervision the project or responsibility is undertaken. Applications for a general CS Cluster account are available online at http://www.cs.albany.edu/Systems/CSAccountApp.php. Enrollees in regular courses that use CS Cluster equipment will have limited access according to course operation.

COMPUTER SCIENCE DEPARTMENT SYSTEMS ADMINISTRATOR
The Department staff includes a senior professional Unix systems administrator, who is responsible for general infrastructure support and can provide help with special project needs. This is one of the first people you should contact (after your faculty supervisor) to evaluate the feasibility of your project ideas. System help requests for the CS Cluster should be emailed to systems@albany.edu. If necessary, the CS systems administrator may be reached in person in room UAB 402 or by phone (518) 437-4932. If project support needs are found to be significant, they must be requested through your faculty supervisor and will be provided only if the resources are available and enough lead time is given to meet prior project commitments. Policy, resource allocation and planning for the future is handled by the Departmental Computing Oversight Committee. It is important that resource needs (especially for Ph.D. level research) be made known to the committee either through the systems administrator or through the faculty so that beneficial resource acquisition plans can be made.
EDUCATIONAL COMPUTING LABORATORY
The Department also maintains the Educational Computing Laboratory (ECL, HU 25) which is the teaching facility devoted to graduate Computer Science courses. The ECL is available only to graduate students who are involved with teaching, taking ECL courses or by arrangement.

CLUSTER ACCOUNTS
CS Cluster accounts for general computing and research related Web pages are available to all Ph.D. alumni, and to other alumni upon the continuing recommendation of a current faculty member.

All users of Departmental computing resources are required to abide by the rules and regulations of the University concerning computing and information resources. Furthermore, all Departmental system activity and data may be monitored for research and teaching purposes as well as to detect or diagnose problems. Attempts to interfere with the proper operation of Departmental or any other computer systems, to provide internet services without the approval of your faculty supervisor and the system administrator, and attempts to hide or disguise one kind of computing activity as another, or to provide an illegal or otherwise inappropriate service (such as but not limited to: online harassment, software piracy, cryptocurrency mining, etc.) will result in immediate account suspension when discovered, investigation and possible disciplinary action. It may also result in reduction of course grade(s) or course failure and/or loss of computing privileges. These punishments are in addition to any that may be applied by University representatives enforcing standards compliance, which may include expulsion.

WIFI
The School has wireless internet connectivity throughout the campus. To use this service, you must be a member of the University Community, and must authenticate yourself to the network using your NetID. For additional information, please visit the UA Wireless Internet Access web page at: http://www.albany.edu/its/svc_wireless.php.

ADDITIONAL SUPPORT SERVICES
Technical support and consultation services in hardware maintenance, computer repair, network management, and multimedia and software applications are available during regular business hours. Information Technology Service (ITS) Staff and the SUNY Help Desk are located on the Main Campus, LC 27. They are accessible via phone at 518-442-3700, email at askit@albany.edu, or personal appointment. Manuals, software, and documentation are also available and can be downloaded or viewed on their website: http://www.albany.edu/its/.
Miscellaneous Information

COUNSELING AND PSYCHOLOGICAL SERVICES
Counseling and Psychological Services (CAPS) promotes the behavioral and emotional health, furthers the social development, and enhances the academic success and personal resilience of University at Albany students. CAPS professionals offer psychological counseling, assessment, and consultation services as well as deliver accessible services that are responsive to the needs of a diverse campus community. To read more about all CAPS offers, visit the website at: https://www.albany.edu/counseling_center/index.shtml.

REQUESTS FOR DOCUMENT PROCESSING AND SIGNATURES
The Department processes many documents and forms. To ensure that paperwork is properly reviewed please allow 5-7 business days to process and obtain signatures on documents submitted to the department. Please consider this in order to meet important deadlines.
Admission to Graduate Study

Preparation in Computer Science and Mathematics

All students entering the graduate program in computer science must have a baccalaureate degree from an accredited college or university. A major or minor undergraduate degree in computer science or mathematics is recommended. For the Doctoral Program, a major in one of these fields is highly desirable, though not necessary. Applicable industry experience will be considered for individual applicants.

Entering graduate students are expected to have completed undergraduate courses in seven subject areas of mathematics and computer science. These are:

1. Two courses in calculus
2. A course in probability
3. A course in discrete mathematics
4. An introductory course in computer science
5. A course in data structures
6. A course in assembly language programming
7. A course in computer organization or architecture

The first four of these courses provide essential mathematical background and are offered by most mathematics departments. A course in discrete mathematics is also frequently offered by a computer science department. A distinction is made between probability and statistics, and a course in statistics is not regarded as satisfying the requirement for preparation in probability. The four computer science courses are available from most computer science departments.

The introduction to computer science course should insure a familiarity with a “higher level” language such as C, C++, Java, or maybe Python. Languages such as FORTRAN, BASIC, or COBOL are not regarded as adequate, since exposure to the use of pointer variables is essential in both the introductory and data structures courses. The course in data structures should continue to develop programming competence as well as provide an introduction to the analysis of algorithms. Although the last two courses, assembly language and computer architecture, may have been taught in the context of a specific hardware environment, within broad limits, no particular choice of hardware environment is required.

Students whose preparation in undergraduate mathematics or computer science is considered deficient are expected to address those deficiencies in the first year of graduate study, as specified by the department upon admission into the program. If your admission letter mentions any undergraduate deficiencies or other conditions, move as quickly as you can to address them. This includes talking to your adviser about having any removed that you think are unnecessary.
NON-DEGREE ADMISSION
Students wishing to take undergraduate courses to meet the requirements described above, and who have completed a baccalaureate program, may apply to the Office of General Studies and Summer Sessions for admission to the General Studies Program. However, if a graduate course is to be included, graduate admission must be obtained and graduate tuition will be charged for all credits taken. Admission as a non-degree graduate student may be requested through the Office of Graduate Studies if the requirements for admission to a degree program are not met. Up to twelve graduate credits earned as a non-degree graduate student may be subsequently transferred to a degree program, if the requirements for admission are met.

THE GRADUATE RECORD EXAMINATION
Scores for the aptitude portion (the verbal, quantitative, and analytic tests) of the Graduate Record Examination are required for admission. Graduate students at Albany generally have very high quantitative scores and high analytic scores. Native speakers of English have verbal scores well above average. Foreign students are not held to the same standards as native speakers on the verbal test.

Achievement or subject area tests are not required for admission, but the examinations in computer science or mathematics are strongly recommended. Good scores on either of these subjects can improve the chances of admission.

THE TEST OF ENGLISH AS A FOREIGN LANGUAGE (TOEFL)
The TOEFL is required of all foreign students who have not studied previously in the United States. University policy dictates that foreign students, in their first year of study, may not serve in a classroom setting unless they have achieved a TOEFL score of at least 600 (250, computer-based; 100, internet based). This does not preclude an appointment as a graduate assistant for students with lower scores, since other duties can be assigned (service as a course grader, software maintenance and installation, etc.).
The Master’s Program

INTRODUCTION
The Master of Science program is a solid foundation in computer science theory and practice that will prepare a student for a career in computing. The program requires a minimum of ten regular courses; under current offerings, this amounts to 31 credit hours of study. At most six credits may be transferred from other institutions. Such transfer credits must be requested by the student promptly upon entering the program and are subject to the approval of the Graduate Committee. Along with additional requirements, the program can lead to more advanced study towards the Ph.D. or towards a Professional Science Management (PSM) certificate.

In the former case, four specific core courses are required; as a result, the Ph.D. student acquires the fundamental knowledge necessary for a research career. In the latter case, the student must complete an internship that provides practical experience through field work, and required coursework is completed only through regular structured courses and not via seminars. Then the PSM certificate (in addition to the MS degree) is obtained when the student also completes (9) additional credit hours beyond computer science coursework.

To summarize, the core requirements for the master’s degree can be completed in a neutral manner that leads to neither the Ph.D. nor the PSM. In that case, the student can graduate and receive the degree; the student is only eligible for the PSM certificate or for doctoral study when the appropriate further requirements are fulfilled.

