



Clark College

Syllabus

Title:	Microsoft Software Development with C#
No./Sect.	3752
Location:	SHL 125
Time:	TTh 1:00 – 3:20 PM
Credits	5
Prerequisites	Eligibility for ENGL 098. Grade of “C” or better in CTEC 112, CTEC 121, CSE 121, or consent of Instructional Unit.
Minimum Technical Literacy Skills Expected	Some prior programming experience such as CTEC 121 or 126 is assumed. Additional Skills: knowledge about how to use Canvas, send email, add attachments, use of word processing program, installing software, creating presentations, and using internet search.
Description:	Fundamental concepts related to developing desktop and web applications with the Microsoft C# programming language including the use of Microsoft SQL relational database management system. Topics covered include: program design, object-oriented and procedural coding, debugging, testing and documentation. Course is based on the Microsoft Software Development Technology Associate (MTA) Certification, which students will have an opportunity to earn as a component of the course curriculum. [GE]
Preparation for Class	In order to make the most efficient use of class time, I expect students to prepare for each class period. That means reading the Canvas pages and associated readings in the text. This is sometimes called a flipped classroom. Most of your learning will be done outside of the class using online resources. Class time will be dedicated to covering the complex and abstract topics that are hard to understand just from reading a text and to answering questions. You are encouraged to write down questions as you study and bring them to class.

Instructor Information

Name:	Bill Baker
Email:	wbaker@clark.edu
Mailstop	SHL 116
Office Hours:	Immediately after class or by appointment
Preferred Mode of Communication:	Course Slack site: https://ctec135fall19.slack.com Alternates: Canvas mail, email, text to 360-608-1649
Online Availability	I should be available between 10:00 am and 8:00 pm most days.
Philosophy of Teaching:	The only way to learn a programming language is to do programming. Your role as a learner is to actively participate, both in and out of the classroom. That means writing and extending the demo programs in the textbook as well as creating your own code to test your knowledge as well as completing the programming assignments. My role is to facilitate your learning. Programming is often frustrating because of unintelligible error messages and not being able to deliver the desired results. I will provide remote access over much of the week so that I can minimize these types of blockages (and wasting of time). My role is to minimize blockages so that you can make efficient use of your time. In addition I will try to communicate the knowledge I've gained through experience. I promote a safe, positive and respectful classroom environment.
Short Bio	I have a M.S. and Ph.D. in Electrical Engineering. I taught multiple classes at WSU. I worked as a software developer and software development manager for companies in the Portland area. I'm on the board of the Pacific Northwest Software Quality Conference (www.pnswqc.org). Previously at Clark, I taught CTEC 121 Intro to Programming

Required Course Materials and Skills

Text:	Pro C# 7: With .NET and .NET Core, 8th Edition by Andrew Troelsen and Philip Japikse (ISBN-13: 978-1484230176). PURCHASE IS OPTIONAL. This should be available in the bookstore. It is also available as an online version through the library. Start at http://library.clark.edu/ > select Articles & Databases > Select 'B' > Select Books24x7. At the login screen enter just your username, not full email account login. For me that is wbaker NOT wbaker@clark.edu . Enter "Troelsen" on the search bar and select the title.
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Software:	Microsoft Visual Studio Community 2019. See the installation instructions in the Week 0 material. Microsoft SQL Server Management Studio.
Other Resources	I am assuming you have your own computer. If not, the required software is installed in lab computers. Internet access so you can access various Microsoft supported websites having to do with C# Lab: The software above is installed on computers in the teaching lab (SHL 125) as well as SHL 135. Lab hours are posted outside the lab. Thumb drive or other storage (optional): Putting your work on some alternate storage media mitigates personal computer failures. Students at Clark College have access to the Microsoft Office 365 Education for FREE with access to Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and several other software applications. The following link walks students through the process: http://www.clark.edu/campus-life/student-support/computing_resources/microsoftdownloads.php

Skills and Abilities Necessary for Success in this Course

- Apply self-discipline and motivation and time management required to fulfill all course requirements as scheduled in the course calendar
- Have good skills in critical reading, writing, information retrieval, study habits, navigate web sites, including downloading and reading files from web sites; locate information on the internet using search engines
- Identify a computer/Internet back-up plan that can be implemented immediately in the case of technological difficulties. I suggest that you do your work on a thumb drive which is backed up regularly. This will make it easy to move to another computer in case of a failure.
- Frequently communicate with your instructor.
- Save and retrieve documents and files on your computer
- Copy and paste text and other items on a computer
- Download and install software.

