

ARIZONA STATE UNIVERSITY

GENERAL STUDIES PROGRAM COURSE PROPOSAL COVER FORM

Courses submitted to the GSC between 2/1 and 4/30 if approved, will be effective the following Spring.

Courses submitted between 5/1 and 1/31 if approved, will be effective the following Fall.

(SUBMISSION VIA ADOBE.PDF FILES IS PREFERRED)

DATE June 27, 2012

1. ACADEMIC UNIT: Computing, Informatics and Decision Science Engineering (CIDSE)
2. COURSE PROPOSED: CPI 485 Informatics Capstone 1 3
(prefix) (number) (title) (semester hours)
3. CONTACT PERSON: Name: Kurt VanLehn Phone: x7-6348
Mail Code: 8809 E-Mail: Kurt.vanlehn@asu.edu
4. ELIGIBILITY: New courses must be approved by the Tempe Campus Curriculum Subcommittee and must have a regular course number. For the rules governing approval of omnibus courses, contact the General Studies Program Office at 965-0739.
5. AREA(S) PROPOSED COURSE WILL SERVE. A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study. **(Please submit one designation per proposal)**

Core Areas

Literacy and Critical Inquiry-L ☒
Mathematical Studies-MA ☐ CS ☐
Humanities, Fine Arts and Design-HU ☐
Social and Behavioral Sciences-SB ☐
Natural Sciences-SQ ☐ SG ☐

Awareness Areas

Global Awareness-G ☐
Historical Awareness-H ☐
Cultural Diversity in the United States-C ☐

6. DOCUMENTATION REQUIRED.
(1) Course Description
(2) Course Syllabus
(3) Criteria Checklist for the area
(4) Table of Contents from the textbook used, if available
7. ***In the space provided below (or on a separate sheet), please also provide a description of how the course meets the specific criteria in the area for which the course is being proposed.***

See attached document: CPI 485 Descriptions requested by Literacy Checklist

CROSS-LISTED COURSES: ☒ No ☐ Yes; Please identify courses: _____

Is this a multisection course?: ☒ No ☐ Yes; Is it governed by a common syllabus? _____

Dr. Ronald Askin
Chair/Director (Print or Type)

Date: 7/20/2012

Ronald Askin

Chair/Director (Signature)

Digitally signed by Ronald Askin
DN: cn=Ronald Askin, o=CIDSE, ou=School of Computing,
Informatics and Decision Systems Engineering,
email=ron.askin@asu.edu, c=US
Date: 2012.07.20 09:06:47 -0700

Arizona State University Criteria Checklist for
LITERACY AND CRITICAL INQUIRY - [L]

Rationale and Objectives

Literacy is here defined broadly as communicative competence in written and oral discourse. **Critical inquiry** involves the gathering, interpretation, and evaluation of evidence. Any field of university study may require unique critical skills which have little to do with language in the usual sense (words), but the analysis of spoken and written evidence pervades university study and everyday life. Thus, the General Studies requirements assume that all undergraduates should develop the ability to reason critically and communicate using the medium of language.

The requirement in Literacy and Critical Inquiry presumes, first, that training in literacy and critical inquiry must be sustained beyond traditional First Year English in order to create a habitual skill in every student; and, second, that the skills become more expert, as well as more secure, as the student learns challenging subject matter. Thus, the Literacy and Critical Inquiry requirement stipulates two courses beyond First Year English.

Most lower-level [L] courses are devoted primarily to the further development of critical skills in reading, writing, listening, speaking, or analysis of discourse. Upper-division [L] courses generally are courses in a particular discipline into which writing and critical thinking have been fully integrated as means of learning the content and, in most cases, demonstrating that it has been learned.

Students must complete six credit hours from courses designated as [L], at least three credit hours of which must be chosen from approved upper-division courses, preferably in their major. Students must have completed ENG 101, 107, or 105 to take an [L] course.

Notes:

1. ENG 101, 107 or ENG 105 must be prerequisites
2. Honors theses, XXX 493 meet [L] requirements
3. The list of criteria that must be satisfied for designation as a Literacy and Critical Inquiry [L] course is presented on the following page. This list will help you determine whether the current version of your course meets all of these requirements. If you decide to apply, please attach a current syllabus, or handouts, or other documentation that will provide sufficient information for the General Studies Council to make an informed decision regarding the status of your proposal.

Proposer: Please complete the following section and attach appropriate documentation.