FORMAL CANDIDACY FOR THE MASTER’S DEGREE
Students admitted to the master’s program will be recognized as formal candidates for the master’s degree upon:

- passing the Discrete Math Exam,
- the removal of all undergraduate deficiencies,
- the completion of core course requirements with at least a 3.0 average
- satisfying any special conditions as outlined in the student’s Letter of Admission.

Failure in the Discrete Mathematics Examination is considered an undergraduate deficiency that must be removed prior to admission to candidacy. Full time master’s degree students are expected to achieve candidacy by the third semester of full time study. The academic status of students who fail to achieve candidacy in a timely manner is subject to review. Students who fail to qualify under the conditions above may take additional courses at this University for not more than 6 credits in an attempt to qualify, provided their records do not include an unsatisfactory seminar or thesis.

THE DISCRETE MATHEMATICS REQUIREMENT
Every beginning graduate student must provide evidence of a basic level of competency in discrete mathematics. This competency is a pre-requisite for many graduate courses, including several required courses.
which should be taken in the first year of study. The student can demonstrate competency in discrete mathematics in two ways:

- **Passing the Discrete Mathematics Examination**
  The Discrete Mathematics Examination (DME) is given on registration day at the beginning of each term. Students can take the DME a maximum of **two times**. Please make sure you are adequately prepared when signing up for the test. A student’s grade for the examination will be a pass, or a fail. A pass permits registration for any course requiring a discrete mathematics prerequisite.

  A DME review session is administered by volunteer PhD students and is open to any student registered for the exam. Announcements regarding DME review sessions are made via Blackboard.

- **Grade of B+ or better in ICSI 521**
  ICSI 521 is offered in both the Fall and Spring semesters. Students who receive a grade of B+ or better will satisfy the discrete mathematics competency requirement. Note: you will not be able to sign up for courses with the Discreet Math Pre-requisite until ICSI 521 grades have been submitted and/or the DME has been graded. If you have registered for a course that requires this pre-requisite and you do not successfully meet the competency requirement, you will be dropped from the course.
Program Course Requirements

GRADING OF GRADUATE COURSES
The overall Grade Point Average (GPA) of courses graded A–E must be equal to at least a B (3.0). The following is taken directly from the Graduate Bulletin:

According to graduate academic standards, only courses completed with grades of A, A-, B+, B, and S may be applied to graduate course requirements and to credit requirements for graduate degrees. These requirements can also be met by courses graded B-, C+, and C only if they are balanced to a B (3.0). (Example: Three credits of B- must be balanced at least by three credits of B+).

For a detailed description of all grading policies, see the section on Graduate Regulations and Degree Requirements in the Graduate Bulletin: [http://www.albany.edu/graduatebulletin/requirementsdegree.htm](http://www.albany.edu/graduatebulletin/requirementsdegree.htm)

CORE COURSES
Every graduate MS student must complete four core courses totaling 13 or more credits, plus an additional 3 credits in either a project (ICSI 680-684), an internship (ICSI 698), or a thesis (ICSI 699). (The Thesis requirement is very similar to the Dissertation requirement; it is very involved and requires strict formatting and submission to the university, as does a dissertation.)

Both of:
ICSI 503 (3 credits) - Algorithms and Data Structures
ICSI 518 (4 credits) - Software Engineering

PLUS
Two from the following four:
ICSI 500 (4 credits) - Operating Systems
ICSI 508 (3 credits) - Database Systems I
ICSI 509 (3 credits) - Theory of Computation
ICSI 519 (3 credits) - Advanced Programming Concepts

PLUS
One from the following three:
ICSI 680-684 (3 credits) - Project (S/U graded)
ICSI 698 (3 credits) - Internship (S/U graded)
ICSI 699 (3 credits) - Thesis (S/U graded)

The core courses should normally be completed in the first two or three semesters of graduate study, and a B (3.0 GPA) average in these courses is a requirement for graduation. Core courses cannot be fulfilled using transferred credits from another institution. The requirements are a 3.0 GPA in the core and an overall 3.0 GPA.
in the program. Note that satisfaction of the discrete mathematics requirement is a prerequisite for ICSI 503. ICSI 503 can be taken in the first semester of graduate study only if a pass has been obtained on the Discrete Mathematics Examination (or by permission of the instructor).

The Internship, Project or Thesis Requirement

Masters programs have a “Culminating Requirement”. For computer science, this is a thesis, project, or internship. It is the responsibility of the student to contact faculty members to propose their own project, internship, or thesis topic, or to seek suggestions for topics from the faculty. A culminating requirement is at least three credits and is by permission number only from the supervising faculty. M.S. and Ph.D. candidates who have chosen a project or thesis topic should meet regularly with their research advisor to discuss progress and goals for remaining work. Students are encouraged to get involved with a research project as quickly as is appropriate. Students are encouraged to submit intermediate or final results to appropriate research journals.

THESIS
For details regarding the master’s thesis option, please visit the UAlbany website: https://www.albany.edu/graduatebulletin/requirements_governing_masters_degree.htm

PROJECT
Students are advised to inquire into applicable departmental research projects early in their graduate career. It may also be possible to register for a course devoted entirely to projects in a specific area such as artificial intelligence, database implementation, communication networks, etc. Information concerning the availability of such courses is available from the department office or from the schedule of classes.

Any student working on a Master’s Project without extensive programming experience in industry must complete a program of considerable complexity. Experienced programmers may choose to complete a project requiring the investigation of a research topic of interest to a member of the faculty, or one stimulated by results reported in the computer science literature, without a requirement for extensive programming.

INTERNSHIP
As mentioned earlier, the Master’s Project (ICSI 680/680C) and internship (ICSI 698/698C) are identical except that the internship must be completed in conjunction with employment in the private or public sector. The internship component of the Master of Computer Science degree is viewed as the culminating experience of your graduate academic program. It is designed to provide a meaningful opportunity for you to integrate knowledge gained during academic coursework in a professional setting. The internship must be both:

   a) worthy of a graduate student in Computer Science: a project that can be done by an undergraduate student in Computer Science or a graduate student in some other department or school is clearly not acceptable, and
   b) relevant to the student’s academic program.

CS graduate students interested in pursuing a for-credit internship (ICSI 698) are responsible for locating business sponsors, and, also, contacting, proposing the detailed job description for the internship, and securing approval of a sponsoring CS Department faculty supervisor. The CS faculty member would review a student’s internship proposal to determine that it has enough academic merit to warrant course credits in the MS
Important:
- In order to be eligible to register and begin an internship, students must have completed at least one full year of coursework.
- Internships cannot include research positions on campus or other on campus work.
- Internships cannot be performed in another country.
- All internship requests must be made prior to the start of the semester.
- You must be registered for ICSI 698/698C/680/680C during the semester in which you are completing it. No late additions or modifications are permitted.

Continuations, or extensions, for either ICSI698C internships or ICSI680C Master’s Projects are approved by the department based on academic need, and merit only.

If the student has:
1. demonstrated in the current ICSI 698 internship or ICSI 680 masters project that they have sufficiently (satisfactory) applied the skills and knowledge learned in classroom course, then ...
2. they have met the degree requirements in this area of the CS MS degree requirements, and therefore ...
3. there is no need for a continuation.

The faculty advisor and department make this determination, and their decision is final.

Please note: Both ICSI 698C and 680C are load only courses, and their 1 credit hour does not count toward the degree requirements.

CURRICULAR PRACTICAL TRAINING
Students in the US on a student visa must also process the appropriate Curricular Practical Training (CPT) or other visa related paperwork with the UAlbany Office of International Student and Scholar Services (ISSS) before they can begin working.

SPECIALIZATION REQUIREMENTS: THEORY, APPLICATIONS, SYSTEMS
All graduate students must take at least three courses (nine credits) from the following three broad areas of specialization. This must include at least one course each from both Systems and Applications. The three specialization courses cannot be independent study type courses (i.e., 68x, 694, 697, 698, 699) and must be distinct from courses used to satisfy the core requirements. (PhD students must also take 3 credits from Theory, therefore one course from each area.) Note that topics courses, i.e., ICSI 66X, do count towards the
specialization requirement. A particular topics offering will count towards one or more categories as determined by the instructor in conjunction with the Graduate Committee.