Course Outcomes

- Understanding and use of basic C# programming constructs including .NET types, operators, variables, decision structures, repetition structures, and exception handling.
- Understanding and use of objects and classes including concepts of encapsulation, inheritance, polymorphism, and interfaces.
- Understanding of the software development lifecycle.

- Understanding and use of basic data structures (arrays, queues, and stacks) and sorting algorithms (bubble and quick sort).
- Understanding and use of basic database concepts and queries.
- Ability to develop a simple desktop application with a database connection.
- Ability to develop a simple web application with a database connection.
- Pass the 98-361 Software Development Fundamentals using C# exam.

Requirements, Assessments, and Grading

All of the categories below are out of class except for the labs. Labs are completed during class periods. If you can't attend, please contact the instructor prior to class to make alternate arrangements.

Development Environment Setup and Verification (5% of course grade)

These assignments show that you have setup your own system with the software needed for this class and demonstrate that you understand the assignment submission process.

Collaboration and Participation (10% of course grade)

These are a weekly assessments of your participation in the course and collaboration with other students. They are a combination of classroom participation, preparation for class, and online collaboration activities (contributing to Slack or the course Wiki pages)

Textbook Study and Guided Quiz (5% of course grade)

The course covers a lot of material. We will cover a little less than half the chapters in the book or something like 700 pages. And yes, it can be dry reading. One tactic I use for reading these kinds of books is to lightly read the material while looking for key information. In order to help you with this task, I have created "Book Related Quizzes". The quiz questions will guide you to the most important material. I suggest you open the quiz and use the questions as a reading guide while reading the textbook. Answer the question when you find the relevant information in the book. You might also highlight that area for later reference.

I am setting these quizzes up to require that you get 85% or better. Also the lowest score in this category will be dropped.

Labs (15% of course grade)

Labs are programming activities that take place during class periods. They are intended to be completed during class. Access in Canvas will be restricted to the class period. If you can't attend a particular class period, please contact the instructor before class to make other arrangements.

Programming Assignments (40% of course grade)

These comprise the bulk of the course grade. These should be a learning exercise. In addition to the raw code, I expect to see adequate commenting. Code instructs the computer what to do, but it also is a form of human communication. In that sense it is

really no different than a technical paper. You should use the skills you learned in English classes in your commenting:

- Tell me what you are going to do - comment block at top of file
- Tell me what you are doing - comments above each section of code describing what that section does and any other useful information

This category is setup to drop the lowest score.

Module and C# Quizzes (15% of course grade)

These quizzes cover course content. In Canvas, they occur as an end of module assessment. I am using the MTA exam guide as a source for these questions. This is one mechanism to help you prepare for taking the exam.

This category is setup to drop the lowest score.

Final Project (10% of course grade)

This is where you demonstrate that you can put everything you've learned together into a single product.

Bonus

Points awarded for doing something exceptional. Demonstration that you are exploring language or .NET features that are beyond the content for the class or demonstration of considerable effort in helping other students. Points will be added onto existing assignments and will be documented with comments on those assignments.

Timing

Each module will unlock on Friday at midnight. Due dates are distributed throughout the week as a motivation for you to pace yourself. Most assignments will be available until Monday morning at 6:00 AM of the following week. You have until this time to submit assignments for the previous week. It is OK to submit work after the due date, BUT you will be locked out when the assignment becomes unavailable on Monday. No work will be accepted after that date.

The due dates for quizzes and programming assignments are intended to be a pacing guide and no penalty will result in late submission. Other assignments such as labs and discussions have fixed due dates outside of the weekly schedule described above. Failure to complete by the due date may result in scoring penalties.