ASU - [L] CRITERIA			
TO QUALIFY FOR [L] DESIGNATION, THE COURSE DESIGN MUST PLACE A MAJOR EMPHASIS ON COMPLETING CRITICAL DISCOURSE--AS EVIDENCED BY THE FOLLOWING CRITERIA:			
YES	NO		Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 1: At least 50 percent of the grade in the course should depend upon writing, including prepared essays, speeches, or in-class essay examinations. <i>Group projects are acceptable only if each student gathers, interprets, and evaluates evidence, and prepares a summary report</i>	see attached: CPI 485 Descriptions requested by Literacy Checklist
1. Please describe the assignments that are considered in the computation of course grades--and indicate the proportion of the final grade that is determined by each assignment.			
2. Also: <div style="border: 1px solid black; border-radius: 50%; padding: 10px; margin: 10px 0;"> Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-1". </div> C-1			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 2: The composition tasks involve the gathering, interpretation, and evaluation of evidence	see attached
1. Please describe the way(s) in which this criterion is addressed in the course design			
2. Also: <div style="border: 1px solid black; border-radius: 50%; padding: 10px; margin: 10px 0;"> Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-2". </div> C-2			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CRITERION 3: The syllabus should include a minimum of two substantial writing or speaking tasks, other than or in addition to in-class essay exams	see attached
1. Please provide relatively detailed descriptions of two or more substantial writing or speaking tasks that are included in the course requirements			
2. Also: <div style="border: 1px solid black; border-radius: 50%; padding: 10px; margin: 10px 0;"> Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-3". </div> C-3			

ASU - [L] CRITERIA			
<input checked="checked" type="checkbox"/>	<input type="checkbox"/>	CRITERION 4: These substantial writing or speaking assignments should be arranged so that the students will get timely feedback from the instructor on each assignment in time to help them do better on subsequent assignments. <i>Intervention at earlier stages in the writing process is especially welcomed</i>	see attached
1. Please describe the sequence of course assignments--and the nature of the feedback the current (or most recent) course instructor provides to help students do better on subsequent assignments			
2. Also:			
<div>Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-4".</div>			
C-4			

CPI 485 Descriptions requested by Literacy Checklist

1. Relevant assignments and proportion of the grade.

- The first relevant assignment is preparation and revision of 8 documents (listed under Phase 1 and Phase 2 in the syllabus). This activity comprises 60% of the grade.
- The second relevant assignment (actually 4 assignments) are four short essays, which together comprise 10% of the course grade.
- There are also essays on the final exam (20%) and weekly written reports (5%), but the writing of these pieces is not expected to be as polished as the preceding assignments.

2. The composition tasks required gathering, interpretation and evaluation of evidence

- Among the 8 documents, the Requirements Document requires gathering of evidence from stakeholders about their requirements for the software to be developed. Based on an interpretation and evaluation of that evidence, the other 7 documents are produced. This usually involves searching the computer science literature for relevant algorithms. The Quality Assurance plan and the Evaluation plan also require gathering evidence, interpretation and evaluation.
- All the 4 short writing assignments require gathering, analyzing and interpreting information about informatics and its applications.

3. Descriptions of two or more substantial writing or speaking tasks.

- The most substantial writing task is the suite of 8 documents. Students work as a team and are graded as such, but they are encouraged to share the load evenly, and their peer evaluations (5% of grade) tend to ensure that they do.
- All students present at least once on their team's project. This is required during Phases 1 and 2.

4. The sequence of assignments and the nature of the feedback.

- All deliverables in Phase 1 are submitted in both preliminary and final versions. No grade is assigned to the preliminary version, but feedback is given on it as soon as possible so that the team can incorporate the changes into the final version.
- The writing assignments from Phase 1 are revised and extended, and become the 8 deliverable documents for Phase 2. These are assessed and feedback is given as soon as possible so the work on Phase 2 can be completed.
- Revised versions of the 8 documents are submitted at the end of Phase 3. Although no feedback is typically needed, if any is needed, it is given promptly.

- For oral presentations, students receive timely feedbacks on the content and organization of the slides, time control of the presentation, etc.
- For written assignments and weekly reports, students receive prompt feedback regarding their task assignments, individual and group progress, etc.

CPI 485 Informatics Capstone I

Syllabus 3 Credit hours Fall

Catalog Description: Team-based design of an informatics system; working with clients; development of requirements, use cases, class/object diagrams, and plans for quality assurance and other evaluations; technical communication; teamwork.

Textbook: *Technical Communication*, Eighth Edition, M. Markel, Bedford / St.Martin's, 2006

Course Objectives and Outcomes:

1. To be able to design and implement substantial informatics projects, with an emphasis on:
 - Students are able to work with clients to understand requirements
 - Students are able to design informatics projects
 - Students are able to evaluate design alternatives
2. To be able to communicate technical concepts and materials effectively both orally and in writing.
 - Students are able to make good technical oral presentations of their designs
 - Students are able to write technical documents that meet audience needs.
3. To be able to function effectively in project teams
 - Students are able to employ teaming techniques to develop high-quality designs

Pre-requisite courses: CPI 310, CSE 463, CPI 350

Class/Laboratory schedule: 3 hours of lecture/discussion per week

Major topics covered in the course:

- Software project management (2 weeks)
- Working on teams (1 week)
- Software development (7 weeks)
- Technical communication (3 weeks)
- Computing quality, social and ethical issues (2 weeks)

Work overview and Grade breakdown:

All grades are assigned to individuals, not groups. However, for some graded activities, all students in a group are assigned the same grade. For instance, when the documents (deliverable) of Phase 1 are graded, all members of the group get the same grade because they

are all responsible for the content and quality of the documents. Such grading is marked (Team grading) to indicate this. All other activities are grade individually.

