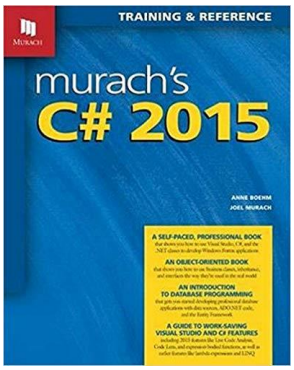
SYLLABUS – CIS 123 Intro to Object Oriented Programming

Class Hours:	online
Prereqs:	CIS 122 and MATH 096 or MATH 098 with a grade of at least 2.0. **Students who don't meet this prerequisite need to get instructor permission**
Instructor	Sharon Huitsing
Office Hours:	Mon-Thurs 4-5.30pm online or by StarFish appt
Contact Info:	Canvas email, phone 253-912-2399 x8908 (Office)

Please feel free to visit during online office hours and I will be more than happy to assist you.

Email Policy:
Emails are answered first, then phone calls. I will respond to emails promptly on Mon-Fri (Canvas preferred). No weekend emails. If you do not receive a reply in Canvas, please use college email shuitsing@pierce.ctc.edu

Class Textbook



The text for this course is Murach's C# 2015, by Anne Boehm, Joel Murach.
ISBN 978-1-890774-94-3.
The paperback book is available at the college bookstore, and at many outlets online. You may use a pre-owned paperback version of this book, if available.

Additional Assistance

Computer programming may be a challenging topic for some students, so the following resources are available to assist you in your studies.

- Tutors are available by appointment. "The P.A.S.S. Centers will continue to provide students with quality tutoring and mentoring support in an online environment. Our offices will remain accessible by phone, email, and through our P.A.S.S. Canvas course. Students will be able to meet with tutors and mentors, schedule appointments, and explore resources through this Canvas space. Tutoring and mentoring sessions will be conducted in Cranium Café using webcams and microphones to make the experience as seamless as possible. You will have an opportunity to interact with the tutor or mentor via video, audio, or chat while uploading and sharing documents. We are working to offer expanded hours and resources: More details to come as the quarter gets closer. Should you have questions, feel free to call or email our offices. We are here to help you through this unique quarter, just let us know how we may be of service.

  Contact Information:

  Phone: *253-964-6737 (FS) or 253-864-3258 (PY)*

  Email: *tutoring@pierce.ctc.edu*

  P.A.S.S. Canvas Space: https://pierce.instructure.com/courses/1839995"

- Lab techs are available to assist you with the required hardware and software configuration for your personal laptop devices, and can show you how to use the software needed for this course. Contact John Campbell (jcampbell@pierce.ctc.edu) at (253) 912-2399.
- The Student Technology Assistance Team (STAT) members are available to help students with questions about Wi-Fi, Canvas, email and basic operations – see online resources. The STAT site is at http://www.pierce.ctc.edu/dist/labs/stat

Canvas Classroom

A CANVAS website has been set up for this class. The purpose is to have all assignments and materials available to you throughout the quarter. All assignments will be submitted through the website, and grades are posted there as well. Check the class site weekly to see what needs to be completed each week. You may expect to engage in online discussions and related online activities.

If you are unfamiliar with Canvas, you can get oriented the Student eGO orientation course at https://pierce.instructure.com/courses/999530.

Student Technology Expectations

1. All students are expected to know how you use a Windows-based computer and peripherals.
2. All students should know how to create, read and delete files, folders etc.
3. Students should know how to use a browser and browse/search the Internet, and how to create user accounts on web sites.
4. Students should understand how to operate devices like microphones and web cameras for coding assignments
5. While students are free to use the computers in the labs CTR172, CTR174 and CTR176 to do their assignments, students will need their own computers do work away from the campus. Students should understand how to install software on Windows-based computer systems.

Class Materials

Portable storage should be available for all assignments (thumb drives, OneDrive, Google Drive, etc.);

You will need a webcam/microphone combination to be able to record your image in your screencasts (for some assignments). These are available online or in the bookstore. In a pinch, you can borrow a USB-based webcam from the lab techs at PUY CTR 174 for brief, onsite use. Laptops often have a webcam/microphone built in. If so you will not need to purchase this equipment.

NOTE: Rubber Ducky drives are banned from all Pierce College computers facilities. The discovery of use of a rubber ducky drive, or any other type of potentially malicious and unauthorized hardware is prohibited and will result in disciplinary action, including a zero for the course.