Grading Summary

Category	Percentage
Dev Environment Setup	5%
Collaboration and Participation	10%
Learning Guide Quizzes	5%
Labs	15%
Programming Assignments	40%
Module and C# quizzes	15%
Final project	10%

Grading Scale

Grade	Percentages
A	93 to 100%
A-	90 to < 93%
B+	87 to < 90%
B	83 to < 87%
B-	80 to < 83%
C+	77 to < 80%
C	70 to < 77%
D	60 to < 70%
F	< 60%

Course Schedule

Week 1 (9/24, 26)

- Introduction to Course
- Object-Oriented concepts
- Introduction to Version Control and Git

Week 2 (10/1, 3)

- Introduction to tools
- Introduction to assignment submission process
- Intro to .NET and C# core constructs (variables, types, expressions, statements, operators, strings, iteration constructs, and decision constructs)

Week 3 (10/8, 10)

- C# core constructs (arrays, methods, and parameters)
- Intro to classes
- Class data and encapsulation
- Overview of exceptions

Week 4 (10/15, 17)

- Inheritance
- Aggregation
- Polymorphism
- Interfaces

Week 5 (10/22, 24)

- .NET Collections (list, stack, queue, dictionary, and linked list)

Week 6 (10/29, 31)

- LINQ and XML docs
- Unit testing

Week 7 (11/5, 7)

- Database access and ADO.NET

Week 8 (11/12, 14)

- Web development and ASP.NET

Week 9 (11/19, 21)

- Windows desktop development - WinForms

Week 10 – 11 (11/26, 12/3, 5)

- Application Lifecycle Management
- Sorting Algorithms
- Final project
- MTA Practice
- MTA Exam

Course/Institutional Policies

Withdrawal Policy:

Students will be allowed to drop a class, without instructor signature, through the seventh week of the quarter. (Note: Classes that meet less than 10 weeks, including summer classes, will have a pro-rated deadline.) Students who drop after the 10th day of the quarter receive a W grade on their transcript, which does not affect their GPA. No drops will be allowed after the eighth week. Students who feel they have extenuating circumstances may appeal this policy by contacting the unit dean before the end of the last scheduled day of the quarter (before finals). The refund policy remains the same.

Attendance Policy:

Student attendance for all classes is highly suggested for students who hope to do well in the course. Original information may be provided during lecture and laboratory classes. Also, part of the instructional process is the development of skills and work habits that can only be demonstrated through regular and responsible attendance habits. Students who miss a significant number of hours of the course for any reason should very seriously consider dropping the course.

Student Code of Conduct:

Professionalism and safety are qualities of behavior that are expected of all computer professionals. Professionalism includes reliable attendance, punctuality, use of safe procedures, care and respect for equipment and supplies, ability to follow instructions, and respect for other workers, supervisors, and customers. Safety requires care and caution with yourself and others.

All Clark College students are expected to follow the CLARK COLLEGE CODE OF STUDENT CONDUCT which specifies that students may NOT cheat, steal, destroy property, threaten or abuse other people, or behave disruptively or obscenely.

Cheating or plagiarism or aiding cheating or plagiarism is NOT permitted. If a student is observed cheating or assisting someone else to cheat, the student will be given a zero grade for that assignment and the violation will be filed with the Vice President of Student Services. If the student is observed cheating a second time, they will be given an "F" grade for the course and the violation will be filed with the Vice President of Student Services.

The following videos provide additional considerations for netiquette:

Netiquette-Playing Nice on the Internet

<https://www.youtube.com/watch?v=mebKKLpYGkQ>

Discussion Board Etiquette

<https://www.youtube.com/watch?v=tVqWcrMPxfY>

Netiquette for Online Courses

<https://www.youtube.com/watch?v=39RMGfAeWbo>

Missed Work:

Late homework is not accepted. Missed examinations or quizzes cannot be made up. Only the most extreme of extenuating circumstances will be considered if exceptions are to be made to these rules. The lowest quiz score and lowest homework score will not be counted towards your final grade.

Penguin Alert for Student Success (PASS formerly AEW - Academic Early Warning):

Your instructor in this course may use the PASS system to let you know if s/he has concerns about your academic performance early enough to give you time to improve. Additionally, instructors may also give kudos by reporting on improved behaviors over the term, such as better attendance, grades or peer support. If your instructor uses PASS to let you know what you need to work on, you will receive an email explaining the problems along with a list of free campus services that can assist you; you may also receive follow-up from support staff, who will offer to help.