Given the number of courses in each area, this requirement does not seem to be restrictive. However, to qualify for the PSM certificate, the required non-internship credits must be from 500-level courses; some courses will not be offered every year, and some only rarely; as a result, advance planning is advisable. Course offerings for a particular year are generally determined during the spring term of the preceding year and this information will be available from the department office. Occasionally, at the beginning of a term, a course is canceled due to low enrollment. Therefore, it is advisable to determine contingency plans.

<table>
<thead>
<tr>
<th>Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICSI509 - Theory of Computation</td>
</tr>
<tr>
<td>ICSI515 - Combinatorial Algorithms</td>
</tr>
<tr>
<td>ICSI519 - Advanced Programming Concepts</td>
</tr>
<tr>
<td>ICSI521 - Discrete Mathematics with Applications</td>
</tr>
<tr>
<td>ICSI526 - Cryptography</td>
</tr>
<tr>
<td>ICSI530 - Introduction to Mathematical Logic</td>
</tr>
<tr>
<td>ICSI538 - Computational Logic</td>
</tr>
<tr>
<td>ICSI539 - Advanced data Structures</td>
</tr>
<tr>
<td>ICSI542 - An Introduction to Quantum Computation, Information, and Simulation</td>
</tr>
<tr>
<td>ICSI601 - Computability and Undecidability</td>
</tr>
<tr>
<td>ICSI604 - Computers and Computational Intractability</td>
</tr>
<tr>
<td>ICSI628 - Cryptographic Protocols</td>
</tr>
<tr>
<td>ICSI642 - Topics in Quantum Computation, Information, and Simulation</td>
</tr>
<tr>
<td>ICSI670 - Topics in Specification and Verification</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICSI501 - Numerical Methods for Digital Computers</td>
</tr>
<tr>
<td>ICSI502 - Computer Graphics</td>
</tr>
<tr>
<td>ICSI508 - Database Systems I</td>
</tr>
<tr>
<td>ICSI523 - Computational Geometry</td>
</tr>
<tr>
<td>ICSI524 - Information Security</td>
</tr>
<tr>
<td>ICSI526 - Cryptography</td>
</tr>
<tr>
<td>ICSI531 - Data Mining</td>
</tr>
<tr>
<td>ICSI532 - Network Science</td>
</tr>
<tr>
<td>ICSI533 - Theory and Practice of Multimedia Computing</td>
</tr>
<tr>
<td>ICSI535 - Artificial Intelligence I</td>
</tr>
<tr>
<td>ICSI536 - Machine Learning</td>
</tr>
<tr>
<td>ICSI539 - Advanced Data Structures</td>
</tr>
<tr>
<td>ICSI540 - High Performance Scientific Computing I</td>
</tr>
<tr>
<td>ICSI541 - High Performance Scientific Computing II</td>
</tr>
<tr>
<td>ICSI524 - Information Security</td>
</tr>
</tbody>
</table>
ICSI526 - Cryptography
ICSI550 - Information Retrieval
ICSI551 - Bayesian Data Analysis and Signal Processing
ICSI608 - Database Systems II
ICSI628 - Cryptographic Protocols
ICSI635 - Artificial Intelligence II
ICSI636 - Natural Language Processing
ICSI671 - Computer Vision

Systems
ICSI500 - Operating Systems
ICSI502 - Computer Graphics
ICSI504 - Computer Organization
ICSI511 - Programming Languages and Systems Concepts
ICSI516 - Computer Communication Networks I
ICSI517 - Compiler Design I
ICSI519 - Advanced Programming Concepts
ICSI520 - Topics in Distributed and Parallel Computing
ICSI525 - Mobile Wireless Networks
ICSI533 - Theory and Practice of Multimedia Computing
ICSI600 - Distributed Systems
ICSI616 - Computer Communication Networks II
ICSI617 - Compiler Design II
ICSI668 - Topics in System Architecture

ELECTIVES AND TOTAL CREDITS
The master’s degree requires ten courses; currently, this results in 31-32 credits of course work. All but two courses, which are required for the Ph.D., account for three credits each. The core courses account for 13-14 credits, the specialization requirements for 9-10 credits (22-24 for both), and the master’s project/thesis/internship for three or six credits. The remaining credits are elective credits that can be taken from any (500-level for the PSM) course in the department. Courses offered in other departments are sometimes allowed to serve as part of the ten course MS program but only with prior approval from the student’s advisor and the Graduate Committee. Depending upon the method of completion of the master’s project/thesis/internship, graduation with a master’s degree requires the completion of at least ten courses (including the culminating requirement).

SAMPLE THREE SEMESTER MS PROGRAM
The sample program below shows one possible program for a full-time student. The credits happen to total 34; one less course would suffice if, say, ICSI 500 (4 credits) were taken in place of ICSI 508 (3 credits). Full-time is defined as 12 or more credits per semester. International students may apply for full-time status with 9 credits in their initial semester and with less than 12 credits in their final semester only. Students for whom full-time status is unimportant may proceed at a more leisurely pace. Note that at the time this program was composed,
the courses were being given in the semester in which they are listed; but this is subject to change.

In the sample program, ICSI 518, 508, 519, and 503 constitute completion of the required core courses (except for Ph.D. students). If in this program, Cryptography were replaced by ICSI 509, the core could be considered to consist of ICSI 518, 519, 509, and 503 (and the program would include 32 credit hours). In any case, the core 3.0 GPA requirement must be met with ICSI 518, 503, and two of the optional core courses: ICSI 500, 508, 509, or 519. (Students with little background in declarative programming may be required, as part of their admission, to include ICSI 519 in their program. In such cases, as in the sample program, ICSI 519 may or may not serve as part of the core, depending upon other courses taken.)

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr. 1 ICSI503 (Alg. &amp; Data Structures, 3 hr.)</td>
<td>ICSI530 (Mathematical Logic, 3 hr.)</td>
</tr>
<tr>
<td>ICSI519 (Adv. Prog. Concepts, 3 hr.)</td>
<td>ICSI508 (Database Sys. I, 3 hr.)</td>
</tr>
<tr>
<td>ICSI531 (Data Mining, 3 hr.)</td>
<td>ICSI526 (Cryptography, 3 hr.)</td>
</tr>
<tr>
<td>ICSI550 (Inf. Retrieval, 3 hr.)</td>
<td>ICSI518 (Soft. Engineering, 4 hr.)</td>
</tr>
<tr>
<td>Yr. 2 ICSI680 (Project, 3 hr.)</td>
<td></td>
</tr>
<tr>
<td>ICSI516 (Computer Communications &amp; Networks I, 3 hr)</td>
<td></td>
</tr>
</tbody>
</table>

**FURTHER STUDY – THE PH.D.**
To continue toward the Ph.D., the culminating requirement must be met with either a project or a thesis. Ph.D. students may elect to do an internship as part of their program, but it cannot serve as their culminating requirement. The core course plus culminating requirements for continuing on to the Ph.D. are summarized below:

<table>
<thead>
<tr>
<th>ICSI 500 (4 credits)</th>
<th>- Operating Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICSI 503 (3 credits)</td>
<td>- Algorithms and Data Structures</td>
</tr>
<tr>
<td>ICSI 509 (3 credits)</td>
<td>- Theory of Computation</td>
</tr>
<tr>
<td>ICSI 518 (4 credits)</td>
<td>- Software Engineering</td>
</tr>
<tr>
<td>Plus: ICSI 680 or ICSI 699</td>
<td>- Project or Master’s Thesis³ (S/U graded)</td>
</tr>
</tbody>
</table>

**FURTHER STUDY – THE PSM CERTIFICATE**
The Department of Biological Sciences in the College of Arts & Sciences and the Department of Computer Science in the College of Engineering & Applied Sciences, in conjunction with the School of Business and the Department of Public Affairs & Policy in the Rockefeller College, have collaborated to offer an Advanced (Graduate) Certificate program in Professional Science Management. For complete details on this program, visit the UAlbany website: [https://www.albany.edu/graduatebulletin/professional_science_management.php](https://www.albany.edu/graduatebulletin/professional_science_management.php)

³ The generic MS project, ICSI 680, may be repeated for credit with permission of the department. Similarly, ICSI 697 and ICSI 699 may be repeated with permission. However, the department will not approve repeating ICSI 698 for credit. Curricular Practical Training (CPT) — which may be required for international students — will not be approved for more than two semesters.
The Doctoral Program

INTRODUCTION
The purpose of the program leading to the Doctor of Philosophy degree is to prepare the student for a career as a productive research scholar in computer science. The program is intended for students with career interests in academia, industrial research and development, or governmental research agencies. The program is designed to develop the student’s ability to: recognize and formulate significant research problems, express those using appropriate abstract models, apply theoretical and experimental techniques for their solution, and transmit the results to the scientific community. The program develops a broad understanding of computer science, and deep understanding of the major field of interest. The student will master the research methods appropriate for this major field and develop the versatility to enter new fields as they emerge.

