1. TYPE OF ACTION
   A. Addition
   B. Deletion
   C. Modification

2. NEW ALPHA, NUMBER AND TITLE  ICS 111 Introduction to Computer Science I
3. CREDITS 4

4. OLD ALPHA, NUMBER AND TITLE  ICS 167 Principles of Computer Science
5. CREDITS 4

6. NEW CATALOG DESCRIPTION
   This is the introductory course for students entering computer science, engineering, or other fields that require a background in computer programming. Algorithm development and structured programming techniques are emphasized. The programs are implemented in a structured language. The course meets the ACM CS-I (American Computing Machinery Computer Science) requirements. The programming language used is Pascal.

7. PREREQUISITES OR
   RECOMMENDED PREPARATION
   Math 27 or Equivalent
   Consent of Instructor

8. STUDENT CONTACT HOURS PER WEEK
   Lecture 3  Lecture/Lab 3

9. PROPOSED DATE OF
   FIRST OFFERING
   Fall 1992

10. THIS COURSE  □ IS REQUIRED  □ IS AN ELECTIVE FOR THE WCC PROGRAM/CORE
    □ CAN FULFILL an elective requirement for B.A. Degree (UH-Manoa)
    □ MAKES NO CHANGE IN NUMBER OF CREDITS REQUIRED FOR THE PROGRAM/CORE

11. THIS COURSE  □ INCREASES  □ DECREASES  □ MAKES NO CHANGE IN
    NUMBER OF CREDITS REQUIRED FOR THE PROGRAM/CORE

12. SIMILAR COURSES OFFERED ELSEWHERE:
    College(s):
    Univ. of Hawaii at Manoa
    HCC, KCC, LCC
    Alpha. Number. Title:
    ICS 111 Introduction to Computer Science I
    ICS 111 Introduction to Computer Science I

13. THIS COURSE IS
    □ ALREADY ARTICULATED
    □ APPROPRIATE FOR ARTICULATION
    □ NOT APPROPRIATE FOR ARTICULATION
    with Univ. of Hawaii. Manoa

   (Provide details of existing or desired articulation (date, college(s), purposes, pre-major or major, etc.))

   1990  Kapiolani Community College articulated this course with UH-Manoa.

14. REASON FOR INITIATING, MODIFYING OR DELETING COURSE OR OTHER PERTINENT COMMENT:

   This course modification was recommended by the ICS Program Coordinating Committee. The deans did not accept the modification at that time because of a course number difference (ICS 150). The Program Coordinating Committee agreed to use the Univ. of Hawaii at Manoa numbering.

REQUESTED BY:

APPROVED BY:

CCCM #6100
(Amended for WCC use Mar 1990)
# Levels of Review of Course Proposals at WCC

<table>
<thead>
<tr>
<th>Signatures</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Subject Area</td>
<td>9/26/91</td>
</tr>
<tr>
<td>(one or more instructors in the area)</td>
<td></td>
</tr>
<tr>
<td>Clayton Monrean</td>
<td>9/26/91</td>
</tr>
<tr>
<td>Marjorie Yoshida</td>
<td>9/26/91</td>
</tr>
<tr>
<td>Gerald A. James</td>
<td>9/26/91</td>
</tr>
<tr>
<td>Helen H. lawsuits</td>
<td>9/26/91</td>
</tr>
<tr>
<td>Peggy Regenstein</td>
<td>9/27/91</td>
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<table>
<thead>
<tr>
<th>Department</th>
<th>9/27/91</th>
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<tbody>
<tr>
<td>Cornelia Tinga</td>
<td></td>
</tr>
<tr>
<td>Department Chairperson</td>
<td></td>
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<table>
<thead>
<tr>
<th>Division</th>
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<tr>
<td>Assistant Dean of Instruction</td>
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<table>
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<tr>
<th>Curriculum Committee Review</th>
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<tbody>
<tr>
<td>Approved</td>
<td>X</td>
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<tr>
<td>Disapproved</td>
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<td>Reason:</td>
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<table>
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<tr>
<th>Curriculum Committee Chairperson</th>
<th>10/3/91</th>
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<tr>
<td>David Byrdith</td>
<td></td>
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</table>
1. What change is proposed in the course? Provide specific information comparing both the "new" and "old" course.
   a) The course number will be changed from "167" to "111."
   b) The course name will be changed from "Principles of Computer Science" to "Introduction to Computer Science I."
   c) The wording of the catalog description will be changed to make it consistent with descriptions at other community colleges in the system in Hawaii.

