

NORTHERN KENTUCKY UNIVERSITY
BIS 305: Advanced Business Programming
COURSE SYLLABUS (Fall 2018)

Course number and section:	Room Number:	Class Day and Time:
BIS305-001 & BIS305-002	GH 144	R 06:15-09:00 PM
BIS305-003 & BIS305-004	Online	Online

Instructor: Mark McFadden
Office: TBD
E-mail: mcfaddenm1@nku.edu
Office Hours: TBD (virtual office hours)

Our Vision

NKU sees the metropolitan region as representing not just a set of learning needs to be served but also as a powerful source of knowledge and experience that can strengthen, enhance, and enrich every dimension of its educational mission to discover, transmit, apply, and preserve knowledge.

Our Mission

Our primary mission is to educate students from the Northern Kentucky/Greater Cincinnati metropolitan region to perform effectively and ethically in a global environment as professionals in business, public, and social enterprises. We will leverage the partnerships between students, faculty and the community to continuously improve the educational experience of our students and to enhance the integration of scholarship and service with classroom learning.

NKU's Quality Enhancement Program (QEP)

NKU has chosen to emphasize the ways in which active learning occur throughout the curriculum and coursework. The active learning component of BIS 305 is found in the completion of the hands-on projects that correspond with the concepts of advanced business programming found in this course.

Assurance of Learning

This course, BIS 305: Advanced Business Programming, is designed to meet the objectives that all business informatics majors graduate with demonstrated:

1. Competent problem solving skills, and
2. Sound programming knowledge and skills

CATALOG COURSE DESCRIPTION:

Computer software design and programming in an applications development environment; systems design, programming techniques, and language syntax for developing computer based business systems; programming system methodologies. Prerequisites: INF 110 or INF 120.

COURSE MATERIALS:

TEXTBOOK (REQUIRED):

- Corinne Hoisington. (2018). **Microsoft Visual Basic 2017 for Windows, Web, Windows Store, and Database Applications: Comprehensive**
- ISBN-13: 9781337102117
- Note: **The comprehensive edition contains all chapters as others may not. Therefore, do not purchase any other edition.**

SOFTWARE TOOLS:

- Microsoft Visual Studio Community 2017
 - This is a free download

* Canvas software components accessed through <https://nku.instructure.com/>

Canvas Help: <https://cite.nku.edu/facstaff/canvasstudent.html> or Call the IT Help desk at 859-572-6911 (provide a daytime contact phone number and current email address).

COMPUTER SYSTEM REQUIREMENTS FOR VISUAL STUDIO 2017 COMMUNITY:

- Note that IOS (MAC) and Linux OS based systems can be utilized by accessing a COI Lab virtual machine via VPN access as they have Visual Studio 2017 Community installed. See the **Virtual Labs Access** section below.
 - **Therefore, you will NOT use the Visual Studio 2017 for Mac edition as it is different than Visual Studio 2017 for Windows. Visual Studio 2017 for Windows is the required course software.**
- If you do not have a system that meets the system requirements below, you can access a COI Lab virtual machine via VPN access as they have Visual Studio 2017 Community installed. See the **Virtual Labs Access** section below.
- Also note that the classroom, GH144, will have Visual Studio 2017 Community installed.
- System Requirements:

Supported Operating Systems	<p>Visual Studio 2017 will install and run on the following operating systems:</p> <ul style="list-style-type: none"> ● Windows 10 version 1507 or higher: Home, Professional, Education, and Enterprise (LTSC and S are not supported) ● Windows 8.1 (with Update 2919355): Core, Professional, and Enterprise ● Windows 7 SP1 (with latest Windows Updates): Home Premium, Professional, Enterprise, Ultimate
Hardware	<ul style="list-style-type: none"> ● 1.8 GHz or faster processor. Dual-core or better recommended ● 2 GB of RAM; 4 GB of RAM recommended (2.5 GB minimum if running on a virtual machine) ● Hard disk space: up to 130 GB of available space, depending on features installed; typical installations require 20-50 GB of free space. ● Hard disk speed: to improve performance, install Windows and Visual Studio on a solid state drive (SSD). ● Video card that supports a minimum display resolution of 720p (1280 by 720); Visual Studio will work best at a resolution of WXGA (1366 by 768) or higher.

