INFO 3231 - Business Applications Development
Spring 2021

Instructor:	Prof. Ming-Chang Huang
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Office location:	
Office hours:	MW: 4:00 – 5:00 PM or by appointment
Course Website:	http://canvas.uncc.edu
TA & Email:	
Class Time:	MW: 2:30 - 3:45 PM
Class Place:	Online on Zoom

- This is an <mark>online course</mark> for the semester Spring 2021. We will meet in Zoom on every Monday and Wednesday at class time.

Syllabus: This document contains the policies and expectations established for this course. Be sure to read the entire syllabus carefully before continuing in this course. These policies and expectations are intended to create a productive learning atmosphere for all students. Unless you are prepared to abide by these policies and expectations, you risk losing the opportunity to participate further in the course. The standards and requirements set forth in this syllabus may be modified at any time by the instructor. Notice of such changes will be by announcement in class and/or by changes to this syllabus posted on the course Canvas website.

Course Description: This course is designed to study the development of business applications software. The emphasis will be on the graphical user interface development using object-oriented, event-driven programming methods and techniques with a high-level development tool.

Course Objectives: Upon completion of this course, each student should be able to effectively design, develop, and test business applications written in the Visual C# programming language using Microsoft's Visual Studio Integrated Development Environment (IDE). Specifically, students should be able to:

- Understand the underlying foundations of programing in Visual C#.
- Utilize predefined classes provided in the .NET Framework Class Library and on-line documentation.
- Define, describe, and explain general coding and formatting rules with appropriate data types for specific applications in Visual C#.
- Understand and use decision (conditional) and repetition (looping) statements in a program.
- Define, describe, and use methods and objects in Visual C#.
- Understand how to declare and use various data types including strings and arrays.
- Create appropriate graphical user interfaces (GUIs) for basic windows applications.
- Create and use user-defined classes and class libraries.
- Develop, test, and document a professional looking software package.

Prerequisites: INFO 3130 with grade of C or above.

Text and Materials:
  (1) Microsoft Visual C# 2017: An Introduction to Object-Oriented Programming, by Joyce Farrell, Seventh Edition **ISBN: 978-1-337-10210-0**
  (2) Software: Microsoft Visual Studio 2017 or 2019
  (3) Lecture presentations, coding examples, assignments and additional course materials will be posted and managed in the course section on Canvas.

Email Policy: Please use the email address specified above for electronic communication. Responses to student emails will typically occur within 24 hours or less. **When emailing the instructor or graduate assistants, proper subjects lines containing your course and section number are required (Example: INFO3231-001). Messages missing proper subject lines may be deleted for security reasons.**

Course Workload: The expectation is that students will spend at least 6+ hours per week outside of class time practicing coding examples, working on assignments, group projects and preparing for examinations. We will use Visual Studio to work on all example programs and all your program assignments. Of course, you may use a different programming tool to compile and run your works. The Visual Studio 2017 or 2019 will work. The 2019 version is available from the school software website. You can download and install it on your Windows computer.

If your programming background is limited, it is recommended that you spend additional time practicing examples and exploring supplemental learning resources outside of the provided course materials. In addition to the course textbook, there is no shortage of online resources and documentation provided by Microsoft for improving your skills with Visual C# and the Visual Studio IDE. Learning a programming language, just like learning a new spoken language, takes time but with the proper tools, resources and adequate practice mastery is possible.

Grading:
Four exams will be administered throughout the semester. There will also be a total of five (5) individual programming assignments and a group software development project. The grade breakdown by component is provided below:

Component	Percentage
Exams (4 midterms @ 15% each)	55%
Group Project (1)	15%
Individual Assignments (4~5 assignments)	25%
Attendance & Participation	5%
Total	100%

Grading Scale:

90 -100	A
80 – 89.99	B
70 – 79.99	C
60 – 69.99	D
0 – 59.99	F

Exams: Exams will be taken online. I will not accept any late submissions via emails. You need to submit your exam answer in time on Canvas. There may be two parts to each of the exams. Part A will test your general knowledge gained from the textbook readings and classroom lecture/discussions. Part B will test your ability to apply your knowledge of the Visual C# programming language into working code through hands-on coding activities. To be properly prepared for the hands-on component (Part B) of the exams, do not just read the textbook and presentation slides. Instead, work out as many coding examples as possible. Learning how to program does not mean you understand the logic by just looking at sample code. You should at least be able to reproduce your own version of working code for each code example. Keep in mind that you learn a lot more from such programming practices than from reading hundreds of pages in textbooks. In the world of coding you learn by doing, while textbooks and online resources are used more as reference guides.