2. What is the rationale for the change?
   One reason is to minimize curricular inconsistency among the community colleges in Hawaii. The number and name change were made to make the course consistent with UH Manoa's offering.

3. Is the change substantive enough to require a change in course identification? If so, explain thoroughly.
   No.

4. Is the course articulated with any 4-year program? Yes__
   If yes, give details of the agreement(s) and explain any impact the proposed modifications may have on articulation.
   This course is the same as UH Manoa's ICS 111. The modification will make the articulation process more agreeable to UH Manoa.

5. Provide details of any additional staff, equipment, facilities, library/media material and other financial considerations that would be required to implement this course modification. What has been done to provide for these additional costs?
   No additional staff, equipment, facilities, or financial considerations will be required.

6. Will this course modification result in any alterations in the number of hours required to attain a certificate or degree? No
   If yes, provide details and justification for these alterations.
WCC FORM FOR TRANSFER COURSES

(To be completed for articulation with any 4-year UH campus)

ICS 167 (Old) Submitted by Peggy Regentine Date 9/91

Course ICS 111 (new)

1. List the counterpart to this course on any 4-year UH campus. Describe the relationship between the course and any related baccalaureate program area.

The counterpart of WCC's present ICS 167 Principles of Computer Science is UH Manoa's ICS 111 Introduction to Computer Science I. At the University of Hawaii, this course satisfies a natural science requirement for the Bachelor of Science degree. This is also recommended as one of the first computer science courses for computer science majors to enroll in.

2. Is this course taught or accepted by major accredited colleges or universities? Yes.

It is taught at and accepted by the University of Hawaii at Manoa, Chaminade University, Hawaii Pacific University and numerous mainland universities.

3. Please attach a complete course outline, if you have not done so already. Your course outline should address all the items listed in the Guidelines for Course Outlines.

Course outline is attached.
COURSE NAME: Principles of Computer Science I

COURSE ALPHA: ICS 111

CREDIT HOURS: 4

COURSE DESCRIPTION: This is the introductory course for students entering computing science, engineering or other fields that require a background in computer programming. Algorithm development and structured programming techniques are emphasized. The programs are implemented in a structured language. The course meets the ACM CS-I (American Computing Machinery Computer Science) course standards.

REQUIREMENTS COURSE SATISFIES:

AT WCC: Elective for AA Degree

AT UHM: Satisfies a Natural Science requirement

PREREQUISITES: Math 27 or equivalent
Consent of Instructor

RECOMMENDED BASIC SKILLS LEVELS:

Recommended Keyboarding skills

READING LEVEL OF TEXT(S): 13th grade

ACTIVITIES REQUIRED AT OTHER THAN REGULARLY SCHEDULED CLASS TIMES:

Students who are unable to complete programming assignments during regularly scheduled lab hours may have to spend more time in the lab to complete these assignments. Reading in the required text will be assigned.

INSTRUCTOR: Peggy Regentine

OFFICE: Haloa 112

OFFICE PHONE: 235-7490

EFFECTIVE DATE: Fall 1991
WINDWARD COMMUNITY COLLEGE

COURSE: Introduction to Computer Science I (ICS 111)

CREDIT HOURS: 4 (3 lecture hours and 3 lab hours)

PREREQUISITES: Math 27 or equivalent
Consent of Instructor

INSTRUCTOR: Peggy Regentine
OFFICE: Haloa 112
OFFICE PHONE: 235-7490


Programming in Pascal (2nd Edition); Jean-Paul Tremblay and John M. DeDourek; McGraw-Hill Book Co; 1989;


OTHER MATERIALS: Language reference manuals and operating system manuals are in the Lab. Students will need 1 data disk to store their programs and lab work. Disk should be 5 1/4 inch double sided disk.

COURSE DESCRIPTION: This is the introductory course for students entering computing science, engineering or other fields that require a background in computer programming. Algorithm development and structured programming techniques are emphasized. The programs are implemented in a structured language. The course meets the ACM CS-I (American Computing Machinery Computer Science) course standards.