External Site Requirements

- Students must download Microsoft Visual Studio..
    - Download a copy of Visual Studio 2019, or 2017. To do work off-site you will need to have Visual Studio Community, Professional or Enterprise.
- A Lucidchart.com student account is needed OR you need access to Microsoft Visio. Follow the directions in the Canvas shell to create your Lucidchart student account https://www.lucidchart.com/pages/usecase/education
- A free Screencast-O-Matic account is required. You will use screen-casting software to complete many of your assignments. Follow the directions in the Canvas shell to create your Screencast-O-Matic account. http://screencast-o-matic.com/home

If you are having trouble with any of these concepts or accounts, you can get assistance from any of the lab technicians in Puyallup CTR 174. Just ask.

Course Description

Introduction to Object Oriented Programming (OOP). Application of the concepts of inheritance, polymorphism, abstraction and encapsulation. Addresses classes, objects, and methods utilizing maintainability/modularization/and reusability techniques. Introduces techniques for effective program coding; testing and establishing error handling techniques.

Course Summary and Purpose

This course is designed to be an introductory course in structured and object oriented programming.

By the end of this course:

1. Students will be able to describe the .NET Framework, Visual Studio 2017/2015 and Visual C# in the Visual C# ecosystem.

2. Students will be able to use Visual Studio 2019/2017 for Windows Desktop Integrated Development Environment (IDE) for writing, running and debugging applications.

3. Students will be able to input data from the keyboard and output data to the screen.
4. Students will be able to describe, instantiate and use objects.

5. Students will be able to develop algorithms through the process of top-down, stepwise refinement.

6. Students will be able to create programs using a variety of control statements.

7. Students will be able to create and implement full featured methods in programs.

8. Students will be able to create and implement exception handling in in programs.

9. Students will be able to create programs that implement the four tenets of object-oriented programming: inheritance, abstraction, encapsulation and polymorphism

Course Content

A. Object-oriented Programming

B. Design

C. Programming terms and concepts

D. Testing/Debugging

E. Lists, Collections and other Data Structures

F. Code Maintainability/Reusability/Modularity

Student Outcomes

1. Develop programs that take complex problems and break them down into multiple algorithms that utilize branching, iteration, and collections (and/or other data structures).
2. Develop an understanding of classes, objects, methods, and object-oriented programming.
3. Work with collections of objects and pass objects to other objects.
4. Design an effective program utilizing Class and Collaboration diagrams within Unified Modeling Language.
5. Develop programs using maintainability / modularization / reusability techniques
6. Design and implement error handling.
7. Program utilizing inheritance, polymorphism, abstraction and encapsulation.
8. Design and implement a test plan.

Degree Outcomes

Core Ability - Effective Communication. Graduates will be able to exchange messages in a variety of contexts using multiple methods

Creative and Reflective Thinking - Graduates will evaluate, analyze, and synthesize information and ideas in order to construct informed, meaningful, and justifiable conclusions.

Program Outcomes

1. Use documented user requirements to develop software solutions.
2. Develop software to meet user specifications.

Potential Methods

1. Demonstration
2. Pair Programming
3. Lab Practice
4. Objective Testing
5. Observation
6. Project

Course Layout and Time Requirements

The course is laid out in (10) modules that span 10 weeks. There maybe modules that contain useful information about the course, college success skills and more. You should view all of the pages in the both of these modules before you can begin actual coursework.

Some modules will be completed in one week, others span multiple weeks. You will see the modules as each week progresses, i.e. the module content and assignments when you log into the Canvas course website.

As a rule, you should expect to spend 4 hours per week per credit (4 hours x 5 credits = 20 hours) for satisfactory completion of this CIS course. You should expect to spend (2+) hours per week in class, and at least (18+) hours per week outside of class learning the material and completing practice and graded assignments in this course.

Class Schedule (subject to change)

The following schedule is tentative and subject to change as the course progresses.

Week 1 – An Introduction to Visual Studio

Week 2 - Numbers, Control Structures

Week 3 – Methods, Event Handlers, Exceptions

Week 4 – Arrays, Collections, Dates and Strings

Week 5 – Windows Forms and Controls, Debugging

Week 6 - Classes

Week 7 – Inheritance

Week 8 - Indexers, Delegates, Events and Operators

Week 9 – Interfaces and Generics

Week 10 –Organize and Document Classes

All work is to be submitted as we progress through the course. Each quiz and assignment should be considered an exam (they are formative assessments), and all rules of exams shall apply. This shall apply to all students and all tutors. Check the applicable Pierce College policies if you have any questions on this matter

E-mail and Other Notifications

Please check your student emails and Canvas announcements on a daily basis during the work week. It may contain announcements, corrections and other important information regarding the course. The professor will NOT be available on weekends or holidays, so plan accordingly. You can expect a response to your questions within 24 weekday hours – again no emails will be answered on weekends.