C-1 *Project phase 1 (20% of grade; 5 weeks)*

C-2 Students are organized into teams and given detailed descriptions of a group project. The students focus on understanding, analyzing and recording all requirements. The documents (deliverables) listed below are required of each team. After the submission of Phase 1 deliverables (Team grading), an oral presentation is given by the group covering the deliverables.

1. Requirements document
2. Use cases
3. User guide
4. Quality assurance plan and results
5. Evaluation plan

C-1 *Project phase 2 (20% of grade; 5 weeks)*

C-2 Phase 2 focuses on the project design and further refining of the requirements from Phase 1. The deliverables listed below are required as well as revised versions of the 5 documents submitted during Phase 1. After their submission (team grading), an oral presentation is given by the team covering the delivered design documents. Students who did not speak during their team's presentation of Phase 1 deliverables must present at this time.

- C-3
6. Class diagrams
 7. Object interaction diagrams
 8. Algorithms for all complex methods

C-1 *Project Phase 3 (20% of grade; 5 weeks)*

C-2 Phase 3, which is the final phase of the semester, begins the implementation of the software. The team selects and implements a work process, with specific tasks assigned to specific students. The objective of this phase is mostly to find flaws in the original design and make design revisions. These MUST be reflected in the 8 documents. Students must insure that all documents are consistent and complete. Revised versions of the 8 documents listed above are submitted at the end of the semester. Code is not submitted, but must be retained for next semester.

Weekly reports (5% of grade; due throughout the semester)

Each week, each student must report the recent activities of the team, report the goals for next week, and evaluate each other member of the team's performance and contribution during the week.

Peer evaluations (5% of grade)

The peer evaluations are accumulated from the weekly reports and aggregated to become the students' final peer evaluation grade.

- C-1 C-3 *Written assignments (10% of grade; 4 per semester)*
C-2 *Students are assigned four short written assignments to gather and analyze information on informatics and its applications in industry, government, education and other fields.*

- C-1 *Midterm and final exams (20% of grade)*
The exams will test knowledge of the overall informatics development process. They will include essays and will require analysis and interpretation of results. Exams are open book and open notes. Midterm counts 10% and final counts 10%.

90%-100% A
80-89 B
70-79 C
60-69 D
59 and below = E

Feedback on all work

- C-4
- All deliverables in Phase 1 are submitted in both preliminary and final versions. No grade is assigned to the preliminary version, but feedback is given on it as soon as possible so that the team can incorporate the changes into the final version.
 - Deliverables from Phase 2 are assessed and feedback is given as soon as possible so the work on Phase 2 can be completed.
 - For oral presentations, students receive timely feedbacks on the content and organization of the slides, time control of the presentation, etc.
 - For weekly reports, students receive prompt feedback regarding their task assignments, individual and group progress, etc.
 - For peer evaluations, if the student did not provide objective and detailed comments on their teammates, the student is requested to give an evaluation again.

Brief Contents

Preface for Instructors v
Introduction for Writers xii

PART 1

Understanding the Technical Communication Environment 1

- 1 Introduction to Technical Communication 2
- 2 Understanding Ethical and Legal Considerations 19
- 3 Writing Technical Documents 41
- 4 Writing Collaboratively 57

PART 2

Planning the Document 79

- 5 Analyzing Your Audience and Purpose 80
- 6 Researching Your Subject 113
- 7 Organizing Your Information 149

PART 3

Developing and Testing the Verbal and Visual Information 175

- 8 Communicating Persuasively 176
- 9 Writing Coherent Documents 198
- 10 Writing Effective Sentences 221
- 11 Designing Documents and Web Sites 253
- 12 Creating Graphics 297

xvi

- 13 Reviewing, Evaluating, and Testing Documents and Web Sites 341

PART 4

Learning Important Applications 361

- 14 Writing Letters, Memos, and E-mails 362
- 15 Preparing Job-Application Materials 389
- 16 Writing Proposals 431
- 17 Writing Informational Reports 458
- 18 Writing Lab Reports 478
- 19 Writing Recommendation Reports 500
- 20 Writing Definitions, Descriptions, and Instructions 539
- 21 Making Oral Presentations 578
- 22 Connecting with the Public 607

APPENDIX

Reference Handbook 629

- A Skimming Your Sources and Taking Notes 630
- B Documenting Your Sources 637
- C Editing and Proofreading Your Documents 683
- D Guidelines for Multilingual Writers (ESL) 710

References 725
Selected Bibliography 735
Index 741