COURSE OBJECTIVES/COMPETENCIES:

Upon successful completion of ICS 111, the student should be able to:
1. Explain the steps involved in the programming process.
2. Solve simple problems and express those solutions as algorithms.
3. Use the fundamental techniques of selection, looping, assignment, input, and output in describing the steps the computer is to take to carry out a problem solution.
4. Write algorithms and code in a top-down manner.
5. Work with arrays in searching and sorting applications.

6. Decide correctly what parameters are needed when writing a subroutine as well as whether they should be passed by reference or by value.

7. Write, test and debug elementary programs.

8. Write procedures and functions.


10. Write very simple recursive algorithms and programs.

GENERAL EDUCATION AND RELATIONSHIP TO OTHER COURSES:

ICS 111 is an elective course in the Liberal Arts curriculum. The course introduces the fundamentals of programming and problem solving required to develop algorithms to solve problems common to computer science. These solutions will be implemented in a structured programming language.

ICS 111 supports the following college competencies:

1. Computation and communication abilities

2. Quality of life as affected by technology and science

3. Awareness of the dynamics in contemporary issues

4. Problem-solving and decision-making abilities

5. Career choices and life-long learning

COURSE CONTENT:

10% Introductory concepts - problem solving, computer hardware, operating system, compiler, editor, and the programming environment

8% Constants, variables, operators, expressions, built-in functions, simple data types and assignment

3% Interactive input and output

8% Modularization and procedures

8% Two-way and n-way selection, programs that make decisions

10% Repetitions - loops that are controlled by a counter, pre-test and post-test controlled loops

5% Defining functions - functions versus procedures
5% Alternative data types (enumerated types and subranges), declaring data types

13% Arrays and strings

8% Recursion

5% Text files

5% Records

5% Overview of system software (machine language, assemblers, compilers, linkers, operating systems)

7% Computers in Society - Computer crime, harassment and privacy, impact of automation on society (robotics and office automation)

LAB/LECTURE REQUIREMENTS: Students must attend ICS Lectures and Lab. Roll will be taken and students are expected to be present. The purpose of the reserved class lab time is to allow each student computer time to complete programming assignments. A student who does not attend a lab session is responsible for making up independently the work accomplished in the lab or else a zero grade will be given.

INSTRUCTION:

Classroom activities in this course will include:

Lectures Instructor presents concepts/material to the student.

Discussions Instructor answers questions, explains and clarifies previously covered material, and encourages student participation.

Hands On Instructor will conduct computer sessions to demonstrate specific hardware or software features presented during lectures.

Projects Instructor provides outside assignments to demonstrate and reinforce material covered in projects outside of class time.

Review Instructor emphasizes important points of the previous material and recommends study methods and materials.
METHOD OF EVALUATION:

The following represents the anticipated weight of various graded activities of the course:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Examinations</td>
<td>55%</td>
</tr>
<tr>
<td>Projects</td>
<td>40%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Course</td>
<td>100%</td>
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</table>

Programming Assignments will be graded and assigned points on the following basis:

- The program runs and produces the correct output with no apparent bugs. (70%)
- The program is relatively well structured and well documented with complete sentences. (i.e., contains comments where appropriate) (15%)
- The program is turned in on time. (15%)
- No program will be accepted 1 week after the due date unless there is a serious reason. If a program is to be late, the student should discuss this with the instructor prior to hand-in time.

The letter grade for the course will be given as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>90% - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89%</td>
</tr>
<tr>
<td>C</td>
<td>70% - 79%</td>
</tr>
<tr>
<td>D</td>
<td>60% - 69%</td>
</tr>
<tr>
<td>F</td>
<td>Below 60%</td>
</tr>
<tr>
<td>NC</td>
<td>No credit and no grade points given.</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete. (See Catalog)</td>
</tr>
<tr>
<td>W</td>
<td>Official withdrawal after the third week of the 16-week course and prior to the end of the tenth week. No grade points given.</td>
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ARTICULATION:

This course conforms to the requirements of the Data Processing/Information and Computer Sciences Program Coordinating Council Report and is appropriate for articulation among all University of Hawaii Community Colleges. It is also appropriate for articulation with UH-Manoa or UH-Hilo.