

Beginning Programming

CS 101 (3 cr.) or CIS 101 (3 cr.)

Winter 2008 – BYU Hawaii

Instructor

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Office Hours

Monday through Friday: 11 am – 12 pm

Monday/Wednesday/Friday: 1 pm – 2 pm

Door Policy

If you cannot come during office hours and need to talk to me, please come by my office. My schedule is color coded. If the door is shut, check the schedule and **knock if appropriate**. If I can answer it, I will. Please keep in mind that even if you can hear me, I may be on the telephone or in the middle of something that I need to finish. This is not personal.

Textbook

C++ Programming: From Problem Analysis to Program Design, 3rd Ed. by D.S. Malik
(ISBN 1-4188-3639-7). Lectures cannot take the place of reading the assigned sections.
Handouts

Sections (all sections meet in GCB 140)

Section 01 – MWF – 12 pm to 1:50 pm

Section 02 – MWF – 2 pm to 2:50 pm

Tutoring

Tutoring is available in the evening Monday through Friday and on Saturday. The schedule is posted on the door to GCB 101.

Course Description

Structured programming fundamentals: control (sequence, selection, iteration and subroutine), data types (int, float, array), and output formatting. Extensive program development and testing. (Prerequisite: Math 97 or equivalent.)

Computer Science Learning Outcomes

(Scale: 1 – Introduced; 2 – Practice with Feedback; 3 – Demonstrate Mastery)

Upon completing a major in Computer Science, students will (Scale shown for CS 101):

1. Be competent in the basic skills of Computer Science:
 - Programming (Scale: 1,2)
2. Be exposed to a variety of programming languages and computer systems (Scale: 1,2).
3. Be proficient in at least 1 object-oriented programming language (Scale: 1,2).
4. Be prepared professionally for graduate school or employment in computer science through:
 - Coverage of Algorithms (Scale: 1).
 - Understanding of Program Identification and Solution Design (Scale: 1).
 - Awareness of Ethical Issues and Professional Responsibilities (Scale: 1).

Course Goals and Outcomes

Goal: Demonstrate basic ability in C++.

- knowing the precedence of operations
- use the correct data type, including single dimensional arrays
- perform input and formatted output
- write an if/else statement, a nested if statement, a switch statement as appropriate
- write a simple for loop, while loop, and do/while loop, and a nested loop
- be able to create a function and use system-defined functions

Goals: Develop a simple algorithm

- know the definition of an algorithm
- identify a problem from a written description and develop a simple algorithm demonstrated through flowcharting or pseudo-code.

Teaching Methods

This course will be taught using a variety of methods to include: lectures, programming examples and projects, the Alice simulation tool, web based tools accessed during and after class. In addition, tutors and video tutorials will be available for use.

Course information will be maintained on the computer science wiki, located at <http://wiki.cs.byuh.edu>.

Academic Honesty Policy

You will be expected to adhere to the Honor Code as outlined at <http://w2.byuh.edu/studentlife/honorcode/docs/ces.htm#1>.

If you cheat, you will be turned into the Honor Code Office and you will receive an automatic F in the class. Please do *not* cheat. All work submitted must be your own. Copying code via file transfer, cut-and-paste, dictation, typing in what you see or recollect of another person's program or any other form

of cheating or copying is strictly forbidden. It is also forbidden to share your work with other students. If you have any questions about what is permitted, please discuss your concerns with the instructor. **Quizzes, tests, and the final exam are to be strictly independent work.**

Preventing Sexual Harassment

Title IX of the education amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds, including Federal loans and grants. Title IX also covers student-to-student sexual harassment. If you encounter unlawful sexual harassment or gender-based discrimination, please contact the Human Resource Services at 780-8875 (24 hours).

Students with Disabilities

Brigham Young University- Hawai'i is committed to providing a working and learning atmosphere, which reasonably accommodates qualified persons with disabilities. If you have any disability that may impair your ability to complete this course successfully, please contact the students with Special Need counselor Leilani A'una at 293-3999 or 293-3518. Reasonable academic accommodations are reviewed for all students who have qualified documented disabilities. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures. You should contact the Human Resource Services at 780-8875.

Other Policies

There is no extra credit assigned to individual students. Extra credit may be made available to the entire class. The decision on offering extra credit lies with the instructor. Do not ask for extra credit. Late work will only be accepted under prior arrangement for a legitimate reason, such as documented illness, school activity, etc. Lazy is not a legitimate reason, nor is "I forgot".

GRADING / SCHEDULE

Final Exam

Section 01 : Friday, 18 April, 11 am to 2 pm.

Section 02: Wednesday, 23 April, 3 pm to 6 pm.

You must take the final exam during the time scheduled for the section you are enrolled in – NO EXCEPTIONS.

Grading scale:

93-100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	59 and below	F

Grade components:

Attendance – 10%
Homework Assignments: 40%
Quizzes: 30% (announced in advance)
Final Exam: 20%

Attendance

You will lose 1% from the attendance grade for each absence. Serious tardiness will be considered an absence. **Violation of the Honor Code, to include dress and grooming standards will constitute an absence. If you come to class unshaven or in violation of other aspects of the Honor Code, you will not be considered present for attendance purposes.**

Homework Assignments

The programs submitted through Gradebot will constitute at least 50% of the homework grade. Other assignments may also be assigned. They will account for no more than 50% of the homework grade.

Quizzes

Announce in advance, these will be in the testing center. Quizzes are in the testing center for 2 days. I will drop the lowest quiz. If you forget to take a quiz, there are no makeups.

Final Exam

The final exam is comprehensive.

Initial Schedule (subject to change)

Week 1 – 2:

Introduction to problem identification and algorithm design.

Week 3 – 4:

Introduction to Gradebot & Problots

Introduction to the basics of a C++ program: simple I/O, precedence and calculation, primitive data types and variables.

Week 5 – 6:

Formatted output.

Simple selection (if, if/else).

Boolean evaluation.

Week 7 – 8:

Nested selection statements.

The switch statement

Week 9:

For Loop

Week 10:

While Loop.

Week 11:

Nested Loops

Built-in Functions

Week 12:

More Built-in Functions

User Defined Functions

Week 13 – 15:

Introduction to Object-Oriented Programming using Alice.

Whatever we missed and review

Week 16: FINAL EXAMS