Classroom Management

This course continues a sequence of courses preparing the student to assume a high degree of skill and responsibility in information systems, or to transfer to a four-year university. Therefore, this class will set professional expectations of attendance, punctuality, respect, responsibility, accountability, ethics and effective communication. Students are advised to consider participation in this course to be similar to being employed in the Information Technology field, and act accordingly.

Attendance

Since this is an asynchronous class, attendance is NOT mandatory. There will be a weekly lab practice session Wed 5pm (most weeks).

Grading Scale

Class grading:

Deliverables	Grade %
Assignments – Lab, practice etc.	65%
Quizzes/Tests	25%
Participation/Professional Behavior/Teamwork	10%

You will always know your grading progress by using the "Grades" tool in Canvas. Grading for weekly assignments will be completed prior to the due date of the next week's assignments.

The complete grading scale is as follows:

95-100 = A (4.0); 90-95 = A (3.5-3.9); 80-89 = B (2.5-3.4); 70-79 = C (1.5-2.4); 65-70 = D (1.0-1.5); less than 65 = 0.

CIS students should note that to progress to the next level CIS courses (not CNE courses), a 2.0 is needed in this course.

Professional Behavior/Classroom Conduct

You will be measured by the following interactions with fellow students, any teamwork, in-class behavior and the instructor. (These are also mentioned in the college student code of conduct.)

Professional behavior is defined by:

1- Positive Attitude - Being courteous, respectful, kind and helpful to your classmates, and instructor

2- Professional Interactions - Being constructive and positive in interactions with your classmates and the instructor

3- Taking Initiative – Attempting to solve problems by yourself first, instead of depending on others to solve the problem for you. Problem solving is the bedrock of IT and programming skill building.

4- Learning Attitude - Being a flexible, independent problem-solver, showing initiative in assignments, exhibiting creativity and an ability to adapt to change (these are characteristics that robots cannot replicate).

4- Personal responsibility - Active class participation (which in turn requires regular class attendance)

- See Netiquette tips, in order to be courteous and respectful in email communications with the instructor and fellow students..

Assignment Submission

Each assignment has a due date. You have been pre-assigned to teams. You have the option to switch your programming partner if you have any schedule or personality conflicts.

Some or ALL of the non-practice assignments should be done via ‘pair programming’ i.e. you need to discuss the solution with your teammate and decide how you plan to break up or divvy up the programming work. (This is how work is done in the real world). Each person in the team takes turns creating the video assignment for submission.

Following is a summary of the late grading policy:

- There is a 10% penalty for late assignments – 1-3 days late. 10+-25% penalty if assignment is turned in between 1+weeks after the due date.
- At the instructor's sole discretion, and with prior approval from the instructor, an assignment may be turned in late under mitigating circumstances. These circumstances might include a medical emergency or work travel. If you need to turn in an assignment late, come to an agreement with the instructor ahead of time (NOT during the final week or last day of class).

- If you have an excused late assignment, you will be expected to submit the assignment within a reasonable period of time i.e. about a week from when you are again capable. Generally, late assignments should be turned in a few days from when you begin participating in class after your absence.
- Use the provided rubrics to ensure that you get the most points possible for your efforts, and that you understand the deliverables. All non-quiz graded assignments may have rubrics attached that show the point breakdowns.
- You can expect any assignment to be graded within 7-10 days of the due date.

Cheating & Plagiarism

Cheating and plagiarism will not be tolerated in this class, and will result in a zero grade for the quarter. See the college catalog, or the instructor, if you are unsure of these concepts. http://www.pierce.ctc.edu/about/policy/studentrr.

The nature of some of the assignments involves creating a video file whereby you demonstrate your completed work, and fully explain what you have done. The intent here is to demonstrate that you are both doing your own work, and also learning and applying the material. Other assignments are project-based. These must also be your own work. Quizzes must be done without assistance from others.