This program of study and research requires 60 credits of graduate coursework and at least one year of research. This will amount to at least three academic years of full-time study, and typically four or more years total will be required. At least 30 of the required graduate credits beyond the baccalaureate and antecedent to final dissertation research and writing must be completed through graduate study at this University.

Students in the doctoral program are expected to be active and lively members of the department, and the academic field. Doctoral students are expected to participate in departmental colloquia, both by attending and giving appropriate colloquia. Doctoral students should also become student members of appropriate academic, professional, and research organizations, including the Association for Computing Machinery and the IEEE Computer Society. Students are encouraged to publish research results in the publications of these organizations. Also, students in the doctoral programs should be active members and leaders in departmental interest groups, academic committees, research projects, and other aspects of academic life. Every year, each doctoral student is expected to present a talk, open to all members of the department. Advanced students will describe their own research; beginners can choose a paper from the literature as their topic. You must find a faculty member to sponsor your talk. The sponsor will approve your topic, attend the talk, and ensure that at least one other faculty member also attends. You must schedule a time and place for your talk. You must prepare an announcement of your talk, giving the title, your own name, time and place and an abstract of the talk. If your talk describes a paper from the literature, include a reference to that paper.

FORMAL CANDIDACY FOR THE DOCTOR OF PHILOSOPHY DEGREE
Students admitted to the doctoral program will be recognized as formal candidates for the Doctor of Philosophy degree upon:

1. Achievement of a satisfactory record in coursework and in seminars
2. Passage of the Analytic Examination
3. Completion of the Research Tool Requirement
4. Completion of the University Residence Requirements
5. Passage of the Oral Qualifying Examination
Doctoral students are expected to achieve candidacy by the sixth semester of full time study. The academic status of students who fail to achieve candidacy in a timely manner is subject to review.

**COMPLETION OF MASTER’S PROGRAM COURSEWORK**

Students admitted to the doctoral program are expected to have completed the requirements for the master’s degree. Students who enter the program with a master’s degree in computer science may petition the Graduate Curriculum Committee for a waiver of all or a portion of the master’s requirement. The student must, in any case, show a satisfactory record in course and seminar study.

The course of study of each doctoral student is planned with a departmental advisor, who considers the student’s previous preparation, area of specialization, and professional objectives. Students in the doctoral program must complete a minimum of sixty credits of graduate course work, including: seminars, independent study projects, and research. In addition, at least one year of research leading to an acceptable dissertation is expected.

**STATUTE OF LIMITATIONS PHD DEGREES**

- Full-time study in residence, if required, must be completed within four calendar years from the date of initial registration in the program in the fall, three and one-half years from the date of initial registration in the program in the spring.
- All requirements for a doctoral degree must be completed within eight calendar years from the date of initial registration in the program.
- These statutes apply equally to students who enter with or without advanced standing and to students who formally change their areas of specialization after admission and study in any advanced program. Students should consult with their Department’s assistant to chair for other requirements concerning their degree.
- MS Degrees: All work for which credit is applied to a master’s degree, must be completed within a period of six years unless the department, School and Dean of Graduate Studies grants an extension of time.

**THE ANALYTIC REQUIREMENT**

The Analytic Requirement, when met, demonstrates analytic ability, and knowledge of formal models relevant to computer science. It consists of two groups of analytic areas: Group A is essentially fundamental computer science theory. Group B consists of more specialized sub-fields of computer science. The area of logic is treated as belonging to either Group A or Group B and thus can count as being from either Group A or Group B (but not both).

Students may fulfill the Analytic Requirement by demonstrating depth in understanding of THREE of the required areas, including ONE of the areas of type A, and TWO of the areas of type B.

Each Analytic Area is identified via a pair of courses. Depth in understanding of a given area is established in any one of three ways:

1. Take both courses of the area and achieve A- or better in both.
2. Publish a paper in a peer-reviewed venue in that area.
3. Pass an analytic exam in that area.

The Analytic Areas and the related courses on which they are based, are listed below. Note that some courses may not be offered every year.

---

5 Only the specific listed courses offered by UAlbany can be used. Courses taken elsewhere, even those for which advanced standing credit has been approved, cannot be used to meet this requirement.

6 The dissertation committee determines what constitutes an acceptable publication.
**Group A: Fundamental Theory**

Any two courses from the list below will satisfy this requirement:

- ICSI 503 Algorithms and Data Structures
- ICSI 509 Theory of Computation
- ICSI 530 Mathematical Logic
- ICSI 604 Computers and Computational Intractability

**Group B: Sub-Fields**

ICSI 500 Operating Systems

**PLUS**

One from the following three:

- ICSI 516 Computer Communications Networks
- ICSI 520 Topics in Distributed and Parallel Computing
- ICSI 525 Mobile Wireless Networks

ICSI 508 Database Systems

**PLUS**

One from the following two:

- ICSI 531 Data Mining
- ICSI 550 Information Retrieval

ICSI 517 Compiler Design I / ICSI 519 Advanced Programming Concepts

ICSI 524 Information Security / ICSI 526 Cryptography

ICSI 533 Theory and Practice of Multimedia Computing / ICSI 671 (INF 671) Computer Vision

ICSI 535 Artificial Intelligence I

**PLUS**

One from the following three:

- ICSI 550 Information Retrieval
- ICSI 635 Artificial Intelligence
- ICSI 536 Machine learning

**Group A/B:**

ICSI 530 Introduction to Mathematical Logic
ICSI 538 Computational Logic

Doctoral students are expected to pass at least one of the area examinations by the end of their third semester of study. Students in the doctoral program are expected to pass all three area exams by the fifth semester of
study. For teaching assistantships during summer, students who have passed one or more area exams will be given preference over the other students. Also, the academic status of and the financial support (if applicable) to students who do not pass the analytic examination in a timely manner will be reviewed by the department.

**RESEARCH TOOL REQUIREMENT**

Doctoral students must demonstrate proficiency in an approved research skill, appropriate to the student’s field of research. Examples of approved research skills include: a foreign language, mathematical logic, queuing models, statistics, and electronics.

**RESEARCH ACTIVITIES**

Doctoral students are encouraged to participate in research and departmental research early in their academic careers. After completing their first year of study, all doctoral students are expected to participate routinely in research seminars.

Each spring semester, the annual “New Trends in Computer Science” research symposium will be held, highlighting research topics being investigated by Ph.D. students in our program. The idea for the conference began in 2006 as New Trends in Information Research (NTIR) within the Informatics Department. Four years later the Computer Science Department began a symposium called New Trends. Refer to the Research area of this bulletin for additional information on research activities.

All graduate students are encouraged to attend departmental colloquia. Colloquium speakers include campus and outside visitors, regular faculty, and doctoral candidates. Students are encouraged to become student members of one or both, the Association for Computing Machinery (ACM) or the IEEE Computer Society.

**CONTINUOUS REGISTRATION REQUIREMENT FOR DOCTORAL STUDENTS**

All students enrolled in doctoral programs must maintain continuous registration for each fall and spring session (except for periods of official leave of absence) until they have completed all program requirements. After receiving advancement to candidacy, doctoral dissertation load and enrollees are considered full-time if registered for at least one credit in a course numbered 899. No leaves of absence are permitted after advancement to candidacy. Summer sessions cannot be accepted in lieu of registration for fall and spring sessions. A doctoral student who does not register for the fall or spring session, or who does not apply for a formal leave of absence, is subject to termination unless the student shows good cause after notification of such pending action.

