

**UNC CHARLOTTE  
BELK COLLEGE OF BUSINESS**

**INFO 3231 Business Applications Development – Spring 2020**  
**001 MW 5:30pm – 6:45pm Friday 339**  
**002 MW 7:00pm – 8:15pm Friday 339**

**Course content:** Accessible via <http://canvas.uncc.edu>

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Office: Friday 253B  
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**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.

**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: INFO 3231 001). Messages missing proper subject lines will be deleted for security reasons.**

**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 (provided)*
- (3) Lecture presentations, coding examples, assignments and additional course materials will be posted and managed in the course section on Canvas.

**Prerequisites:** INFO 3130 with grade of C or above.

**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 programming 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.

**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, and preparing for examinations. 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:** Three regular semester exams will be administered throughout the semester, with a final cumulative exam completed during final exam week. Students will also complete and submit a total of five (5) **individual programming assignments** and a final capstone application project. The grade breakdown by component is provided below:

Component	Percentage
Practice Assignment Submission	2%
Initial Assignment Submissions (5 @ 3% each)	15%
Final Assignment Submissions (5 @ 3% each)	15%
Capstone Application Project Submission	8%
Exam 1 – Part A ( <i>conceptual</i> )	7.5%
Exam 1 – Part B ( <i>applied</i> )	7.5%
Exam 2 – Part A ( <i>conceptual</i> )	7.5%
Exam 2 – Part B ( <i>applied</i> )	7.5%
Exam 3 – Part A ( <i>conceptual</i> )	7.5%
Exam 3 – Part B ( <i>applied</i> )	7.5%
Final Exam – ( <i>cumulative conceptual</i> )	15%
<b>Total</b>	<b>100%</b>

The final course grade will be calculated based on the following scale; **no additional rounding will occur.**  
A: 100-89.5% and above; B: 89.4-79.5%; C: 79.4-69.5%; D: 69.4-59.5%; F: 59.4-0.0%.

**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. Submissions will not be accepted after the due date has passed. **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.

There will be *two submissions* for each assignment:

- (1) **An initial assignment submission worth (3%)** of a student's overall course grade. These initial submissions will not be graded based on correctness, rather they will be graded based on the quality of the students attempt. For this initial assignment submission students should attempt to complete both the user interface forms and the back-end code based on the assignment instructions.
- (2) **A final assignment submission worth (3%)** of a student's overall course grade. A lab session period will be dedicated to reviewing each assignment. Students will work in groups to evaluate and correct each-other's applications. During this lab session, the instructor will also review the correct solution and individually evaluated each student's final assignment submission.

**Assignments are designed to align closely with the material covered on upcoming exams, providing students with multiple structured opportunities to apply their knowledge and practice the various concepts introduced throughout the semester. All Visual Studio assignment and exam solution files must be submitted in accordance with the documented File Submission Process (refer to detailed instructions posted on Canvas). Students will not receive credit for any incorrect, partial, and/or corrupt solution file submissions. No exceptions. Carefully refer the File Submission Process.**

**Exams:** Exams will be administered in class. **There will 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 and assignment. Keep in mind that you learn a lot more from practicing coding 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 as a result 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/exams are never accepted, and due dates cannot be extended for individual students, no exceptions.**

**Posting grades:** Students will have access to all of their grades via Canvas. The course grades posted on Canvas are for informational purposes only. The official overall grade is computed and kept in the instructor's grade book. **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.

## Policies

**Attendance & Participation:** Students must attend all lectures, labs, quizzes, examinations and presentations. Attendance will be taken on demand. 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.

**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 qualify 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>.

**Philosophy of teaching:** I demand meaningful learning, which can be interpreted by being able to translate the ideas, free of errors, into your own words and solve problems that are structurally different from those presented in class and textbook(s). Hence, always try to learn the materials by concentrating on the underlying principles. I will try to make you think by asking you questions and problems, which may not be directly covered during the class lectures.

**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 socio-economic 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.