The instructor will keep all exams. Exams are a form of intellectual property belonging to those who create them. Therefore, the exam materials must remain in the instructor's possession or control. Exams may not be taken outside of the labs or copied for any reason. Failure to return an exam after taking or reviewing it or removing an exam from my presence at any time or copying an exam will be considered theft of intellectual property. Such action will result in an exam grade of zero and may warrant further disciplinary action.

Should a student miss an exam because of missing a class, that student will receive a grade of zero for that exam. Make-up exam accommodations will only be provided under rare circumstances and **require proper documentation**. Proper documentation may take the form of a written notice from the Dean of Students office, a medical excuse provided by a board-certified physician or comparable medical professional, or a written excuse provided by a current university faculty/staff member. If an excuse is approved before the date of the examination (**proper documentation required**) then the student will be scheduled to take the make-up exam within three school days (M-F). *Late assignments are never accepted for full credit, and due dates cannot be extended for individual students, no exceptions.*

Important: **You cannot use MS Visual Studio or any other programming software (tools) to work on any exam questions. This is treated as a cheating behavior. Your exam score will be set to zero (0) once it is found to your answers.**

Posting grades: Students will have access to their exam grades via Canvas. The course grades posted on Canvas are for informational purposes only. Students can use the grades posted on Canvas and the rubric shown above to calculate their current course grade. To ensure information privacy, student grade details cannot be discussed via email.

Individual Assignments: Students will complete five individual programming assignments during the semester. These assignments should be submitted via Canvas by 11:59pm on the due date. Assignments submitted after the due date will be considered late. Late submissions are not accepted. You need to submit your files in time on Canvas.

Students must complete each of the programming assignments individually. Any sharing or collaboration between students will be considered a violation of the Academic Integrity Code and will result at a minimum in a grade of zero for the assignment with a possibility of further disciplinary action. All code submissions will be subjected to industry grade code scanning tools to verify uniqueness and author authenticity.

Group Project: Students will form groups to complete a software development project. The complete list of group members must be submitted to the instructor with all the group members copied (CC) by 11:59pm on the

due date. All members in a group are expected to contribute to the project. Groups are self-managed and self-governed. If a group member does not contribute, the rest of the members may, after a consensus agreement and the instructor's consent, ask him/her to leave the group. The maximum project grade for students not belonging to a group will be an 80% (B) of the final project score. Late submissions are not accepted.

Presentations for the final project are required on the final exam day. Each of the group members should show to present his/her works.

Policies

Course Changes Policy
The instructor reserves the right to make any necessary changes to the course content, schedule, and policies.

Attendance & Participation: The class meetings will be online in WebEx. Students must attend all class meetings including lectures, labs, quizzes, examinations, and presentations. Attendance will be taken every class. You need to sign in on Canvas every class with a password provided before the end of each class. Class attendance is highly correlated with learning the material and performing well on the course assignments and examinations.

Note that (1) some topics discussed in the classroom are not covered adequately in the textbook, thus the instructor will present alternative approaches, and (2) historically, those who skip the class tend to make less than their target grades and (3) the instructor refuses to answer questions due to absenteeism. A student that misses a class is responsible for obtaining any needed information (e.g., notes, announcements, assignments, etc.) from fellow students. **Students are expected to contribute to the active class discussions.**

Class Preparation: Students are expected to study the textbook and other posted materials (notes, presentations, etc.) **prior to each respective lecture**. Additionally, students must be prepared to intelligently contribute to active class discussions and answer questions related to the current topics.