**UNIVERSITY RESIDENCE REQUIREMENT**

Doctoral students must be continuously enrolled in the doctoral program for each fall and spring session until they have completed the program requirements. An exception is made for official leaves of absence. In addition, each student must engage in full-time study beyond the master’s degree or equivalent at the University in at least two sessions after admission to the advanced program. This requirement is designed to insure for each doctoral student a sustained period of intensive intellectual growth. For this purpose, a student will enroll in full-time study (12 credits) taken in each of two sessions, or in a regular session and a summer session, not necessarily consecutive, which must be completed satisfactorily, except as indicated here:
• Students authorized to register for work on a dissertation may meet this 12 credit per session requirement by satisfactorily completing a minimum of 8 earned course credits and registering for work on the dissertation for load credits that will bring the total to 12 credits for each of two sessions.

• Graduate assistants holding a full assistantship may meet the residency requirement by completing one academic year in such a position, including the satisfactory completion of a minimum of 15 registered credits during the year plus satisfactory completion of assigned duties.

DOCTORAL DISSERTATION COMMITTEE
As early as is appropriate, doctoral students must find a dissertation advisor who is willing to assume primary responsibility for supervising the student’s research. Students will select a dissertation topic in consultation with their graduate advisor, and then form a dissertation committee made up of faculty members who have a research interest in the student’s dissertation topic. This committee must consist of a minimum of three members, at least two chosen from within the College of Computing and Information, and at least one from the Department of Computer Science. The committee will decide upon review procedures appropriate to the topic, such as design reviews or oral presentations. The dissertation committee will be responsible for administering the student’s Oral Qualifying Examination, judging the suitability of the student’s dissertation during that student’s Oral Dissertation Defense.

ORAL QUALIFYING EXAMINATION
Students in the doctoral program must pass an oral qualifying examination in the field of the student’s research interest. This examination will be administered by the student’s dissertation committee, and should be completed before students begin extensive work on their dissertations. This examination will test the student’s preparation and qualification to perform research in their chosen field of study. This examination should normally be completed no later than the sixth semester of graduate study and is normally held after completion of three analytic areas.

MINOR PROGRAM OF STUDY
Doctoral candidates will engage in an approved minor program of study consisting of at least nine credits of course work offered by other departments. The minor may be waived, or reduced in scope, for students with an advanced degree in a suitable field.

PROGRAMMING PROJECT
Every student must complete a programming project of significant scope. This requirement can be satisfied by programming involved in dissertation research, by any project-oriented course numbered ICSI 68x, or by programming involved in a Master’s Project.

DISSERTATION
An acceptable dissertation represents a significant and original research contribution to the field of Computer Science. To be deemed acceptable, the dissertation must be approved by the doctoral student’s dissertation advisor and a majority of the dissertation committee.
Financial Assistance

Many forms of Financial Aid are available, including TAP and various kinds of loans. Students seeking more information on financial aid are advised to visit the Financial Aid Office in the Campus Center.

The Department sponsors and appoints awards to computer science graduate students in the form of Fellowships and Assistantships. Both include an annual stipend and tuition waiver for the pursuit of graduate study.

ASSISTANTSHIPS

Each year the department offers a limited number of state funded teaching assistantships to qualified graduate students. Teaching Assistantships provide an income to these students while they pursue their graduate degrees. A teaching assistantship includes a yearly stipend and a tuition waiver. All teaching assistants must file for TAP or be able to prove they are not a NY State resident. A teaching assistant must be a full time student and take at least 9 credits per semester (not including the summer). Because of the demand of the assistantship duties, the department recommends that teaching assistants do not attempt to take more than three regular courses per semester. A limited number of non-teaching assistantships, some in other units of the University at Albany, may be assigned to assistantship applicants. Regardless of the duties assigned to a graduate teaching assistant, the total obligation is approximately 20 hours per week.

Doctoral students who enter the University without advanced standing are limited to a total of four years of State-funded support. Doctoral students who enter their doctoral program with a master’s degree in the same field may be eligible to be appointed for a total of three years. If a student has been advanced to candidacy by the end of this funding eligibility and has been consistently funded by your department, he/she may also be eligible for an additional year of funding to support the writing of the dissertation. Requests for exceptions to this policy should be directed to the Dean of Graduate Studies.

The minimum requirements to be eligible for a teaching assistant position are a bachelor’s degree with a specialty in mathematics or a physical science and some introductory computer science courses, or a major in computer science. Proficiency in English must be demonstrated by acceptable GRE verbal scores, or for foreign students, a TOEFL score of at least 600 (250, computer-based; 100, internet based) or certification by the English department. Applications from people with teaching experience are especially welcome, provided the above minimum requirements are met.

Students will not be considered for these awards if they meet any one of the following criteria:

- has a semester GPA below 3.0,
- does not make satisfactory progress towards candidacy,
- has engaged in academic misconduct (has a VAIRS on file with the department)

---

1 Ph.D. students are given significant priority over master’s students in awarding assistantships. Masters students who do receive assistantships are usually appointed only for one semester.
Teaching assistant responsibilities can include the following:

**Leader of Discussion Sections:**
Teaching assistants may be leaders of weekly discussion sections of courses arranged in a lecture-discussion format. A normal load is two such discussions pertaining to the same course per week. The assignment includes attendance at all lectures, grading of homework and exams done by students in the assigned discussion sections, and the responsibility to hold four office hours per week. An international student who teaches a discussion section must have sufficient proficiency in English. By University regulations, this must be adequate performance in a standardized test of English competency (e.g., at least 600 (250, computer-based; 100, internet based) on the TOEFL), and certification of proficiency by the department chair.

**Grader for Courses:**
Teaching assistants can be assigned as graders for courses which do not have formal discussion sections. A normal load is 50 to 100 students with responsibility to attend course lectures and hold five office hours per week.

**Systems Programmer:**
A few systems programmers may be assigned to the Systems Administrator in order to assist with the departmental computer systems.

**Departmental Support:**
Certain teaching assistants will provide support for departmental research and educational initiatives. This may include grant writing, publications, coordination of activities, and other duties. A normal load is 20 hours per week.

If a conflict arises between a teaching assignment and the student’s academic schedule, this should be brought to the attention of the Assistantship Coordinator at the beginning of the semester in order to make an attempt at a resolution.

**Supervision:**
All teaching assistants are placed under the direction of a specific faculty member. Those faculty members who teach large lecture courses, supported by several teaching assistants, are expected to hold regularly scheduled (usually weekly) meetings at which the specific content of upcoming discussion sections is outlined in detail. Faculty who supervise teaching assistants whose responsibilities including grading are expected to show them, in detail, how assignments are to be graded, and to monitor their work before its distribution back to their classes.

**Evaluation:**
All teaching assistants will receive formal written appraisals of their performance from their faculty supervisors near the end of each semester. Shorter progress reports are expected from faculty supervisors about ten weeks into the semester, whenever they have information to impart to the department that may affect a student’s re-appointment, and/or assignment for the following semester. Teaching assistants who lead discussion sections will be student-rated at the same time as their lecturers.
**Renewals:**
Teaching assistants are typically appointed on a full academic year basis. Teaching Assistants who are candidates for the M.S. degree will be supported for no more than four academic semesters (exclusive of summer sessions which are administered separately). In accord with University-wide policy, Ph.D. candidates will not be supported through State funding for more than eight semesters (including semesters during which they may have been an M.S. candidate). The only exception is that a Ph.D. student who has achieved candidacy may be eligible for a ninth and tenth semester of support. Additional support beyond these limits must come from such non-state funds as grant-funded research assistantships or internships.

**SUMMER APPOINTMENTS**
The department may hire graduate assistants to assist in teaching undergraduate courses it offers during the summer session, either as primary lecturer or as a teaching assistant. The criteria for selecting students to fill these positions are the same as for re-appointments, namely satisfactory academic progress and satisfactory performance evaluations. For a teaching assistant to be assigned as principal lecturer in a summer course, he or she must have previously taught the course or led a discussion section in the course. Preference will be given to Ph.D. students, although exceptionally well-qualified M.S. students will also be considered for these positions.

