

Washtenaw Community College Comprehensive Report

CPS 271 Object Features of C++ Effective Term: Fall 2019

Course Cover

Division: Business and Computer Technologies

Department: Computer Instruction

Discipline: Computer Science

Course Number: 271

Org Number: 13420

Full Course Title: Object Features of C++

Transcript Title: Object Features of C ++

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Time Schedule , Web Page

Reason for Submission:

Change Information:

Consultation with all departments affected by this course is required.

Rationale: This course will be update because of the assessment of the course

Proposed Start Semester: Winter 2019

Course Description: In this course, students will continue the study of C++ by learning the object-oriented features of the language. Topics include classes, constructors and destructors, operator overloading, pointers, dynamic allocation of memory, inheritance, polymorphism, file manipulation, templates, and exceptions.

Course Credit Hours

Variable hours: No

Credits: 4

Lecture Hours: Instructor: 60 Student: 60

Lab: Instructor: 0 Student: 0

Clinical: Instructor: 0 Student: 0

Total Contact Hours: Instructor: 60 Student: 60

Repeatable for Credit: NO

Grading Methods: Letter Grades

Audit

Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

No Level Required

Requisites

Prerequisite

CPS 171 minimum grade "C+"

General Education

General Education Area 7 - Computer and Information Literacy

Assoc in Arts - Comp Lit
Assoc in Applied Sci - Comp Lit
Assoc in Science - Comp Lit

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Identify appropriate use of Arrays and Dynamic Memory.

Assessment 1

Assessment Tool: Departmental exam

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher

Who will score and analyze the data: Departmental faculty

2. Identify appropriate uses of objects and classes.

Assessment 1

Assessment Tool: Departmental exam

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher

Who will score and analyze the data: Departmental faculty

3. Identify appropriate uses of the C++ standard libraries (i.e. string and iostream)

Assessment 1

Assessment Tool: Departmental exam

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher

Who will score and analyze the data: Departmental faculty

4. Identify appropriate uses of advanced C++ topics.

Assessment 1

Assessment Tool: Departmental exam

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 70% of the students will score 70% or higher

Who will score and analyze the data: Departmental faculty

5. Demonstrate sound software engineering techniques in developing a working software program.

Assessment 1

Assessment Tool: A Portfolio of software programs submitted by students will be blind graded.

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally developed rubric

Standard of success to be used for this assessment: 70% of the students will score 70% or higher

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Demonstrate proficiency in processing Arrays.
2. Demonstrate proficiency in pointer manipulation.
3. Demonstrate proficiency in allocating dynamic memory and freeing up memory resources.
4. Demonstrate proficiency using class inheritance.
5. Demonstrate proficiency using constructors and destructors.
6. Demonstrate proficiency using polymorphism.
7. Demonstrate proficiency in using friend functions and classes.
8. Demonstrate proficiency in using operator overloading.
9. Demonstrate proficiency in using the standard string class.
10. Demonstrate proficiency in using the iostream class for text and binary files.
11. Demonstrate proficiency in using C++ exceptions.
12. Demonstrate proficiency in using the various cast operators including dynamic cast.
13. Demonstrate proficiency in using basic templates.
14. Create a program that is logical, easy to understand, and properly indented to solve a stated problem.
15. Create a program that solves a stated problem and compiles properly.
16. Create a program that executes properly to solve a stated problem.

New Resources for Course

Course Textbooks/Resources

Textbooks

Manuals

Periodicals

Software

Equipment/Facilities

| <u>Reviewer</u> | <u>Action</u> | <u>Date</u> |
|---|---------------------------|---------------------|
| Faculty Preparer: <i>Khaled Mansour</i> | <i>Faculty Preparer</i> | <i>Jan 10, 2019</i> |
| Department Chair/Area Director: <i>Philip Geyer</i> | <i>Recommend Approval</i> | <i>Mar 11, 2019</i> |
| Dean: <i>Eva Samulski</i> | <i>Recommend Approval</i> | <i>Mar 15, 2019</i> |
| Curriculum Committee Chair: <i>Lisa Veasey</i> | <i>Recommend Approval</i> | <i>Apr 02, 2019</i> |

Assessment Committee Chair:

Shawn Deron

Recommend Approval

Apr 03, 2019

Vice President for Instruction:

Kimberly Hurns

Approve

Apr 07, 2019