CREDIT COURSE OUTLINE

I. COVER PAGE

(1) CSCI 1   (2) INTRODUCTION TO COMPUTER SCIENCE   (3) 3

Number   Title   Units

(4) Lecture / Lab Hours:				(8) Classification:			
Total Course Hours							
	Total Lec hours:		36.00			Degree applicable:	X
	Total Lab hours:		36.00			Non-degree applicable:	
	Total Contact hours:		72.00			Basic skills:	
	Lec will generate _0_ hour(s) outside work.			(9) RC	Fulfills AS/AA degree requirement: (area)		
	Lab will generate _0_ hour(s) outside work.						
					Computer Familiarity		
(5) Grading Basis:	Grading Scale Only				General education category:		
	Pass/No Pass option	X			Major: COMPUTER SCIENCE		
	Pass/No Pass only				Certificate of:		
(6) Advisories:					Certificate in:		
No defined advisories.				(10) CSU		Baccalaureate:	X
(7) Pre-requisites(requires C grade or better): MATH 103				(11) Repeatable: (A course may be repeated three times)			0
Corequisites:							

(12) Catalog Description:
An introduction to computer science with emphases on critical thinking skills and programming concepts. Deductive reasoning; social and ethical implications; computer hardware and software; programming concepts and methodology. The course is designed to prepare students with little or no programming experience for Computer Science 40.

II. COURSE OUTCOMES:

(Specify the learning skills the student demonstrates through completing the course and link critical thinking skills to specific course content and objectives.)

Upon completion of this course, students will be able to:
- I. Apply critical thinking skills in solving problems.
- II. Carry out computer related tasks with professional ethics.
- III. Demonstrate understanding of computer related topics through writing.
- IV. Solve simple mathematical problems (such as addition, subtraction, multiplication and division) using computers.

III. COURSE OBJECTIVES:

(Specify major objectives in terms of the observable knowledge and/or skills to be attained.)

In the process of completing this course, students will:
- I. Distinguish between deductive and inductive arguments
- II. Recognize the logical structure of sentences
- III. Avoid common fallacies of reasoning
- IV. Determine argument validity
- V. Apply critical thinking skills to the design and development of algorithms and programs
- VI. Recognize the impact of computers on privacy issues
- VII. Know government policy on encryption
- VIII. Relate protection of intellectual property
- IX. Demonstrate the knowledge of professional ethics and responsibilities
- X. Report the history of computing
- XI. Understand machine architecture
- XII. Develop programming flowchart and pseudo code
- XIII. Write simple sequential programs
- XIV. Use condition and repetition programming structures

IV. COURSE OUTLINE:

Lecture Content:

A. Critical Thinking

    1. Elements of arguments
    2. Truth tables
    3. Venn diagrams
    4. Errors in argumentation
    5. Argument evaluation

B. Fundamentals of Computer Science

    1. History of computing
    2. Machine architecture
    3. Binary number system
    4. Flowcharting
    5. Pseudo code
    6. Decision structures
    7. Repetition structures

C. Computer Ethics

    1. Privacy and information
    2. Wiretapping and encryption
    3. Protecting software and other intellectual property
    4. Computer crime
    5. Computer and work
    6. Professional ethics and responsibilities

V. APPROPRIATE READINGS

Reading assignments may include but are not limited to the following:

  I. Sample Text Title:
      1. Recommended - Quinn, M. *Ethics for the Information Age,* ed. 3 Addison-Wesley, 2009,
      2. Recommended - Brookshear, J *Computer Science: An Overview,* ed. 10 Addison-Wesley, 2009,
      3. Recommended - Baase, S *A Gift of Fire: Social, Legal, and Ethical Issues in Computing and the Internet ,* ed. 3 Prentice Hall, 2008,
      4. Recommended - Bohl, M., Rynn, M. *Tools for Structured and Object-Oriented Design: An Introduction to Programming Logic,* ed. 7 Pearson, 2008,
      5. Recommended - Gaddis, T. *Starting Out with Alice: A Visual Introduction to Programming,* Addison-Wesley, 2008,
      6. Recommended - Robinson, D *Fundamentals of Structured Program Design ,* ed. 2 Prentice Hall, 2003,
      7. Recommended - Bierman, A.; Assali, R. *The Critical Thinking Handbook,* Prentice Hall, 1996,

  II. Other Readings
      1. Recommended - *Lab Handouts by Instructor*

___ Global or international materials or concepts are appropriately included in this course
___ Multicultural materials and concepts are appropriately included in this course

If either line is checked, write a paragraph indicating specifically how global/international and/or multicultural materials and concepts relate to content outline and/or readings.

VI. METHODS TO MEASURE STUDENT ACHIEVEMENT AND DETERMINE GRADES:

Students in this course will be graded in at least one of the following four categories. Please check those appropriate. A degree applicable course must have a minimum of one response in category A, B, or C.