**STUDENT ASSISTANT AND GRADER POSITIONS**
Each semester, depending on available funds, the department hires student assistants to assist with administrative and grading. These positions are part time and students are paid an hourly rate.
Research

INTRODUCTION
The department maintains various on-going research projects that provide a framework within which faculty and students conduct joint research activities with other researchers within the department, in other departments, or outside of the university. Graduate students are encouraged to become active in departmental research projects early in their academic career. For many doctoral students, these on-going research projects will provide an important framework for their research. For some master’s students, these projects may provide the focus of a master’s project. Also, these projects may provide a small number of research assistantships each year.

FACULTY RESEARCH INTERESTS

Pradeep K. Atrey, Associate Professor, Ph.D., National University of Singapore
Security and Privacy with a current focus on the following sub-areas:
- Multimedia surveillance for homeland security
- Privacy issues in multimedia surveillance systems
- Encrypted domain processing of big multimedia data over cloud in applications such as surveillance and medical image rendering
- Privacy-aware novel architectures for and large data analysis in online social networks
- Multimedia data security and forensics
- Multimedia data mining

Prabir Bhattacharya, Professor, D.Phil., University of Oxford
In recent years research has focused mainly on applying computational techniques to various problems in image understanding and cyber security. I have applied techniques of statistical pattern recognition, computer vision and machine learning to problems such as medical imaging, video surveillance, navigation during GPS outages, sensor fusion, digital watermarking and environmental engineering (e.g., pollution detection). I have developed techniques for the detection and classification of the basic facial expressions from face images. Also, we have used game-theoretic methods for some applications such as biometrics-based person identification, intrusion detection in wireless networks and data replication. I have been collaborating on a project to develop a cognitive system for robots using a multi-disciplinary approach that synergizes biofeedback, machine learning, information fusion and human-machine interaction. My research interests also include deep learning and big data analysis.

Petko Bogdanov, Assistant Professor, Ph.D., UC Santa Barbara
Research is broadly in the area of data mining. In particular, my focus is on scalable algorithms for finding patterns in large datasets arising in social media, communication networks, transportation and in the life sciences. I am also interested in nanomaterials informatics seeking to design and discover functional nanomaterials based on observational data. For more details on my current and past projects, take look at the Research section of my group’s website http://www.cs.albany.edu/~petko/lab/.
Charalampos Chelmis, Assistant Professor, Ph.D., University of Southern California
My research is in deciphering the structure and dynamics of complex, massive, and high-dimensional datasets. My goal: advance Network Science, Big Data Analytics, and Machine Learning towards engineering a better world. My projects explore network-based and machine learning-based approaches to automatically characterize social interactions, discover the structure of in-formation networks, and predict the evolution of networks and individuals in them.

Mei-Hwa Chen, Associate Professor, Ph.D., Purdue University
Research interests are in developing techniques and tools to facilitate effective development and maintenance of heterogeneous software. Current research projects include (1) architecture-based software reliability modeling: developing a state model using formal descriptions of software architectural styles and a Markov-based software reliability model. (2) Software change impact analysis: develop a UML-based model supporting multi-phased hierarchical views of software change impact analysis. (3) Modeling and testing distributed and concurrent component-based systems: utilize component composability to develop a test model for automatic testing of distributed and concurrent component-based systems. (4) Object-oriented software analysis and testing: develop an efficient algorithm for object-flow analysis to facilitate object-flow based testing strategy.

Feng Chen, Assistant Professor, Ph.D., Virginia Tech
Research is focused on the detection of emerging events and other relevant patterns in the mobile context and/or data mining of spatial temporal, textual, or social media data. Examples of applications include disease outbreak detection using public health data, such as hospital visits and medication sales; detection and prediction of crime events using historical crime record and streaming twitter data; and crowdsourcing human mobility and social media data to detect traffic congestion, air pollution, and power leakage.

Previously a postdoctoral researcher in the Event and Pattern Detection (EPD) Laboratory and the iLab at Carnegie Mellon University, where Dr. Chen worked with Daniel B. Neill and Ramayya Krishnan. I got my Ph.D. from the Computer Science Department at Virginia Polytechnic Institute and State University under the advising of Chang-Tien Lu; M.S. from the School of Computer Science at Beijing University of Aeronautics & Astronautics University in Mar. 2004 and B.S. from the School of Computer and Communication at Hunan University. During his doctoral studies, he also worked at IBM T.J. Watson Research Labs.

Chinwe Ekenna, Assistant Professor, Ph.D., Texas A&M University
My research centers on intelligent motion planning applied to robotics and proteins. I have explored intelligent adaptation of robotic motion planning to improve planning time and the utilization of available methods to improve overall quality of results. My research interests include Robotics, Machine learning, and Computational Biology.

Jeong-Hyon Hwang, Associate Professor, Ph.D., Brown University
The goal of my research is to build highly usable information systems that can help individuals and organizations make smart decisions at the right moments. Crucial challenges in this research include collecting, processing, and delivering relevant information in an efficient, scalable, and fault-tolerant manner.

My recent work centered on highly available processing of real-time data streams in the context of the Aurora/Borealis project. In addition to several general recovery techniques, I developed customized solutions for two popular types of computing environments. For commodity server clusters, I devised a fast recovery
technique in which processing modules on each server are backed up on different servers and thus can be recovered in parallel. For the Internet, I developed an approach where multiple processing replicas send outputs to downstream replicas, allowing each replica to use whichever data arrives first. This approach also deploys replicas at locations that effectively improve both performance and availability. In addition to this work, I have studied problems in load balancing, data dissemination, and concurrency control.

My ongoing research spans server clusters, the Internet, and sensor networks. This research aims to develop information systems that can efficiently integrate diverse live and stored data, such as Web feeds, sensor signals, audio/video streams, images, text, and database tables.

Vladimir Kuperman, Professor of Practice, Ph.D., Mendeleyev University of Chemical Technology, Moscow
My areas of interest are information and computer technologies, computer networking, computer-based learning, mathematics for decision making and global economics.

Siwei Lyu, Associate Professor, Ph.D., Dartmouth College
The space of all possible images is huge – there are more than 101000 different 8-bit gray-scale images of size as small as 21 × 21 pixels – but not all of these images are equally likely to be encountered by an imaging device such as the eye or a camera in the natural environment. Only a tiny fraction of visual images, loosely tagged as photographic images, reflect structures in a natural scene. My major research interest has revolved around developing statistical models that characterize this non-uniform distribution of photographic images on image space.

Such models are important to a variety of applications in image processing, computer vision and graphics. For instance, image restoration such as denoising and inpainting may be viewed as looking for the most likely photographic image that is “close to” the corrupted image. Image compression is essentially equivalent to assigning a larger proportion of available bits to encode the more likely photographic images. Problems such as super-resolution and image synthesis involve sampling “photographic-looking” images from the image space, subject to some extra constraints. In addition, many image analysis and forensics problems may be solved with a classification of photographic images and images undergone “un-natural” tampering. However, a naive way of examining a large set of photographic images to determine how they distribute will not work, as the amount of data needed grows exponentially with the number of pixels. This “curse of dimensionality” makes construction and computation of a statistical model for photographic images very challenging. Current and Recent Research: My research work spans multiple levels of focus, from a MRF-based joint probabilistic model of photographic image wavelet coefficients, to a non-linear image representation with perceptual relevance, to a concise image feature characterizing photographic images in the wavelet domain, all of which aim to construct effective statistical description of photographic images with feasible computation load. I applied these techniques to solve problems in image processing, analysis and forensics.

Amirreza Masoumzadeh, Assistant Professor, Ph.D., University of Pittsburgh
My research interests revolve around information security, privacy, and trust in modern computing systems. I am interested in developing theories and mechanisms for protecting information in complex systems such as online social networks and for enabling data sharing while preserving user privacy. In addition to the theories in the security/privacy domain, I am inspired by the work in formal methods, knowledge representation and reasoning, data mining, and information system design among others.
More particular research topics include theoretical models and mechanisms for specification, verification, analysis, and testing of access control policies; their application in online social net- works; browser security; privacy-preserving data sharing and mining of complex data such as graphs; privacy-enhancing technologies in domains such as web and location-based services.

