# Spring 2020 Object Oriented Programming Assignment

In ICSI311, we have covered a number of object-oriented concepts. In this assignment, we will use many of these techniques in one program to demonstrate mastery of the topics.

Your assignment is fairly open-ended – you can build anything that you want so long as it exhibits:

* At least 3 design patterns
* Inheritance and polymorphism
* Generics
* Abstraction/Encapsulation
* At least 1 interface
* SOLID

You must make a 5 minute video, submitted on Blackboard as an MP4 discussing your design; this will be part of your grade.

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| Rubric | Poor | OK | Good | Great |
| Comments | None/Excessive (0) | “What” not “Why”, few (5) | Some “what” comments or missing some (7) | Anything not obvious has reasoning (10) |
| Variable/Function naming | Single letters everywhere (0) | Lots of abbreviations (5) | Full words most of the time (8) | Full words, descriptive (10) |
| Structure | Globals everywhere, indentation doesn’t match braces {}, no helper functions (0) | Any 2 of:  Too many globals  Indentation wrong  Missing helper functions (3) | Any 1 of:  Too many globals  Indentation wrong  Missing helper functions (7) | Few/no globals, indentation correct, helper functions(10) |
| Design Patterns | None (0) | 1 Design Pattern (3) | 2 Design Patterns (7) | 3 Design Patterns (10) |
| Inheritance/ Polymorphism | None (0) | Inheritance (5) |  | Polymorphism (10) |
| Generics | None (0) |  |  | A generic and at least one use of the generic (10) |
| Interface | None (0) |  |  | An interface and 2+ objects that implement it (10) |
| SOLID | Not SOLID | Implements 2 SOLID principles (3) | Implements 3 SOLID principles (7) | All 5 SOLID principles (10) |
| Video – Presence | Missing (0) | Good in one of  Body Language Eye Contact Pacing Poise Physical Organization (2) | Good in three of  Body Language Eye Contact Pacing Poise Physical Organization (5) | Good in ALL of  Body Language Eye Contact Pacing Poise Physical Organization(7) |
| Video – Language | Missing video (0) | Good in one of: Correct language Good vocab/grammar Understandable Appropriate Volume (2) | Good in two of: Correct language Good vocab/grammar Understandable Appropriate Volume (5) | Good in ALL of: Correct language Good vocab/grammar Understandable Appropriate Volume (7) |
| Video - Subject | Missing video (0) | Good in one of:  Pertinence Depth of Commentary Spoken, not read Design clear after video (2) | Good in two of:  Pertinence Depth of Commentary Spoken, not read Design clear after video (5) | Good in ALL of:  Pertinence Depth of Commentary Spoken, not read Design clear after video (7) |
|  |  |  |  | 101’s rounded to 100. |