As not all instructors will use PASS it is your responsibility to be aware of how you are progressing in your classes. Learn more about the PASS System at http://www.clark.edu/campus-life/student-support/student_success/pass/index.php.

Emergency Information:

In emergencies, students should do the following:

1. Inclement weather or emergency information

Go to www.clark.edu or call 360-992-2000 as your first means of getting information. The College does send notices to radio and television stations, but the College's web site and switchboard are the official platforms for the most accurate information.

2. Immediate emergency communication alert

To receive immediate notice on emergencies, you can register your cell phone number to receive text pages and your email address to receive email messages. To do this, go to www.flashalert.net. Select "Subscribe" on the left, and follow the instructions. Mass communication will also be sent to all college employee phones and computers.

3. Fire Alarm

Evacuate the building through closest exit; evacuation maps are located in the hallways. Take personal belongings only if it is safe to do so. Remain at least 50 feet from the building. Notify others of evacuation. Do not re-enter building until instructed to do so.

4. Parking Lot Identifiers

New parking lot identifiers using colors and numbers have been assigned to all Clark parking lots. To help emergency or security personnel locate you, please refer to these identifying features.

5. Security Escort

Security Officers are available for escorts please call 360-992-2133.

Institutional Policies

ADA Accommodations

Reasonable accommodations are available for students who have a documented disability. Disability Support Services (DSS) coordinates reasonable accommodations for students with disabilities and/or temporary health conditions (could include a temporary injury or pregnancy). Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Disability Support Services office as soon as possible to better ensure that accommodations are implemented in a timely manner. All accommodations must first be approved through Disability Support Services. Disability Support Services is located in PUB 013, which is on the lower level. For an appointment or information, please visit www.clark.edu/dss or contact 360-992-2314 (voice) or 360-991-0901 (video phone) or email dss@clark.edu. Once you have established accommodations with Disability Support Services, please contact me as soon as possible to discuss your needs in this course.

Disability Support Services (DSS) website:

http://www.clark.edu/campus-life/student-support/disability_support/index.php

Accessibility resources for Canvas are available at the following links:

<https://www.canvaslms.com/accessibility>

<https://community.canvaslms.com/docs/DOC-2061>

Accessibility resources and VPATs for Microsoft products are available at the following links:

<https://support.office.com/en-us/article/Office-Accessibility-Center-ecab0fcf-d143-4fe8-a2ff-6cd596bddc6d?ui=en-US&rs=en-US&ad=US>

<https://enterprise.microsoft.com/en-us/industries/government/section-508-vpats->

[for-microsoft-products/](#)

Accessibility resources for other software programs are available at the following link:

<http://www.clark.edu/academics/eLearning/accessibility-statements.php>

Non-discrimination Policy

Clark College affirms a commitment to freedom from discrimination for all members of the college community. The responsibility for, and the protection of, this commitment extends to students, faculty, administration, staff, contractors, and those who develop or participate in college programs. It encompasses every aspect of employment and every student and community activity. The college expressly prohibits discrimination on the basis of race, color, national origin, age, perceived or actual physical or mental disability, pregnancy, genetic information, sex, sexual orientation, gender identity, marital status, creed, religion, honorably discharged veteran or military status, or use of a trained guide dog or service animal.

Title IX and Sexual Misconduct

Clark College's sexual misconduct policy (WAC 132N-125-035(14)) strictly prohibits sexual harassment, intimidation, and violence, including domestic and dating violence, and stalking. Anyone experiencing sexual misconduct is encouraged to talk to someone about what happened so they can get the support needed, and Clark College can respond appropriately. If you wish to speak confidentially about an incident of sexual misconduct, please contact a counselor at the Counseling and Health Center: http://www.clark.edu/campus-life/student-support/counseling/health_services/. Any disclosure of such misconduct shared with a faculty or staff member in person, via email, and/or in coursework requires that Clark College faculty and staff act as "responsible employees" and share this information with the Title IX Coordinator, Maria Masson, Assistant Director of Human Resources. Information regarding support, resources, and reporting options can be found online at: <http://www.clark.edu/clark-and-community/about/policies-procedures/title-IX/index.php>