ADDITIONAL REQUIREMENTS

- Reliable connection to the Internet
- Graphics-based Internet browsing software such as Google Chrome, Firefox, or Microsoft Edge
- Browser plug-ins as required by your course content
- Adobe Acrobat Reader – Free download at www.adobe.com.
- PowerPoint viewer – To download free PowerPoint viewer, go www.microsoft.com. Under Resources, click Downloads. Under Products/Technology, select PowerPoint.

- Microsoft Access - Use your username and password provided from a DreamSpark e-mail that will be sent to you to login to the site. Go to "Software" section to go through downloading process (it should require you to go through the shopping cart process, although it is free).

COURSE OBJECTIVES:

This course covers sound programming techniques using Microsoft Visual Basic 2017 with Visual Studio 2017. Students will learn software design and programming concepts and practice those concepts through hands-on applications.

Specific topic coverage (tentatively) includes:

- An Introduction to Visual Basic 2017 Programming
- Program and Graphical User Interface Design
- Program Design and Coding
- Variables and Arithmetic Operations
- Decision Structures
- Loops Structures
- Using Procedures and Exception Handling

STUDENT LEARNING OUTCOMES:

At the completion of this course, the student will be able to:

- Understand the fundamentals of the Microsoft Visual Basic 2017 programming language
- Understand and apply graphical user interface design principles
- Utilize the development cycle when creating applications, which mirrors the same approach that professional developers use
- Illustrate well-written and readable programs using a disciplined coding style, including documentation, commenting, and common coding standards
- Demonstrate how to implement logic involving sequence, selection, and repetition using Visual Basic 2017
- Demonstrate the use of critical thinking skills in the application development process
- Write useful, well-designed programs that solve practical business problems
- Organize complex programs by using procedures and to anticipate and prevent errors by managing exceptions
- Understand how to use arrays and files that handle data to make programs more robust by defining classes and using the power of inheritance

COURSE FORMAT:

Sections 001 & 002:

The course will consist primarily of in-class lectures, assigned readings and documentation and programming assignments.

Sections 003 & 004:

This course is taught in a web-based format. The class sessions will be conducted completely online using the learning management system Canvas. For these Canvas sessions, participants will NOT meet as a group on NKU's campus. However, if a student in these sections requires assistance, they can attend the in-class sessions for further aid. The professor reserves the right to schedule in person and virtual sessions as needed.

Virtual Labs Access: A Virtual Private Network connection allows students and faculty to remotely access Visual Studio 2017 Community. Students and faculty can connect to the NKU virtual computer lab from their personal devices (i.e. iPads, Macs, Windows, and Linux computers, etc.). Instructions are available at <http://access2.nku.edu/view>.

COURSE POLICIES:

Course Grading:

To arrive at a final grade for the course, evaluation of a student's performance is made as follows:

- Exams = 60%
 - A Midterm and Final Exam will consist of 30 multiple choice questions (2 points each) and 4 short Answer/Coding questions (10 points each).
- Coding Assignments = 40%
 - There will be a total of 10 coding assignments covering new topics per the schedule followed by examples of simple programs. Assignment will be like a chapter project. Most of the assignments are hands-on projects from the textbook.
 - For assignment projects, students should name the project as “***YourlastnameAssignment 1***” etc. where “Yourlastname” to be replaced by the real last name, and using the number of the assignment to distinguish (ex. McFaddenAssignment1).
 - Links in which to submit the assignment in Canvas will be active for 1 week past the due date, except for the last assignment. After that date the assignment will not be accepted unless previously approved by the instructor prior to the assignment due date.
 - Note that you are responsible to check for weekly announcements in the Announcements section of Canvas as well as email messages sent to your NKU email account. Typically, the announcements will be posted at 6 PM Sunday for that week's information.
 - Each assignment is worth 4 points. Here is how the 4 point total of the Chapter Assignments are determined:
 - 1 point for documentation (Use Case & Event Planning Docs) - this demonstrates your understanding of the first 3 SDLC phases:
 - Gather and Analyze the Program Requirements - The developer must obtain information that identifies the program requirements and then document these requirements.
 - Design the User Interface - After the developer understands the program requirements, the next step is to design the user interface (after creating the Use Case Document). The user interface provides the framework for the processing that will occur within the program.
 - Design the Program Processing Objects - A computer program consists of one or more processing objects that perform the tasks required by the program. The developer must determine what processing objects are required and then determine the requirements of each object (and reflect these findings in the Event Planning Document).
 - 1 point for User Interface (UI) - per your requirements analysis, your UI should be both visually appealing and functional.
 - 1 point for well commented, big free code - per the team standards as described in the textbook, introductory and procedure comments are present and informative (p. 111-114), variables named correctly (Appendix B), and the project code compiles without errors
 - 1 point for meeting all the assignment's requirements.
 - Therefore, if a submission meets items 2, 3, and 4 above but does not have documentation, item 1, then the score is 3. Also, if a submission meets items 1, 2, and 4 above but does not compile because of error(s), item 3, then the score is 3. Moreover, if a submission meets items 1, 2, 3, and part of 4 above because not all the requirements are met, then the score is between 3 and 4 (3.1, 3.25, 3.6, etc.), depending on the percentage of requirements not met.

Documentation for the coding assignments as well as the assignments' code should be turned in electronically via the course's assignment link in Canvas on or before the due date. Late assignments will be subject to the reduction in points. All submitted work should be original. See the Plagiarism section below.

Grading Information:

The grading system at NKU is based on the following descriptions:

- A represents exceptionally high achievement because of aptitude, effort, and intellectual initiative.
- B represents high achievement because of ability and effort
- C represents average achievement, the minimum expected of a college student
- D represents minimum passing grade except for courses taken on a pass/fail basis.
- F indicates failure in a course. Credit in a course where an F was earned can be obtained only be repeating the course successfully.

Grading Scale		
Letter Grade	% Equal to or Greater than	Grade Point
A	93	4.00
A-	90	3.67
B+	87	3.33
B	83	3.00
B-	80	2.67
C+	77	2.33
C	73	2.00
C-	70	1.67
D+	67	1.33
D	60	1.00
F	0	0

Grade Appeal

Please see the Code of Student Rights and Responsibilities Section V: Academic Policies & Processes for any final grade appeal. The specifics of the process are detailed in subsection G: Student Academic Grade Appeal. <https://inside.nku.edu/scra/information/students/rights-responsibilities.html>

Communication with Professor:

I will answer email within a 24-hour period. Include the course prefix and section number (BIS 305-001 etc.) in the subject line of the e-mail message. As is common with Spam Filters, any messages without subject lines or with subject lines will be sent to the Spam folder. Students participating in this course will be notified when I am unavailable for e-mails.

Student Evaluation of Instructor and Course:

Northern Kentucky University takes Instructor and Course Evaluations very seriously as an important means of gathering information for the enhancement of learning opportunities for its students. It is an important responsibility of NKU students as citizens of the University to participate in the instructor and course evaluation process. During the two weeks* prior to the end of each semester classes, you will be asked to reflect upon what you have learned in this course, the extent to which you have invested the necessary effort to maximize your learning, and the role your instructor has played in the learning process. It is very important that you complete the online evaluations with thoughtfully written comments.