A. Writing Check either 1 or 2 below				
X	*1. Substantial writing assignments are required. Check the appropriate boxes below and provide a written description in the space provided.*			
	2. Substantial writing assignments are NOT required. If this box is checked leave this section blank. For degree applicable courses you must complete category B and/or C.			
	a) essay exam(s)	X	d) written homework	
X	b) term or other paper(s)		e) reading reports	
	c) laboratory report(s)	X	f) other (specify) written computer programs	

Required assignments may include but are not limited to the following:
1. A written report on computer technology related subjects.
2. A written report on computer ethics related issues.
3. Written chapter exercises
4. Executable computer programs using condition and/or repetition statements.

B. Problem Solving
Computational or non-computational problem-solving demonstrations, including:

X	a) exam(s)	X	d) laboratory reports
X	b) quizzes		e) field work
X	c) homework problems		f) other (specify):

Required assignments may include but are not limited to the following:

C. Skill demonstrations, including:

	a) class performance(s)		c) performance exams(s)
	b) field work	X	d) other (specify) computer programs

Required assignments may include but are not limited to the following:
1. Write programs to solve simple mathematical problems using condition and/or repetition statements.

D. Objective examinations including:

X	a) multiple choice	X	d) completion
X	b) true/false		e) other (specify):
	c) matching items		

COURSE GRADE DETERMINATION:
Description/Explanation: Based on the categories checked in A-D, it is the recommendation of the department that the instructor's grading methods fall within the following departmental guidelines; however, the final method of grading is still at the discretion of the individual instructor. The instructor's syllabus must reflect the criteria by which the student's grade has been determined. (A minimum of five (5) grades must be recorded on the final roster.)

If several methods to measure student achievement are used, indicate here the approximate weight or percentage each has in determining student final grades.
15% Written Report
25% Program Assignments
10% Quiz
50% Tests

VII. EDUCATIONAL MATERIALS

For degree applicable courses, the adopted texts, as listed in the college bookstore, or instructor-prepared materials have been certified to contain college-level materials.

Validation Language Level (check where applicable):

College-Level Criteria Met

	YES	NO
Textbook	X	
Reference materials		X
Instructor-prepared materials		X
Audio-visual materials		X

Indicate Method of evaluation:

Used readability formulae (grade level 10 or higher)	
Text is used in a college-level course	X
Used grading provided by publisher	
Other: (please explain; relate to Skills Levels)	

	YES	NO
Computation Level (Eligible for MATH 101 level or higher where applicable)	X	
Content		
Breadth of ideas covered clearly meets college-level learning objectives of this course	X	
Presentation of content and/or exercises/projects:		
Requires a variety of problem-solving strategies including inductive and deductive reasoning.	X	
Requires independent thought and study	X	
Applies transferring knowledge and skills appropriately and efficiently to new situations or problems.	X	

List of Reading/Educational Materials
Recommended - Quinn, M. *Ethics for the Information Age,* ed. 3 Addison-Wesley, 2009,
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Recommended - Baase, S *A Gift of Fire: Social, Legal, and Ethical Issues in Computing and the Internet ,* ed. 3 Prentice Hall, 2008,
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Comments:

_____ This course requires special or additional library materials (list attached).
___X___ This course requires special facilities:
Computer Lab - Computers and Printers.

Attached Files:

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 101. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least three major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.

Check the appropriate spaces.
_____ Eligibility for Math 101 is advisory for the target course.
_____ Eligibility for English 126 is advisory for the target course.
_____ Eligibility for English 125 is advisory for the target course.
If the reviewers determine that an advisory or advisories in Basic Skills are all that are necessary for success in the target course, stop here, provide the required signatures, and forward this form to the department chair, the appropriate associate dean, and the curriculum committee.

REQUISITES

Subject Prerequisite -- MATH 103 INTERMEDIATE ALGEBRA

• Simplify and/or factor mathematical expressions into forms more conducive to analysis. • Graph functions and relations introduced in Intermediate Algebra. • Apply Intermediate Algebra topics to solve real-life problems.	• Apply critical thinking skills to the design and development of algorithms and programs • Write simple sequential programs • Use condition and repetition programming structures

ESTABLISHING PREREQUISITES OR COREQUISITES

Every prerequisite or corequisite requires content review plus justification of at least one of the seven kinds below. Prerequisite courses in communication and math outside of their disciplines require justification through statistical evidence. Kinds of justification that may establish a prerequisite are listed below.

Check one of the following that apply. Documentation may be attached.

1. _____ The prerequisite/corequisite is required by law or government regulations.
   Explain or cite regulation numbers:
2. _____ The health or safety of the students in this course requires the prerequisite.
   Justification: Indicate how this is so.
3. _____ The safety or equipment operation skills learned in the prerequisite course are required for the successful or safe completion of this course.
   Justification: Indicate how this is so.
4. _____ The prerequisite is required in order for the course to be accepted for transfer to the UC or CSU systems.
   Justification: Indicate how this is so.
5. _____ Significant statistical evidence indicates that the absence of the prerequisite course is related to unsatisfactory performance in the target course.
   Justification: Cite the statistical evidence from the research.
6. _____ The prerequisite course is part of a sequence of courses within or across a discipline.
7. __X__ Three CSU/UC campuses require an equivalent prerequisite or corequisite for a course equivalent to the target course:

CSU Fresno CSCI 1 Intermediate Algebra
CSU Sacramento CSCI 1 Intermediate Algebra
UC Davis ECS 10 Algebra