

William Paterson University of New Jersey
Department of Computer Science
College of Science and Health
Course Outline

1. TITLE OF COURSE AND COURSE NUMBER: CIS Internship; CS395 Credits: 3
(Elective for Computer Information Systems Minor)
(Free elective for other disciplines)
2. DESCRIPTION OF THE COURSE: This course provides field experience in the Computer Information Systems profession. An agency provides the environment and general supervision during the experience while a faculty member meets with the student on an ongoing basis to relate the field experience to the Computer Information Systems profession.
3. COURSE PREREQUISITES:
Approval of the Curriculum Committee, GPA of B, and CS255.
4. COURSE OBJECTIVES (in detail):

To provide a mechanism for students to participate in a field experience within the profession.

The type of field experience would be depending upon the particular position.

To apply knowledge to problem solving in a real-world professional setting.

The type of knowledge would be depending upon the particular position.

To develop a sense of responsibility and a professional attitude toward work assignment.

A key component of internship is student maturation through keeping punctual regular working hours, experiencing the work ethic (not just textbooks and quizzes but work as a process), developing good work habits (such as not procrastinating, applying effort on large projects over long periods of time lasting days, even weeks), and developing an industrious stamina. Determination to complete a large project or activity is a vital component of becoming part of the work force. Such a dedication must be developed in students, contrary to the nature of most modern students "just out of high school". Only in an internship can such values be instilled.

To further develop communication, interpersonal, and team-working skills.

Students will be expected to:

- a. develop an appreciation of workplace interpersonal dynamics,*
- b. not just passively be a spectator in class proceedings but become part of an integrated team depending on their responsible completion of assignments*
- c. demonstrably participate or perform significant tasks in that framework*

To learn the importance of prioritizing tasks and time management.

While most students have a lax sense of time, interns will be operating with a structured time schedule both in terms of the work day organization and longer

term project completion deadlines. Determining what is critical and what is secondary is a standard aspect of adapting to an internship position.

5. STUDENT LEARNING OUTCOMES:

Upon completion of the course, students will be able to:

- a) Effectively express themselves in written and oral form
Measure: student initial proposal (for permission from Curriculum Committee to initiate internship procedures) and more importantly, the final written report
A public oral presentation of the internship's accomplishments can be arranged (such as an "Internship Presentation Day").
To a lesser extent, the field supervisor's report may give some insight into the student's communicational skills.
- b) Demonstrate ability to think critically
Measure: The field supervisor's report is a valuable objective measure here, since critical thinking under pressure and in the work environment is best observed by the overseeing agent. Also, the student's written report should cite particular instances of demonstrated critical decision making and reasoning in an analytic manner.
Situations such as fault diagnosis, system design, or system performance analysis would fall under this category. The faculty sponsor would also need to determine the degree of critical thinking applied as part of evaluation of the student's work.
- c) Locate and use information for problem solving
Measure: The external field supervisor should provide some background on sources of reference and the level of usage in the context of the internship. Sources of information would include manuals, company library/references, internal company documents, company resident experts, consultants, and public libraries as offline resources. Online resources include the web (manufacturer driver download sites, support sites, email-forums with threads on specific problems (informal but often the only resort in situations where very specific problems have no formal documentations)), requests for assistance via Usenet, emailing the technical support staff at the manufacturer, ..
The student's written report should cite specific instances of utilizing these resources and also some statements on the degree of usage in general. Also the faculty sponsor's report should assess this characteristic based on observations or directly questioning student in a practical oral exam style.
- d) Demonstrate ability to integrate knowledge in a coherent and meaningful manner to solve real-world problems
The effective application of the knowledge plays a central role in most CIS internships. After locating the information, applying it is necessary, as the particulars of the internship responsibilities would require. For instance, once a networking problem has been diagnosed, the treatment requires reconstructing configuration files,

finding equivalent components if a part failed and that part is no longer made of supported, or other plans of actions. Even if one finds a solution from an informal source (such as common-problem blogs), is their solution reliable or consistent with the manuals, trade-books, and textbooks. One must weigh several sources in mission critical situations to determine what is feasible, optimal, or even if the solutions poses side-effects which may create a worse situation or less stable/manageable platform in the long term .

Measure: The field supervisor can cite instances of problem solving via knowledge integration.. The student's report would also be judged in terms of complexity of problem-solving (and other expected activities) and the effectiveness of applying knowledge from sources in a manner beneficial to the target institution.

e) Work with others on a team

Measure: The field supervisor's report is the best objective measure of the process of daily cooperative work and contribution to group dynamics . The student's report would be subjective and episodic in citing instances of social interaction but not from the team perspective.

f) Prioritize tasks and efficiently manage the time

Measure: The student report can express the student's subjective experiences in developing time management and other pragmatic skills. A better measure is the field supervisor, who observes his work, times it, sees him perform on a daily basis, and establishes exact time lines for completion of each activity.

In summary, achievement of these outcomes will be assessed based upon:

- report from the external field supervisor
- report from the faculty sponsor (both weekly and final),
- the student's final written report,
- a survey/questionnaire formulated for internship assessment.

6. TOPICAL OUTLINE OF THE COURSE CONTENT:

Any type of internship work related to the CIS minor program or the Computer Science major would be considered. Since this internship program is a 300-level course, the nature, level, and quality of the internship work must meet those standards to be approved by the Curriculum Committee of the Department.

7. GUIDELINES/SUGGESTIONS FOR TEACHING METHODS AND STUDENT LEARNING ACTIVITIES:

Internship requires the mutual cooperation of student and field supervisor in a professional workplace experience context and development resultant thereof. Projects will be assigned based upon the job context. The selectivity of the Curriculum Committee will determine and guarantee that such activities are commensurate with a CS course at the 300-level. Regular discussions with the faculty sponsor will permit students opportunities