Academic Early Warning (AEW)

I will be using the Academic Early Warning (AEW) system in my courses to let you know if I have concerns about your academic performance early enough in the quarter to give you time to address the concern. Academic Early Warning allows me to draw your attention to certain risky academic behaviors that may pose threats to your success in my course and as a student in general. That information will be merged into an email. In addition to the following categories of reports I can submit, I may also add an additional comment that will appear in

your email. CATEGORY USED: Low or Missing Quiz/Study Guide Question/Discussion scores.

Support Services

Food or Housing Security

Any student who has difficulty affording groceries, accessing sufficient food to eat every day, or who lacks a safe and stable place to live, is urged to contact the Dean of Student Engagement, Cath Busha (cbusha@clark.edu), for support. Furthermore, please notify me (your instructor) if you are comfortable doing so; this notification will enable you and I to brainstorm potential resources and support together.

Important College-wide Student Information

Visit <http://www.clark.edu/cc/syllabi> for important college-wide student information related to weather, emergencies, and college security.

Technical Support

Click the “Help” button on the bottom left inside Canvas and click “Report a Problem” and fill out the form to submit a “tech ticket.” You will receive follow up responses to your issue in your Clark student Gmail account.

You can also access the Canvas Guides by clicking the “Help” button on the bottom left inside Canvas and clicking “Search the Canvas Guides” and type a search word at the top. The entire Canvas Student Guide is available at this link: <https://community.canvaslms.com/community/answers/guides/canvas-guide>

If you are on campus, you can get help for Canvas and other software (Clark student Gmail, Word, etc.) at the Tech Hub in the Library. The hours, phone number, and additional information are available at this link: <http://library.clark.edu/?q=content/techhub-0>

Open Computer Labs

Labs at Clark College will be open certain hours each day, including Saturdays and Sundays, for students to complete their assignments. Lab hours are usually posted on the door outside each lab. See http://www.clark.edu/campus-life/student-support/computing_resources/index.php for details.

Academic and Student Support Services and Resources Helpful Links

Clark College students are supported by many excellent services and educational resources on campus.

For the complete Clark Directories, visit this link:

<http://www.clark.edu/directories/index.php>

For the Clark Students resources, visit this link:

<http://www.clark.edu/current/index.php>

For detailed information on the Academic and Support Services that are FREE to students and what they provide, visit this link:

http://www.clark.edu/campus-life/student-support/student_success/Documents/free-student-support-services.pdf

Academic Support Services and Resources

eLearning Student Resources:

<http://www.clark.edu/academics/eLearning/resources.php>

Online/On-Campus Canvas Orientations:

http://www.clark.edu/academics/eLearning/student_orientation.php

Is eLearning Right for Me? Assessment):

http://www.clark.edu/academics/eLearning/self_assess.php

Accessibility and Privacy Policies for Software Used:

<http://www.clark.edu/academics/eLearning/accessibility-statements.php>

Online Student Services: https://www.clark.edu/current_students/index.php

Tutoring (including eTutoring): <http://www.clark.edu/campus-life/student-support/tutoring/index.php>

Language and Writing Center: <http://www.clark.edu/campus-life/student-support/tutoring/lwc.php>

STEM (Science, Technology, Engineering, and Math) Centers:

<http://www.clark.edu/campus-life/student-support/tutoring/stem.php>

Clark College Library: <http://library.clark.edu/>

Citing sources (MLA, APA, etc.): <http://libraryguides.library.clark.edu/citing-sources>

IRIS tutorials for avoiding plagiarism and research:

<http://libraryguides.library.clark.edu/tutorials-home>

Student Support Services and Resources

Online Advising: https://www.clark.edu/online_advising/

Financial Aid: <http://www.clark.edu/enroll/paying-for-college/index.php>

Registration: <http://www.clark.edu/enroll/registration/index.php>

Counseling: <http://www.clark.edu/campus-life/student-support/counseling/index.php>

Career Center: <http://www.clark.edu/enroll/careers/index.php>