

**UNIVERSITY OF NEBRASKA AT OMAHA  
COURSE SYLLABUS/DESCRIPTION**

Department and Course Number	CSCI 4990
Course Title	Independent Studies
Course Coordinator	Stanley Wileman
Total Credits	1–3 (variable credit)
Date of Last Revision	June 12, 2003

1.0 COURSE DESCRIPTION

1.1 Overview of content and purpose of the course

This is a variable-credit course designed for the junior or senior computer science major who will benefit from independent reading assignments and research-type problems. Independent study makes available courses of study not available in scheduled course offerings.

1.2 For whom course is intended

This course is intended primarily for juniors and seniors in computer science who can identify an area of study not normally available in regularly scheduled courses, who possess the maturity to do independent study, and who can identify a faculty member willing to supervise their work.

1.3 Prerequisites of the course (courses)

Junior or senior standing, permission of a supervising faculty and approval of the undergraduate program committee. A formal proposal identifying the problem area to be investigated, the resources to be used, and the results to be produced must be prepared. A copy of the form currently in use is provided (below).

1.4 Prerequisites of the course (topics)

The specific topics appropriate as prerequisites for this course depend on the particular problem area to be studied. It is primarily the responsibility of the supervising faculty, and (to a lesser extent) the undergraduate program committee, to verify the student has suitable background.

1.5 Unusual circumstances of the course

None

2.0 OBJECTIVES

2.1 Study a topic not normally covered in regularly scheduled courses.

2.2 Perform the necessary initial research to identify a suitable problem area and identify resources that might be used in further study.

2.3 Meet regularly with the supervising faculty to discuss progress and to obtain suggestions for further study.

3.0 CONTENT AND ORGANIZATION

3.1 Topics to be covered in this course

The topics covered in the course depend entirely on the subject area of the independent study.

3.2 Organization

A typical independent study will be proposed to a faculty member and approved by the undergraduate program committee prior to registration. A student will at that time already have a formal statement of the problem prepared (as approved by the supervising faculty). It is typical that the student will meet with the faculty on a regular basis. Toward

the end of the semester the student will focus on writing the formal report of the independent study so it can be completed and submitted by the end of the semester.

Many independent studies involve problem analysis and implementation of a solution. This work may require the use of additional computing resources not normally provided in regularly-scheduled courses.

#### 4.0 TEACHING METHODOLOGY

##### 4.1 Methods to be used

Students complete reading and research tasks on their own, frequently consulting the supervising faculty member.

##### 4.2 Student role in the course

Each student has the responsibility to devote sufficient time to the independent study to complete the required reading and research tasks. Additional tasks (e.g. problem analysis and software development) may be included in the work specified in the independent study proposal. All students are required to produce a formal written report summarizing their work.

##### 4.3 Contact hours

This is a variable credit course. Students may obtain between one and three hours of credit in a semester. The actual number of hours of credit that may be obtained in a single semester depends on the particular topic to be investigated, and the depth of study proposed.

#### 5.0 EVALUATION

##### 5.1 Types of student projects used for evaluation

Each student will be evaluated on the written report. The faculty will also evaluate the student using criteria specified in the formal proposal approved prior to the beginning of the independent study.

##### 5.2 Basis for determining the final grade

The final grade is determined using the criteria established by the supervising faculty and documented on the the independent study proposal.

##### 5.3 Grading scale

The grading scale for each independent study is established by the supervising faculty and documented on the the independent study proposal.

#### 6.0 RESOURCE MATERIAL

Resource materials are expected to include textbooks and research papers in scholarly journals. Material from the web and other unpublished works may be used as the basis for the study with the approval of the supervising faculty.

#### 7.0 Estimate Computer Science Accreditation Board (CSAB) Category Content (class time in hours):

Although it is impossible to classify the material covered in a generic independent study at the junior/senior level, it is anticipated that the majority of the work will fall in the advanced CSAB categories. The hours involved with an independent study are not traditional classroom hours. An estimate for comparison purposes is that the equivalent of 10 hours of lecture on core topics and 35 hours of lecture on advanced topics will be covered.

#### 8.0 Oral and Written Communication

Every student is required to submit at least 1 written reports (not including exams, tests, quizzes, or commented programs) to typically 30 pages and to make 0

oral presentations of typically \_\_\_\_\_ minutes duration. Include only material that is graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.

9.0 Social and Ethical Issues

These issues may be covered in some independent study activities.

10.0 Theoretical content

Some independent study activities may cover theoretical topics.

11.0 Problem analysis

Independent studies, in particular those which include development of software to illustrate principles and concepts, will include some problem analysis.

12.0 Solution design

Many independent studies will include development of software that illustrates a principle or concept being investigated. The problem design and implementation will thus be part of the required work for the independent study.

**CHANGE HISTORY**

<i>Date</i>	<i>Change</i>	<i>By whom</i>	<i>Comments</i>
6/12/2003	Added ABET-specific sections and copy of proposal form.	Wileman	