Student evaluations of courses and instructors are regarded as strictly confidential. They are not available to the instructor until after final grades are submitted, and extensive precautions are taken to prevent your comments from being identified as coming from you. Students who complete an evaluation for a particular course (or opt out of doing so in the evaluation) will be rewarded for their participation by having access to their course grade as soon as that grade is submitted by the instructor. On the other hand, any student who does not complete the course evaluation (or opt out of doing so in the evaluation) should expect to incur a two week delay in access to his or her course grade beyond the university's official date for grade availability. To complete online evaluations go to <http://eval.nku.edu>. Click on "student login" and use the same USERNAME and PASSWORD as used on campus.

In addition, you should be aware of:

- Evaluations can affect changes in courses. Evaluations without comments are less valuable and less credible than those filled out thoughtfully. Comments that are expressed well are more effective than those that are not.
- Positive feedback is just as important as criticism. Moreover, negative evaluations without any explanation and specifics are not especially useful.
- Once grades are submitted, all evaluations are read not only by the instructor, but also by the instructor's department chairperson.
- Evaluations not only provide feedback to your instructor, but also provide information to the department chair for use in performance evaluations. This information affects reappointments, promotions, salaries, and teaching assignments.

Office Hours and Appointments:

Email me anytime to set up a time and place to meet.

Commitment:

By registering for this course, it is expected that you allocate a sufficient block of study time necessary to complete all readings, any assignments or projects. It is each student's responsibility to complete assignments on time. Every effort will be made to have resources available and provide assistance, should you need it.

Mid-term grades: Mid-term grades will be posted in myNKU by the deadline established in the Academic Calendar (<http://registrar.nku.edu/academiccalendar.html>).

Withdrawal and Incompletes:

Dependent upon the semester's academic schedule, students may withdraw from the class online at MyNKU through their advisor or through the Associate Dean's office. Incompletes must be requested by the student in writing and must include a written plan to complete the necessary work prior to the midpoint of the next full semester.

Attendance/participation:

Classroom participation is essential to the educational process and the educational goals of the course. Therefore, the instructor may lower a student's final grade because of excessive absences. Students are fully responsible for learning the course content and material disseminated in the class. Absences do not release you from this responsibility.

Non-Attendance Policy

In-class sections

NKU students are expected to attend the first scheduled class session of each course for which they are enrolled. If a student does not attend the first day of class, the instructor may drop the student for non-

attendance. Students who know they will be absent must contact their instructor(s) prior to the first class meeting to explain their absence and request to remain enrolled in the course.

Online sections

If the student does not log onto Canvas and access course materials or contact the instructor by Thursday at 5 PM of the first week of classes, the instructor is required to drop this student for non-participation (i.e., non-attendance).

To that end, an announcement will be sent from Canvas to both in-class and online sections informing the student that the first required assignment for the class is to read the syllabus and reply to the announcement via the Reply link at the bottom of the announcement confirming that you have read and understand the syllabus, and therefore the course requirements. If a reply to this announcement is not posted by the student by Friday, August 24th, the student will be administratively dropped from the class.

Student rights and responsibilities

The maintenance of academic standards and integrity includes the obligation not to cheat or plagiarize. A student who uses a dishonest or deceitful means to obtain a grade is guilty of cheating; a student who submits another's work as one's own without adequate attribution is guilty of plagiarism. Identical work will earn a grade of zero.

Plagiarism:

Plagiarism is defined as "copying or imitating the languages, ideas, thoughts or works of another and passing that off as your own original work". This also applies to the student who knowingly allows his or her work to be copied by another student. Self-Plagiarism is the submission of the same work for multiple assignments. All the work submitted in this class should be original work for this class only, and not submitted in previous courses in our programs. If you have previous work that you would like to build on or use as a basis for this project, it must get my approval first.

Student Honor Code:

This Student Honor Code [the "Honor Code"] is a commitment by students of Northern Kentucky University, through their matriculation or continued enrollment at the University, to adhere to the highest degree of ethical integrity in academic conduct. It is a commitment individually and collectively that the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements.