**Paliath Narendran, Professor, Ph.D., R.P.I.**

My main area of research is Automated Reasoning and its applications. The main focus is on computational issues (such as decidability and complexity) in equational reasoning. In particular, I am interested in the area of equational unification, especially in theories with associative and commutative operators.

The main application that I am interested in is protocol verification—ascertaining whether cryptographic protocols (i.e., protocols that use cryptographic algorithms) are secure. I am currently working on unification problems that are relevant in protocol analysis.

**Shaghayegh Sahebi, Assistant Professor, Ph.D., University of Pittsburgh**

The goal of my research is to find interesting and useful patterns from human-behavior data in online systems. It includes application of machine learning in recommender systems, educational data mining, and social networks. My research is focused on finding creative ways to use external information and complex and heterogeneous data in these problems, adopting approaches such as transfer learning, tensor factorization, and topic models. More specifically, I have been doing research on:

1. The cold-start problem in recommender systems: How to use external information to recommend interesting items to users from whom we do not have enough data or to recommend the new items that have not been seen by many users yet.

2. Cross-domain recommendations: How to recommend items in one domain (e.g., perfumes) to users, based on their taste or history in another domain (e.g., movies)? What are the domains that match each other the best? How can we transfer useful information from one domain to another?

3. Community-based recommendations: How can we use different user communities in recommending interesting items to users? Would using friendship networks help in achieving better prediction of user interests?

4. Predicting student performance: How can we predict students’ scores in the next problem or quiz, based on their studying history?

5. Domain knowledge modeling for learning material: How can we automatically annotate every book chapter, problem, video, etc. with the concepts that they are presenting to students?

6. Student behavioral pattern discovery: What are the behavioral patterns of successful and un- successful students in online educational systems? Can we detect their future performance early-on using their initial patterns?

7. Personalized learning: What is the best learning material for a student to study next, given the student’s state of knowledge, goals, and past performance?
Tomek Strzalkowski, Professor, Ph.D., Simon Fraser University
My research interests are in natural language processing (NLP) and information processing and retrieval. I have been doing work in the following areas:

1. Computational Linguistics: robust text processing, information extraction, fast parsing, semantic analysis and discourse processing.

2. Information Retrieval: automated indexing, linguistic indexing, topic detection and tracking, spoken language filtering and retrieval, cross-lingual retrieval, interactive IR.


4. Automated Question Answering, interactive QA systems, and information quality.


8. Artificial Intelligence: meaning representation.

Qi Wang, Lecturer, M.S., California State University
My areas of interest are Object-Oriented Programming, Data Structures and Algorithms.

Mariya Zheleva, Assistant Professor, Ph.D., UC Santa Barbara
My research interests include spectrum measurement and management, architectures and protocols for heterogeneous traffic networks, network measurement and evaluation, small autonomous cellular networks and in-situ network deployment, particularly in challenging areas (e.g., rural Africa and agricultural U.S.). You can find out more about active projects on the UbiNET Lab webpage (http://www.cs.albany.edu/~mariya/lab/).
Graduate Committees

THE GRADUATE CURRICULUM COMMITTEE
The Graduate Curriculum Committee proposes or evaluates curricular requirements for all graduate programs and proposals for new courses or changes in existing ones. It oversees the advisement of graduate students and appoints temporary committees to write and proctor graduate examinations. The committee also evaluates the performance and progress of graduate students with assistantship appointments and recommends the continuation or termination of such appointments. Finally, any student who wants graduate credit for a course taken outside our department must have the approval of the Graduate Curriculum Committee. This includes courses taken in other departments at SUNY, and courses taken at other schools.

THE GRADUATE ADMISSIONS COMMITTEE
Applications for admission to graduate programs are submitted directly to the university’s Office of Graduate Studies where they are held until all required information is received. They are then sent to the department where they are circulated to members of the Graduate Admissions Committee. Committee members evaluate the applications and return their admission decision through Graduate Studies to the applicant. Applicants who request financial aid are given a preference order for available assistantships and offers of aid are made after meeting jointly with the Graduate Curriculum Committee to determine which current appointments should be renewed and how many offers should be made to new applicants. Some applications are held for possible subsequent offers if some offers are refused. Others are informed of the unavailability of support.

THE COMPUTER OVERSIGHT COMMITTEE
The Computer Oversight Committee oversees the design and operation of the department’s computer network and supervises the graduate students assigned to the maintenance and improvement of the network software. Professional staff responsible for the operation of the network report to the chair of the committee. Policy for account availability and continuation is proposed by the committee and the use of available funds for the improvement of the network is recommended by the committee. The committee meets with the staff of the Computing Services Center of the university to provide recommendations for computing facilities necessary for the support of the instructional program in computer science, at both the graduate and undergraduate levels, and to evaluate the impact of center proposals on the computer science program.
Appendix A: Contact Information

COMPUTER SCIENCE DEPARTMENT  
University Administrative Building, Suite 400  
Email: csdept@albany.edu  
Phone: (518) 437-4950

INTERNATIONAL STUDENT AND SCHOLAR SERVICES (ISSS)  
Science Library G-40  
Email: isss@albany.edu  
Office Hours 9am to 5pm EST  
Monday, Tuesday, Thursday & Friday Walk-In Advisement 9am to 4pm Advising also available by appointment.

Phone: 518-591-8172  
Fax: 518-591-8171

International Insurance Office  
Monday through Friday 9am to 4:30pm EST  
Email: IntInsurance@albany.edu

OFFICE OF FINANCIAL AID  
Campus Center G-25  
Email: sfc@albany.edu  
Phone: (518) 442-3202  
Fax: (518) 442-5295

OFFICE OF CAREER AND PROFESSIONAL DEVELOPMENT  
Science Library - G50  
Email: career@albany.edu  
Office Hours: M – F  8:00am - 4:00pm  
Drop-in Hours:  
Tuesday 2:00-4:00pm  
Wednesday 12:00-2:00pm  
Thursday 10:00-12:00pm

OFFICE OF GRADUATE EDUCATION  
University Administrative Building, Room 121  
Email: graduate@albany.edu  
Phone: (518) 442-3980  
Fax: (518) 442-3922

OFFICE OF THE REGISTRAR  
The Registrar’s Office is responsible for registration related activities, the University’s academic calendar, issuance of official transcripts, awarding of degrees, the schedule of classes, grading, and administration of the Family Educational Rights and Privacy Act (FERPA), and other matters of record.  
Campus Center, B52  
Email: registrar@albany.edu / scheduling@albany.edu / degreesservices@albany.edu  
Phone: (518) 442-5540  
Fax: (518) 442-5532
Appendix B: Internship Forms

This document describes the steps to be taken by a student and intended sponsoring business mentor to establish a for-credit-internship through CSI 698/698C. (All forms required for submission are included at the end of this document.)

1. Student identifies a sponsoring business, mentor in the business and obtains an offer for an internship position. Students interested in pursuing an internship are responsible for locating interested business sponsors for their internships. The internship positions must demonstrate the ability to put science and/or managerial preparation to work in business, industry, or government. The CS department and faculty do not directly assist students in this process. The UAlbany Office of Career Services, IEEE Job Sites post information about companies with possible internship opportunities. Interested CS students may use the campus service to aid in finding a business sponsor, or a student may identify a sponsoring company individually through various on-line research, personal contacts, or referrals. Additionally, the student must identify a mentor within the sponsoring business who will act as their supervisor during the internship.

2. After obtaining an offer of an internship, the student approaches a regular CS faculty member and requests him/her to act as the faculty supervisor for the internship and asks permission to enroll in the faculty member’s 698/698C internship section. The student must submit a completed “Internship Credit Request Form for CSI 698/698C” to the faculty member along with: (a blank template of the form is attached at the end of these instructions)

   a) A copy of the internship job offer from the sponsoring business, AND,

   b) A written proposal, prepared by the student, of the job description for the internship.

