

Course Title:

Programming C++ Honors

Course Description:

Learn C++, the language professionals use to create games. This course provides students with a solid foundation in the same programming language that the game makers use. All students will learn the syntax, semantics and basic data types of the C++ language. Since the course is self-paced, opportunities are provided for more advanced students to move beyond the basics and explore topics that include pointers, streams, object-oriented programming, recursion, sorting and searching, and advanced data structures.

Outcomes: Upon successful completion of this course, students will:

- *Recognize and use fundamental data types*
- *Control the flow of program instructions with if, if/else, and switch statements.*
- *Correctly use loops to repeat statement blocks.*
- *Define and use functions.*

Resources and Materials:

- *Horstmann, C. S. (2017-10-11). Big C++: Late Objects, Enhanced eText, 3rd Edition. ISBN: 978-1-119-40297-8.*
- *Websites :*
 - *W3schools C++ Tutorial - <https://www.w3schools.com/cpp/>*
 - *Geeks for Geeks, C++ Programming Language - <https://www.geeksforgeeks.org/c-plus-plus/>*
 - *Online C++ Compiler: https://www.onlinegdb.com/online_c++_compiler*
 - *Visualize Code Execution: <http://pythontutor.com/visualize.html#mode=edit>. Select C++ (g++ 4.8, C++11) or C++ (g++ 9.3, C++ 20 + GNU extensions)*

Student/Teacher Interaction:

Students and instructors will communicate primarily via messaging within our learning management system, Schoology. Online conferencing and calls may be scheduled as needed.

Student Evaluation and Grading Policies: Students will receive narrative evaluations at the end of the course. While work may be graded, and a final grade issued, credit is not earned for enrichment courses.

- In order to ensure an enough time for the instructor to review assignments and provide feedback, students may submit no more than two weeks of work in one calendar week.
- Students can track course progress using the Schoology Grades tool. Parents may request access to Schoology in order to monitor their student's progress.

Academic and Performance Expectations:

CTD Online Program courses are intended for highly motivated, independent learners.

- While instructors initiate contact with students, it is each student's responsibility to contact the instructor with questions and concerns.
- While online programming provides students with the flexibility to schedule study time around their other academic and personal commitments, CTD Online students must be able to:
 - Devote the appropriate amount of time per week to study for their courses. Students should plan to spend 2-5 hours per week for timely completion.
 - Plan ahead and meet all assignment and test deadlines as set out in the course syllabus.
- Unless prior arrangements have been made with the instructor, students are expected to follow the course syllabus and meet all course requirements outlined therein.
- Students will work independently, guided by an instructor providing rigorous coursework, and personalized feedback. Instructors will not conduct regularly scheduled lectures.

Performance issues will be resolved in the following ways:

- Instructor and student will confer
- Instructor will contact the parent(s)/guardian(s)
- CTD Online Program staff will arrange a conference with the student, parent(s)/guardian(s) and instructor.

Chronic performance problems unresolved by the above measures may warrant dismissal from the program. Students dismissed for disciplinary reasons are recorded as dismissed from the course, and do not receive credit, are not provided with an evaluation, and the course will not be added to a transcript. Any requests for credit or a modified evaluation may be considered on a case-by-case basis.

Intellectual Ownership, Academic Honesty & Netiquette:

The CTD Online course environment is offered as a virtual space where students and professionals may meet, communicate, and collaborate. Participants are expected to behave as they would in a face-to-face classroom, following online rules of etiquette (netiquette). Students are expected to act with honesty and personal integrity in all of their academic work and social interactions. This applies to all academic exercises including assignments, papers, labs, and assessments. See the CTD Web site for specific details: <https://www.ctd.northwestern.edu/policies>

CTD Statement on Third Party Web Sites:

Instructors are required to thoroughly review any third-party web sites they intend to use in their courses for inappropriate content. However, because web content continuously changes, CTD disclaims any responsibility for any of the content contained on third-party web sites used in course materials. If you become aware of anything that may be inappropriate, please notify CTD staff immediately.

Technology Support:

Students and families can email ctd-support@northwestern.edu for any questions or concerns using Schoology.

Course Timeline:

The course timeline will depend on the student's enrollment date. For example, students starting in the fall will have time allotted for the course as follows:

Start Date	9/1/20	9/15/20	10/1/20	10/15/20
Number of weeks until April 30	34 weeks	32 weeks	30 weeks	28 weeks
Number of weeks per semester	17 weeks	16 weeks	15 weeks	14 weeks
Semester end date	12/31/2021	1/7/2021	1/14/2021	1/21/2021

A timeline for each student enrollment date can be found in the Schoology folder that contains this syllabus.