Students, faculty, staff, and administrators at NKU strive to achieve the highest standards of scholarship and integrity. Any violation of the Student or Graduate Student Honor Codes is a potentially serious offense because it threatens the quality of scholarship and undermines the integrity of the community. All NKU faculty members are asked to report incidents of academic misconduct to the office of Student Conduct Rights and Advocacy. While academic in scope, a violation of the NKU Honor Code may be considered a violation of the NKU Code of Student Rights and Responsibilities and will follow the adjudication processes described therein.

Through the NKU Honor Code, students who are responsible for academic dishonesty may receive sanctions, including, but not limited to, a final grade of "F," or removal from the course in which the violation occurs. Repeated violations of the NKU Honor Code, or when suspension or expulsion from NKU may be a possible outcome of the violation, the incident will be referred to the office of Student Conduct, Rights and Advocacy. Additional information is available at: <https://inside.nku.edu/scra.html#policies>.

Accommodations Due to Disability: The University is committed to making reasonable efforts to assist individuals with disabilities in their efforts to avail themselves of services and programs offered by the University. To this end, Northern Kentucky University will provide reasonable accommodations for persons

with documented qualifying disabilities. If you have a disability and feel you need accommodations in this course, you must present a letter to me from the Disability Programs and Services Office (SU 303), indicating the existence of a disability and the suggested accommodations. More information can be found at <http://disability.nku.edu>.

Research: From time to time you may be asked to participate in research studies conducted by other students or faculty. Generally, this data is gathered through a questionnaire and individuals will not be specifically identified. These studies will have an appropriate learning context for the class; none will be psychologically or physically dangerous in nature. You may decline to participate. Everyone will be debriefed on the purpose of the study and anyone that wishes may have copies of the results.

Credit Hour Policy Statement: In accordance with federal policy, NKU defines a credit hour as the amount of work represented in the achievement of student learning outcomes (verified by evidence of student achievement) that reasonably approximates one hour (50 minutes) of classroom instruction and a minimum of two hours of out-of-class student work. For every course credit hour, a typical student should expect to spend at least three hours per week of concentrated attention on course-related work including, but not limited to, class meeting time, reading, reviewing, organizing notes, studying and completing assignments. At least an equivalent amount of time is expected for other academic activities such as online courses, laboratory work, internships, practica, studio work and other academic work leading to the award of credit hours. Estimates of the time required for a typical student to complete course expectations are as follows: 3 credit hours = 135 hours minimum.

Diversity

Diversity describes an inclusive community of people with varied human characteristics, ideas, and world views related, but not limited, to race, ethnicity, sexual orientation, gender, religion, color, creed, national origin, age, disability, socio-economic status, geographical region, or ancestry. Institutions that value diversity provide a supportive environment that respects those human differences. It is our responsibility as citizens of the NKU community to promote and value a campus environment and classroom climate that is safe, fair, respectful, and free from prejudice.

Allied Zone

I am a member of the Allied Zone community network, and I am available to listen and support you in a safe and confidential manner. As an Ally, I can help you connect with resources on campus to address problems you may face that interfere with your academic and social success on campus as it relates to issues surrounding sexual orientation and gender identity. My goal is to help you be successful and to maintain a safe and equitable campus.

Name / Pronoun

My gender pronouns are *she, her, hers*. I will gladly honor your request to address you by an alternate name and/or gender pronouns from what is contained in NKU's student records. Please advise me of these early in the semester so that I may make appropriate changes to my records.

Sexual misconduct

Northern Kentucky University is committed to fostering a safe and inclusive educational and work environment free from sexual misconduct, including sexual assault, non-consensual sexual contact, non-consensual sexual intercourse, sexual exploitation, sexual harassment, dating and intimate partner violence, relationship and domestic violence, stalking and gender-based bullying. For more information please see: <https://inside.nku.edu/titleix/sexual-misconduct-policy.html>

Observance of Religious Holidays for Class Attendance

NKU values diverse religious perspectives and beliefs and recognizes that religious practice is for many individuals an important element of personal identity, intellectual development and psychological well-being,

and, in many cases, is inseparable from cultural identity. As the diversity of our community has increased, additional religious holidays now affect a significant number of students. Consistent with our commitment to creating a diverse and inclusive community, Northern Kentucky University believes that every reasonable effort should be made to allow members of the NKU community to observe their holidays without jeopardizing the fulfillment of their academic obligations. NKU students who are unable to attend classes or participate in any examination, study or work requirement on some particular day(s) because of his or her religious belief must submit a formal request to the instructor within 3 weeks of the beginning of the semester so appropriate arrangements can be made.

