**Computer Programming Grading Rubric**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Excellent (5)** | **Proficient (4)** | **Satisfactory (3.5)** | **Novice (2)** | **Unsatisfactory (0)** | **Score/Level** |
| Student met learning objective.  Demonstrated 100% mastery of the concept. | Student met learning objective.  Demonstrated 90% mastery of the concept. | Student is approaching learning objective.  Demonstrated 80% mastery of the concept. | Student has not met learning objective.  Demonstrated under 70% mastery of the concept. | Student has not met learning objective.  Provides little to no evident understanding of concept. | /100 |
| **Program Design** (pseudocode, Flowchart, documentation) | *Ex. Pseudocode clear, brief and well organized* | *Ex. Clear, understandable but steps too detailed* | *Ex. Somewhat understandable but does not complete* | *Ex. Difficult to understand and/or unorganized* | *Ex.no pseudocode or/and chart* | /10(pseudocode only) |
| **Overall functionality of code** | *Ex. Code organized and delivers accurate results* | *Ex. Code is good, delivers results* | *Ex. Code is adequate, but did not meet all requirements.* | *Ex. Code is inadequate, generates logical errors* | *Ex. Code is missing 80% of requirements or cannot run* | /10 |
| * **Branching** (decision structure) * **Variable use and naming** * **User input/ Output** | *Ex. Efficient use of skills (all possible cases handled)* | *Ex. Proficient use of skills (mostly complete)* | *Ex. Adequate use of skills* | *Ex. Some of the skills not utilized properly* | *Ex. Few or none of the skills utilized* | /10 |
| **Proper use of loops**   * **For loops** * **While loops** | *Ex. Efficient use of skills* | *Ex. Proficient use of skills* | *Ex. Adequate use of skills* | *Ex. Some of the skills not utilized properly (for example use of* ***while True and Break and continue*** *)* | *Ex. Few or none of the skills utilized* | /20 |
| **Functions and Modular programming** | *Ex. Exceptional Proper use of modularization, required functions created with well-defined Docstrings* | *Ex. Proficient. Code modularized, Functions created, some essential info missing from Docstring* | *Ex. Code exhibits 70% of requirements (Ex no Docstring, long code not modularized…)* | *Ex. Code not modularized if needed, or/and some functions missing* | *Ex. Few or none of the skills utilized* | /20 |
| **Object Oriented Programming** | *Ex. Classes /Inheritance perfectly implemented, with private attributes, docstrings and necessary methods* | *Ex. Classes implemented, necessary methods created, attributes private. Inheritance partially implemented* | *Ex. Classes/inheritance partially implemented, demonstrating limited understanding* | *Ex. Poor implementation of skills (Ex. Inheritance not implemented, methods missing…)* | *Ex. Few or none of the skills utilized* |  |
| **File I/O, String, Exception Handling** | *Ex. Efficient use of skills (all requirements met and best practices applied)* | *Ex. Proficient (requirements met, efficient use of skills could be better demonstrated)* | *Ex. 70% of requirements met. Limited understanding (Ex use of learned skills not applied)* | *Ex. Code not addressing all requirements* | *Ex. Few or none of the skills utilized* |  |
| **Collections/Data Structures** | *Ex. Efficient and correct use of Data Structures* | *Ex. Proficient (Requirements met but some skills not applied)* | *Ex. 70% of requirements met. Limited understanding (Ex use of learned skills not applied)* | *Ex. Code does not meet all requirements, inaccurate choice of structures* | *Ex. Few or none of the skills utilized* | /20 |
| **User Interface** | *Ex. Efficient, clear, well formatted, data validation applied* | *Ex. Proficient (some aspects of the interface can be enhanced)* | *Ex. 70% of requirements met* | *Ex. Interface minimally meet specifications, unpresentable and not easy to navigate* | *Ex. Interface incomplete, does not meet specifications* |  |
| **Other Coding Standards** | *Ex. Code adheres to best standards and uses concepts referenced in course* | *Ex. Code utilizes concepts referenced in the course, some best practices not applied.* | *Concepts/standards learned in class not fully applied* | *Limited demonstration of concepts/standards learned in class* | *No utilizations of concepts and best practices used* | /10 |