Computer Science 20S Course Outline

Date: September 2020 – January 2021

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**Resources:**

* Course material for in-class and remote learning can be found on Mrs. Latimer’s class weebly page
* Processing programming language: [tutorial package](https://processing.org/tutorials/)
* Processing programming language: [example package](https://processing.org/examples/)
* Software to be used:
	+ Processing V.3: [download link](https://processing.org/download/)
* Extra Online Resources:
	+ CodeNow’s #CodeHow [Youtube Channel](https://www.youtube.com/channel/UCxwhlGyOIOZnu_TVe5f2MJQ/feed)
* Processing Learn to Program book [LearnToProgram.pdf](http://cs.umanitoba.ca/~young/learnToProgram/LTP/LTP-AllUnits.pdf)

The Processing Learn to Program book is available online, at no cost, as the above file LearnToProgram.pdf. This is a 412 page PDF file.

There are also some video tutorials on the processing.org website.

**Bring to class:**

* A willingness to learn how computers actually accomplish what they do! This course will challenge you, but with a reasonable amount of effort, you’ll be programming computers in very little time.

**Course Description and Objectives:**

 Computer Science 20S is an introduction to computer programming. Through both group and individual work, students will learn and apply methods which are used to develop computer applications. Topics include basic programming structures, graphics, and game development (in the Processing environment). Learning outcomes include:

* Introduce methods for planning/flowcharting (documentation)
* Introduce development environments (i.e., Processing, debugging)
* Introduce basic structures (variables, basic operations, loops, decisions.)
* Write and Practice code that helps students to learn these structures
* Introduce built-in functions, including graphic and drawing functions

**Course Content:**

|  |  |
| --- | --- |
| **Topic** | **% of Course Content\*** |
| History & Introduction to Computer Science | 10 |
| Programming Theory, Methods and Application* Intro to Processing
* Variables
* Basic Operations
* Decision and Control
* Repetition and Loops
 | 50 |
| Application Development Project | 20 |
| Basic Game Development | 20 |

\*Instruction may be adjusted depending upon student need.

**Assessment/Evaluation:**

The final mark for this course will be assessed as follows:

|  |  |
| --- | --- |
| Completion of programming assignments | 15% |
| Quizzes | 5% |
| Tests/Intro unit assessments | 20% |
| Term Programming project | 30% |
| Final Exam | 30% |
|  | 100% |