Class Cancellation: If I am unable to attend class or the University is closed unexpectedly, assume the material will be moved forward to the next meeting unless otherwise specified. Recorded lectures may also be posted on Canvas to avoid impacting the course schedule.

Assignments Policy: This 3-credit course requires three hours of classroom or direct faculty instruction and six hours of out-of-class student work each week for approximately 15 weeks. Out-of-class work may include, but is not limited to, required reading, library research, written assignments, and studying for quizzes and exams.

You must complete each individual assignment/quiz on your own. Any sharing or collaboration between students will be considered a violation of the Academic Integrity Code and will result at a minimum in a grade of zero for the assignment with a possibility for further disciplinary action.

Academic honesty/integrity: THE UNC CHARLOTTE CODE OF STUDENT ACADEMIC INTEGRITY governs the responsibility of students to maintain integrity in academic work, defines violations of the standards, describes procedures for handling alleged violations of the standards, and lists the applicable penalties. The following is a list of prohibited conduct in that Code as violating these standards: A) Cheating; B) Fabrication and Falsification; C) Multiple Submission; D) Plagiarism; E) Abuse of Academic Materials; and F) Complicity in Academic Dishonesty. For more detail and clarification on these items and on academic integrity, students are strongly advised to read the current "UNCC undergraduate catalog."

The instructor may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Disability Services Accommodations: If you are currently registered with disability services and quality for academic accommodations, please provide your letter of accommodation from the Office of Disability Services at the beginning of the semester.

Religious Accommodation for Students: The University of North Carolina at Charlotte is committed to diversity, nondiscrimination, and inclusiveness, and to supporting its students, regardless of religious affiliation or non-affiliation, in accordance with state and federal laws and regulations. As part of this commitment, the University makes good faith efforts to accommodate a student's religious practice or belief, unless such accommodation would create undue hardship. Details associated with this policy can be found by visiting https://legal.uncc.edu/policies/up-409.

Miscellaneous:
- The instructor reserves the right to change the course outline, and the course contents.
- There will be no extra credit offered for any individual student during the semester.
- The instructor will keep all exams.
- All electronic & mobile devices such as cell/smart phones, laptops, tablets, etc. must be kept silent during the lecture.

Statement on Diversity:
The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socioeconomic status.

Disability Services Accommodations:
UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information on accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office in Fretwell 230.

Course Outline

- *Tentative Course Outline and (the instructor has the right to change it)*

Week	Date	Topics / Due Tasks & Dates	Reading
Week 1 **(Jan. 20 ~ 22)**		Introduction - The C# Programming Language	Ch. 1
Week 2 **(Jan. 25 ~ 29)**		Using Data	Ch. 2

Week 3 **(Feb. 1 ~ 5)**		Using GUI Objects & Visual Studio IDE	Ch. 3
Week 4 **(Feb. 8 ~ 12)**		**Spring Break**	
Week 5 **(Feb. 15 ~ 19)**	**2/17**	**Exam 1**	
Week 6 **(Feb. 22 ~ 26)**		Making Decisions	Ch. 4
Week 7 **(Mar. 1 ~ 5)**		Looping	Ch. 5
Week 8 **(Mar. 8 ~ 12)**		Using Arrays	Ch. 6
Week 9 **(Mar. 15 ~ 19)**	**3/15**	**Exam 2**	
Week 10 **(Mar. 22 ~ 26)**		Using Methods	Ch. 7
Week 11 **(Mar. 29 ~ Apr. 2)**		Advanced Method Concepts	Ch. 8
Week 12 **(Apr. 5 ~ 9)**		Using Classes and Objects	Ch. 9
Week 13 **(Apr. 12 ~ 16)**	**4/12**	**Exam 3**	
Week 14 **(Apr. 19 ~ 23)**		Introduction to Inheritance	Ch. 10
Week 15 **(Apr. 26 ~ 30)**		Exception Handling	Ch. 11

Week 16 (May 3 - 7) May.5 - Last day of classes	**5/3**	**Exam 4**	
Week 17		Project Presentations (on Final exam Day)	