Finally, *it is well understood that some or all of the instructor materials for all academic texts may be downloaded by unauthorized persons and used inappropriately*. Doing so will be considered the highest form of cheating, will result in a zero course grade for a single offense, and subject the student(s) involved to disciplinary action by the institution. If you learn of this type of cheating being perpetrated by a fellow student, *you MUST notify the instructor immediately*. Failure to do so will result in your being considered a collaborator when the cheaters are eventually and invariably caught.

Access and Disability Support Services

Your experience in this class is important, and it is the policy and practice of Pierce College to create inclusive and accessible learning environments consistent with federal and state law. If you experience barriers based on disability, please seek a meeting with the Access and Disability Services (ADS) manager to discuss and address them. If you have already established accommodations with the ADS manager, please bring your approved accommodations (green sheet) to me at your earliest convenience so we can discuss your needs in this course.

ADS offers resources and coordinates reasonable accommodations for students with disabilities. Reasonable accommodations are established through an interactive process between you and the ADS manager, and I am available to help facilitate them in this class. If you have not yet established services through ADS, but have a temporary or permanent disability that requires accommodations (this can include but not be limited to; mental health, attention-related, learning, vision, hearing, physical or

health impacts), you are encouraged to contact ADS at 253-964-6526 (Fort Steilacoom) or 253-840-8335 (Puyallup).

The ADS page on the Pierce College website is at https://www.pierce.ctc.edu/dist/supportservices/ads/*. Email addresses to ADS representatives are listed on this page.*

Emergency School Closure

In the event of an emergency school closure, please check your college email during class time. In the event of an emergency school closure, we will conduct class via CANVAS.

Student Accommodation for Faith/Conscience

Reasonable Accommodations for Faith/Conscience: Students who will be absent from or endure significant hardship in course activities due to reasons of faith or conscience may seek reasonable accommodations so that grades are not impacted. Such requests must be made in writing within the first two weeks of the beginning of the course. Students should review the Accommodations for Faith/Conscience Policy and follow the procedures: https://www.pierce.ctc.edu/policy-faith-conscience.

Procedures

Students must submit a completed Request for Accommodation for Faith/Conscience form. Forms are available in the Offices of the Vice President for Learning and Student Success at Fort Steilacoom and Puyallup, and of the Executive Director of Pierce College at Joint Base Lewis McChord (JBLM), as well as online at https://www.pierce.ctc.edu/policy-faith-conscience. The form must be submitted to the Office of the Vice President for Learning and Student Success, the Executive Director of Pierce College at JBLM, or via email to LSSoffice@pierce.ctc.edu within the first two weeks of the beginning of the course in which the absence/hardship will occur.

All requests under this policy must be approved in advance by either the Office of the Vice President for Learning and Student Success or the Executive Director of Pierce College at JBLM; consideration will be given for absence/hardships that occur within the first two weeks of the term. After the first two weeks of the beginning of the course, the college will not authorize an accommodation for an absence/hardship for a student without exceptional and compelling circumstances.

Once approved, students should obtain a signature from each professor with whom they have class on the affected day(s). After notification of the absence/hardship, each professor will determine what adjustments, if any, will need to be made to the scheduled assignments/activities. These adjustments should be communicated from the professor to the student within four business days of receiving the notification.

Students enrolled in Veterinary Technology, Nursing, Dental Hygiene, and other programs with an internship or clinical component should consult with their Program Director and consider Program Handbook policies and procedures early in this process to assure that a reasonable accommodation can be determined.

Students whose courses include a performance or residency requirement that conflicts with an anticipated absence/hardship should speak with the professor to determine whether a reasonable accommodation can be made (e.g. a concert cannot be rescheduled, a host institution may not be able to adjust their calendar, etc.).

If the student's absence/hardship occurs on a day when a test/assessment is scheduled or an assignment is due, the professor may require that the student take the test or submit the assignment before or after the regularly assigned date. If a substantial group engagement activity/project is planned, students should work with their professor to determine whether a reasonable accommodation can be made to minimize impact on other students and assure a similar opportunity for learning can be implemented.

If a student fails to complete the formal process, the professor is not obligated to make any accommodations for the student or treat an absence/hardship as authorized under this policy or the law.

If there is disagreement with regard to determining reasonable accommodation, either party may make their concerns known to the campus vice president/JBLM executive director. Students who have concerns about approval or a grade impact may utilize the student grievance procedure for concerns not directly related to grades https://www.pierce.ctc.edu/policy-grievance, or to the grade appeal process in cases impacting a final grade https://www.pierce.ctc.edu/policy-grade-appeal.