   The student and their intended business mentor may jointly develop the job description, but it must have sufficient detail to allow the Computer Science Department to determine the internship’s academic value to the student’s program of study, relevance and technical level as a professional elective in the Computer Science program. This description is also required to document the validity of the internship for program accreditation. To be considered for academic course credit for the internship, the proposed work description must include:

   • Description of the specific work planned to be performed, its value to and impact on the business sponsor.

   • Explanation of the relevance of the internship work content to their academic program.

   • A listing of knowledge, skills and outcomes acquired from the student’s computer science courses, which the student and sponsor expect to be applied, or utilized, during the internship.

   • A copy of the completed “Internship Business Mentor Information Form for CSI 698/698C” form, signed by the sponsoring business mentor and confirming the active employment dates, payroll status of the student with their business or agency.

3. The faculty supervisor reviews the student’s request and all submitted support information and decides to either approve, and gives permission to enroll in 698/698C, or deny the request.

4. International students on F-1 visas whose internships are approved by faculty supervisors, must check and work with ISSS for what, if, any additional paperwork and approvals are necessary for them to begin work at their internship.
5. At the conclusion of the internship, the student prepares and submits a final report to his/her business mentor and faculty supervisor (a blank template of the form is attached at the end of these instructions). The report must include:
   - Description of the final work results of the internship.
   - Description of how the internship work results met the original proposed goals and objectives:
     - What goals and objectives were accomplished, and what specific academic course work helped in preparing them to be able to achieve the results.
     - What goals and objectives were not met, and why not.
   - What new, unanticipated challenges were encountered during the internship.
   - What changes, or improvements, could be made to the Computer Science program to better prepare future internship students for such challenges?

6. The sponsoring mentor reviews final report, completes the Business Mentor's Internship Evaluation Form for CSI 698/698C and returns it, along with a copy of the final report to the supervising faculty member from the Computer Science Department. (A blank template of the form is attached at the end of these instructions)

7. The faculty supervisor reviews the student’s final report, and mentor evaluation and assigns the appropriate final course grade.
Internship Credit Request Form for CSI 698/698C
To be completed by the student and submitted to the Computer Science Department Faculty Supervisor

(Please Print)

Student Name: ___________________________ Date: ______________
ID# __________________ Email: __________________________ Phone: ___________

I hereby request that I be allowed to enroll in CSI 698/698C Internship in Computer Science, with the following business sponsor listed below.

1. Is this a paid internship position?  Yes  No  (Circle one)
2. __________ Start date (when student will actually begin employment at the business or agency)
3. __________ End date (expected last day of work by the student at the business or agency)
4. Name and address of sponsoring business:
   __________________________________________
   __________________________________________
   ________________________________

While at the sponsoring organization, I will be under the direct supervision of the mentor listed below:

5. Name and title of Mentor from the sponsoring business: __________________________
6. Phone and e-mail of Mentor: __________________________

I understand, and will comply, with all the instructions and policies of the Computer Science Graduate Internship Program as described in the “CSI698/698C_Internship_Instructions”. Further, I understand it is my responsibility to immediately notify my faculty supervisor and ISSS, in writing, should any changes in my active internship employment status, or academic program, occur during the approved time period for the internship which would impact my ability to complete the internship.

_________________________________________  ________________________
Signature of Student  Date

Approval of faculty sponsor:

_________________________________________  ________________________
Signature of Faculty Supervisor  Date

Write and attach a formal job description for the internship per the requirements described in the internship instructions.
Internship Business Mentor Information Form for CSI 698/698C
To be completed by the student and submitted to the Computer Science Department Faculty Supervisor

(Please Print)

Student Name: ___________________________ Date: ______________
ID# __________________ Email: __________________ Phone: ____________

1. Is this a paid internship position?  Yes  No  (Circle one)
2. ___________Start date (when student will actually begin employment at the business or agency)
3. ___________End date (expected last day of work by the student at the business or agency)
4. Name and address of sponsoring business:
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________

Mentor Name: _______________________________ Title: ____________________________
Email: ________________________________

By signing, I confirm the student active employment dates, and payroll status as indicated above, and
that I have reviewed and approved that the internship job description proposal prepared by the student
will have a positive value and impact on my business or agency.

_____________________________________________  ________________
Signature of Sponsoring Mentor                      Date
Internship Business Mentor Evaluation Form for CSI 698/698C
To be completed by the student and submitted to the Computer Science Department Faculty Supervisor

(Please Print)

Student Name: ___________________________ Date: __________

1. __________ Start date (when student began employment at the business or agency)
2. __________ End date (last day of work by the student at the business or agency)
3. Name and address of sponsoring business:

Mentor Name: ___________________________ Title: ___________________________

Email: ___________________________

Please provide a summary evaluation of the student’s performance in the internship for your organization:

____________________________________________________________

____________________________________________________________

____________________________________________________________

____________________________________________________________

Optional:
If you were to assign a letter grade to the Intern’s performance, what would it be?:

A  B  C  D  F  (circle one)

__________________________________  ___________
Signature of Sponsoring Mentor  Date
Appendix C: Academic Integrity and Department Grievance Policy

ACADEMIC INTEGRITY
Cheating is viewed by the University as Academic Dishonesty and committing such acts is a breach of integrity and is subject to penalty. Cheating by any student in the class hurts every student in the class, and the entire college, by destroying the quality of our program, and the value of the very degrees every student is trying so hard to earn to secure a well-paying job after graduation.

The CS department faculty and leadership has ZERO tolerance for cheating in our classes and will move swiftly to apply sanctions and penalties as prescribed by University policy to all students caught cheating. Violations of Academic Integrity Reports (VAIRs) will be filed with the department, the College and Graduate Education for all infractions. Receiving more than 1 VAIR is regarded as an especially serious subversion of academic integrity, and can result in disciplinary action, suspension or expulsion.

One last point for CS students caught cheating to be aware of: UAlbany Graduate Bulletin’s Policy on Academic Integrity states that “a student's record of violations of academic integrity may be communicated by the department and university to graduate or professional schools or employers who request such information about applicants who have attended the University at Albany.”

DEPARTMENT GRIEVANCE POLICY
This is the policy governing all grievances between students and the faculty or department in the Department of Computer Science at the University at Albany.

DISCUSSION WITH FACULTY/INSTRUCTOR
In all issues involving grades or other issues involving a specific course, the student must first discuss the matter with the course instructor. After a full discussion with the student, and weighing all the factors, the faculty member must make a decision and communicate it to the student. This notification should take the form of an email or other method that produces a record that may be kept and subsequently consulted. This process of discussion with the student and making a decision must be done by the faculty member within two weeks of being notified of an issue by the student. The two weeks maybe extended only during periods when the university is not is session, or other extraordinary circumstances approved by the Department Chair. If a grade is to be changed, it must be submitted to the University within one week of the decision being given to the student.

APPEALS TO THE DEPARTMENT
If the parties to a grievance are not satisfied with the result of the first level process (above), they may appeal to the Department. The appeal is initiated by the student notifying the Department using the CS Department Grievance Appeal Request form given at our department website. The Department will assign accepted appeals to an ad hoc faculty appeals committee. The committee will have members from the department faculty and staff as the Chair deems appropriate for the situation. The number and membership are at the discretion of the Chair, although faculty members directly involved in the issue must not be on the committee. If the Chair is directly involved in the issue, they will designate another department member to act in their stead for the appeal. The committee will have four (4) weeks to consider the appeal and make a decision. Appeal requests to the department are to be submitted to the CS Department email (CSDept@albany.edu) using this form.
Appeal requests will only be considered by the Department if submitted within one (1) month of the documented, initial grievance discussion with the course instructor. Submitted grievance requests (within the 1-month window) will be reviewed by a faculty appeals committee. All appeal requests, notification of acceptance for review by the Department, additional communication with the student, and notification of final decision by the faculty appeals committee are handled in writing via the CSDept email. *Grieving students are not to contact nor attempt to discuss appeals with any faculty or staff during the review process.*

**APPEALS BEYOND THE DEPARTMENT**

If the student or other parties are not satisfied with the Department grievance or appeal procedures, they may appeal to the College of Engineering and Applied Sciences. This procedure is initiated by notifying the Dean’s Office and is governed by the policies of the College of Engineering and Applied Sciences.