Essentials of Geometry and Computational Logic

Highland Academy, 2019-2020

(the programming half of the course)

Purpose

Geometry and Computer Programming help to develop the inductive thinking abilities of the learner.

Course Topics

CS.4 Background

- CS.4.1 History of computer hardware and software, binary representation of information
- CS.4.2 Programming languages and the software development process
- CS.4.3 Basic concepts of procedural and object-oriented programming

CS.5 Language Elements, Syntax Errors and Debugging

- CS.5.1 Basic syntax and semantics
- CS.5.2 Primitive I/O, arithmetic operators, data types
- CS 5.3 Documentation
- CS.5.4 Programming Errors
- CS.5.5 Debugging

CS.6 Control Statements

- CS.6.1 **if** and **if-else** branching
- CS 6.2 Logical operators
- CS.6.3 **while** and **do-while** loop
- CS.6.4 **for** loop
- CS.6.5 Nested control statements
- CS 6.6 A menu-driven program
- CS.6.7 Errors in loops and in branching logic

CS.7 Working with Classes

- CS 7.1 The internal structure of classes and objects
- CS 7.2 The structure and behavior of methods
- CS. 7.3 The graphical user interface

Assessment

All classwork will be viewed in the light of the teacher's expectations, which will be clearly communicated for each assignment. Exceptional scores require exceptional performance.

This is how much each type of learning assessment counts:

- Quizzes: 25%--given periodically over recent class discussions.
- Programs: 25%--written in association with each topic covered.
- The Geometry half of the course: 50% (see Ms Lopez' outline)

Details of Assessing Student Work

Unless another scoring rubric is specified, the following will be used to assess student work:

- Quizzes: scores will be determined by taking the percent correct.
- Programs: : scores will represent a percent of the teacher's expectations. Scores will be separated by increments of 5 points: 5 points off for each minor mistake; 10 points off for each major mistake.

  100% fully met or exceeded teacher's expectations
  95% a minor mistake
  90% 2 minor mistakes or a single significant mistake, and so on
  0% assignment not turned in or made up.

Letter grades will be issued according to the following scale:

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

Late Work

Quizzes and Programs are to be made up as soon as possible after returning from an absence. The general rule will be for the assessment to be completed within the number of days missed, from the time of returning to class. (Example: Johnny is out of class on Thursday and Friday, missing an assessment. Johnny returns to class on Monday. Johnny will have two days, for the two days missed, to make up the assessment for full credit. Johnny will need to complete the assessment by Wednesday, or receive 10 points out of the 100% trimmed off of his score for each day after Wednesday that he waits. After 10 school days from this deadline, no credit will be given for completing the assessment.)

For late work that is submitted, unrelated to an absence, 10 points out of the 100% will be trimmed off of the score for each day late after the due date.

Exceptions might be made to this late work policy for catastrophic illnesses and for other extreme circumstances. These circumstances will be determined by the instructor and principal. See page 33 of the *Highland Academy Handbook* for further information.

Behavioral Expectations

- interact orderly and courteously; speak one at a time.
- treat the building and equipment with care.
- come to class with what you need -- pencil, notebook, textbook.
- absences and tardies will be handled according to the school policy.
- no food, drink or gum.
- visits to the restroom will be allowed if they don't become excessive. What constitutes excessive will be a judgment call of the instructor. (These visits are for emergencies.)
- it is THE STUDENT'S RESPONSIBILITY to find out what was missed when absent by looking at the assignment web page, by asking the teacher, or by asking a classmate.
- class time is to be used for working on Programming and/or Geometry.

Textbook

Java with BlueJ, by Ron McFadyen