SYLLABUS CHANGES:

Dates and assignments documented in this syllabus are subject to change at the discretion of the instructor. Every effort will be made to provide any changes to the class in writing via the Announcements section of Canvas for the course. Verbal notification at a class meeting, however, will constitute sufficient notice.

IMPORTANT DATES FROM THE UNIVERSITY CALENDAR:

Fall Semester 2018 August 20 - December 7

Classes begin	August 20 (Mon)
Last day to drop with a 100% tuition adjustment Last day to add a course Last day to change grading option (letter grade, audit, pass-fail)	August 27 (Mon)
Labor Day - University Closed/No Classes	September 3 (Mon)
Last day to drop a course without a grade appearing on a student's transcript Last day to drop a course with a 50% tuition adjustment	September 10 (Mon)
Faculty begin submitting full session mid-term grades Undergraduate students and academic advisors may access full session mid-term grades	October 1 (Mon)
Midterm	October 13 (Sat)
Fall Break - University Open/No Classes	October 15 – 16 (Mon-Tues)
9:00 a.m.: Faculty deadline for submitting full session mid-term grades	October 17 (Wed)
Deadline for filing application for degree candidacy for Fall graduation with the Office of the Registrar. Late fees applied after this date.	October 22 (Mon)
Last day to drop a course with a grade of W	October 29 (Mon)
University Open/No Classes	November 21 (Wed)
Thanksgiving Holiday - University Closed/No Classes	November 22 – 23 (Thurs-Fri)
Last day of classes	December 7 (Fri)
Final Examinations	December 8 – 14 (Sat - Fri)
Commencement	December 15 (Sat)
9:00 A.M.: Faculty deadline for grade submission	December 18 (Tues)

COURSE SCHEDULE:

Week	Date	Chapters	Topic	Assignments / Project Activities*
1	8/23	Chapter 1	Introduction to Course Introduction to Visual Basic 2017 Programming	Understanding course requirements (Console Application)
2	8/30	Chapter 2	Program and Graphical User Interface Design	Coding Assignment 1 due 9/2
3	9/6	Chapter 3	Program Design and Coding	Coding Assignment 2 due 9/9
4	9/13	Chapter 4	Variables and Arithmetic Operations	Coding Assignment 3 due 9/16
5	9/20		Variables and Arithmetic Operations	Coding Assignment 4 due 9/23
6	9/27	Chapter 5	Decision Structures	
7	10/4		Decision Structures	Coding Assignment 5 due 10/7
8	10/11		Exam 1 (covering Chapters. 1 - 5)	Exact dates will be announced
9	10/18	Chapter 6	Loop Structure	
10	10/25	Chapter 7	Using Procedures and Exception Handling	Coding Assignment 6 due 10/28
11	11/1	Chapter 8	Using Arrays and File Handling	
12	11/8		Using Arrays and File Handling Continued	Coding Assignment 7 due 11/11
13	11/15	Chapter 9	Creating Web Applications	Coding Assignment 8 due 11/18
14	11/22	Thanksgiving Break		
15	11/29	Chapter 10	Incorporating Database with ADO.NET	Coding Assignment 9 due 12/2
16	12/6	Chapter 11	Multiple Classes and Inheritance	Coding Assignment 10 due 12/9
17	12/13		Comprehensive Final Exam (covering Chapters. 2 - 11)	Exact dates will be announced

* Note: Assignments are due on Sundays at 11:59 PM of the due date specified above.