**Adverse Weather Policies:**

The University's Adverse Weather Policy (University Policy 701; <http://legal.uncc.edu/policies/up-701>) states that, without exceptions, the University is open unless the Chancellor (or Chancellor's delegate) announces that the University is closed. Faculty are required to follow the procedures outlined in the policy. The University's inclement weather number is 704-687-1900.

**INFO3231 - BUSINESS APPLICATIONS DEVELOPMENT**

Tentative Course Schedule (MW)

#	Date	Chapters	Topic	Due Dates/Notes
1	1/8	1	Introduction - The C# Programming Language	
2	1/13	1	Self Study Day - Introduction - The C# Programming Language	<b>Online:</b> Watch File Submission Video, Visual Studio IDE Overview, MyFirstConsoleApp
3	1/15	1	Introduction - The C# Programming Language ( <i>Bests Car Brands App</i> )	<b>In Class:</b> Complete/Grade Practice Assignment
-	1/20	-	MLK Day - No Class	
4	1/22	2	Using Data - Variables, Operators, and Constants ( <i>Variable Examples App</i> )	
5	1/27	3, 12, 13	Self Study Day - Using GUI Objects, Forms, Controls, and Handling Events	<b>Online:</b> Read Chapters, Review Slides & Videos
6	1/29	2	Using Data - Variables, Operators, and Constants ( <i>Circle Area App</i> )	<b>Initial Assignment #1 Due Online (1/29)</b>
7	2/3	1, 2, 3, 12, 13	Assignment #1 Review Session	<b>In Class:</b> Complete/Grade Final Assignment #1
8	2/5	1, 2, 3, 12, 13	<b>Exam I</b>	
9	2/10	4	Making Decisions - Selection Structure	
10	2/12	4	Making Decisions - Selection Structure ( <i>Math Calculator &amp; Random Swap Apps</i> )	
11	2/17	5	Looping - Repetition Structure	
12	2/19	5	Looping - Repetition Structure ( <i>Financial Payment Calculator App</i> )	
13	2/24	6	Using Arrays ( <i>Lottery Game App</i> )	<b>Initial Assignment #2 Due Online (2/24)</b>
14	2/26	4, 5, 6	Assignment #2 Review Session	<b>In Class:</b> Complete/Grade Final Assignment #2
-	3/2		Spring Recess - No Class	
-	3/4		Spring Recess - No Class	<b>Initial Assignment #3 Due Online (3/8)</b>
15	3/9	4, 5, 6	Using Arrays (Lottery Game App) / Assignment #3 Review Session	<b>In Class:</b> Complete/Grade Final Assignment #3
16	3/11	4, 5, 6	<b>Exam II</b>	
17	3/16	7	Using Methods	
18	3/18	7	Using Methods ( <i>Electric Company App</i> )	
19	3/23	8	Advanced Method Concepts	
20	3/25	8	Advanced Method Concepts ( <i>Electric Company Expanded App</i> )	
21	3/30	9	Using Classes and Objects	<b>Initial Assignment #4 Due Online (3/30)</b>
22	4/1	9	Using Classes and Objects ( <i>Grade Calculator App</i> )	<b>Initial Assignment #5 Due Online (4/5)</b>
23	4/6	7, 8, 9	Assignment #4 Review Session	<b>In Class:</b> Complete/Grade Final Assignment #4
24	4/8	7, 8, 9	Assignment #5 Review Session	<b>In Class:</b> Complete/Grade Final Assignment #5
25	4/13	7, 8, 9	<b>Exam III</b>	
26	4/15	-	Multiple Forms Examples ( <i>Capstone Application Project</i> )	
27	4/20	-	Working with Multiple Forms & Databases ( <i>Capstone Application Project</i> )	
28	4/22	-	Working with Multiple Forms & Databases ( <i>Capstone Application Project</i> )	
29	4/27	-	Working with Multiple Forms & Databases ( <i>Capstone Application Project</i> )	<b>Capstone Application Project Due Online (5/1)</b>
30	TBA	All Chapters	<b>Final Exam</b>	