

# Software Development: Object Oriented Programming

*Carol Hull*

*2018-2019 Course Syllabus*

**STA Main Number:** 816-986-3410

**Office:** 816-986-3430

**FAX:** 816-986-3435

**E-mail:** carol.hull@lsr7.net

**Office Hours:** 11:00 – 11:40 a.m.

2:00 – 2:50 p.m.

## **COURSE DESCRIPTION**

This course emphasizes programming methodology and problem solving. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. An appropriate block-structured high-level programming language will be studied and used to implement algorithms.

## **INSTRUCTIONAL PHILOSOPHY**

In this course, students will be completing a series of progressively more challenging activities and projects typical of the software engineering programming field, working in small groups, in pairs and individually. As a part of these activities, students will be applying academic skills in mathematics, science, and language arts.

High quality work is expected of all students, so students may be asked to re-do work until it is of a level of quality that would be acceptable in a professional setting. Students will be expected to act as a young professional at all times.

## **ESSENTIAL STANDARDS**

Upon successful completion of this course, each student should be able to:

- Solve problems using a disciplined approach to algorithm development.
- Use a block-structured high-level programming language.
- Create, test and debug programs using an integrated programming language development system.
- Describe and use well-known algorithms and data structures.
- Code and document using commonly accepted programming standards.
- Identify the major hardware and software components of a computer system, their relationship to one another, and the roles of these components within the system.
- Demonstrate an understanding of procedural programming and data abstraction.
- Solve problems using critical thinking skills (analyze, synthesize, and evaluate) independently and in teams, with a high degree of creativity and innovation.
- Implement agile development practices while working in teams.

## MAJOR ASSIGNMENTS/PROJECTS

- Complete activities and small projects to demonstrate comprehension of each concept, working individually, in pairs and/or small groups
- Maintain a portfolio of completed work
- Take an active role in the class capstone project

## STUDENT PERFORMANCE ASSESSMENT

- Non-programming in-class and take-home assignments
- Software development projects - both individually and pairs/small groups
- Unit quizzes
- Semester exams
- Participation in sanctioned STA/computer science program event

## DUAL CREDIT OPPORTUNITIES

Offered to eligible students according to Coordinating Board of Higher Education. Credit will be granted from Longview Community College. **Textbooks:** Fall: C++ Programming from Problem Analysis to Program Design. D.S. Malik. 2018. Spring: Java – How to Program Late Objects. Paul and Harvey Deitel. 2017.

## GRADING POLICY

Grading will be figured using the Summit Technology Academy approved grading scale. Grades are cumulative throughout the semester. The grade will be based on the following total points: written work, participation, activities/projects and assessments. A comprehensive written final will comprise 10% of semester grade.

The following standardized grading scale is used for STA:

A = 95 -100	C = 73 - 76
A- = 90 - 94	C- = 70 - 72
B+ = 87 - 89	D+ = 67 - 69
B = 83 - 86	D = 63 - 66
B- = 80 - 82	D- = 60 - 62
C+ = 77 - 79	F = 59 & below (No Credit)

Colleges use a four point system of grading (A= 4, B=3, C=2, D=1, F=0) without a minus and plus option.

## TUTORING/EXTRA HELP PLAN

STA utilizes a pyramid of interventions in order to ensure students successfully meet the course requirements. Tutoring or extra help can be obtained by contacting the STA teacher through e-mail, phone or Schoology learning management system. The teacher will provide either immediate help, set up a time to meet, or utilize an online video conference method.

## **ELECTRONIC GRADEBOOK/PARENT CONNECT WEBSITE**

Grades are updated on a weekly basis in Power School. The link is on the district website and instructions are here: <http://www.lsr7.org/parents/power-school/>.

## **ACADEMIC LETTERING:**

Any student who has maintained a 4.0 GPA for both semesters of the STA course (through the 5<sup>th</sup> grading period) will receive an academic letter.

## **MATERIALS NEEDED**

Students are expected to bring paper, pencil or pen, and a flash drive to class.

## **ATTENDANCE POLICY**

Regular attendance reflects dependability. The experience gained by students in the laboratory cannot be duplicated in the event of absence. **Summit Technology Academy's policy may differ from that of the sending school and will be in effect for the period of attendance at STA.**

A student shall be allowed no more than nine (9) absences, excused or unexcused, per semester in any one class. When a student reaches 9 days, the school will send an informational letter to the parents, regardless of prior contact by phone or conference. The letter serves as notification of the number and type of absences by the student in each class. On the tenth (10) absence, in any one class, the student will not earn credit for that class. Students will have the opportunity to work with their administrator or teacher to make up missed time prior to the end of the semester. If a student still has 10 or more absences at the conclusion of the semester the student will be required to complete an attendance waiver appeal. A waiver to maintain full credit must be submitted by the end of the semester. This waiver should include documentation of illness, funeral, or family emergency from a medical doctor, dentist, minister, or other official source. The waiver should be turned into the attendance office.

## **TARDY POLICY**

Tardies will be issued according to the student handbook. Students are on time if they are seated in the classroom at 11:50 and have begun working on the bell work. Please take care of water-drinking and restroom needs BEFORE the class begins.

## **DRIVING PRIVILEGES**

Driving to STA is a privilege and can be revoked at any time. Students are allowed to drive to STA as long as their sending school allows them to drive and a permit is on file. Driving permits may be revoked if a student is frequently tardy or late to school.

## **ELECTRONICS POLICY**

No electronics or headphones are allowed in the classroom unless being used in the educational process as directed by the instructor. Electronics should be placed in backpacks or purses and out of sight. Students are encouraged to interact and help one another when appropriate.