



## **CSCI 515.01B Fundamentals of Programming C/C++**

COURSE SYLLABUS: Spring 2024

### **INSTRUCTOR INFORMATION**

Instructor: Kaoning Hu  
Office Location: JOUR 220  
Office Hours: MON 10:00 – 12:00, 15:30 – 16:30; WED 10:00 – 12:00  
Office Phone: 903-886-5409  
Office Fax: 903-886-5404  
University Email Address: Kaoning.Hu@tamuc.edu  
Preferred Form of Communication: Email  
Communication Response Time: 1~2 business days

### **COURSE INFORMATION**

#### **Materials – Textbooks, Readings, Supplementary Readings**

Textbook Recommended: D.S. Malik, "*C++ Programming: From Problem Analysis to Program Design*", 8th Edition, ISBN-10: 9781337102087  
Software Required: Any C++ IDE

#### **Course Description**

This is a programming course using a high-level programming language, C and C++. Specific objectives are to introduce the development of algorithms as a disciplined approach to problem solving; to present programming practices in design, coding, debugging, testing and documentation of computer programs; to provide the student with the fundamental knowledge necessary for further study in the field of computational sciences.

#### **Student Learning Outcomes**

1. understand the basic elements of a computer program including documentation, data declaration, and procedural operations
2. edit, translate, and execute a computer program
3. write programs that input data from keyboard/file and output to the console/file

*The syllabus/schedule are subject to change.*

4. apply control structures to alter the sequential flow of execution of program statements including selection and iteration structures
5. create user-defined functions, develop programs consisting of multiple functions, and master function parameter passing
6. understand the internal representation of the various data types
7. review the language syntax and learn new syntax you have not previously used in programming applications
8. correctly solve programming problems and learn how to develop algorithms
9. examine the internal representation of two- and three-dimension arrays in C/C++
10. understand dynamic memory allocation, parameter passing, the use of pointers

## **COURSE REQUIREMENTS**

### **Minimal Technical Skills Needed**

Students enrolling in this course should have mastered computer essentials including how to interact with a graphical user interface, text editor, and web browser. If the use of a personal computer is preferred over university laboratory computers, it is expected that the student can download, install and configure software.

### **Instructional Methods**

We will have weekly lectures. Slides, supplementary materials, and assignments will be released online via D2L. *Please upload your assignments to the appropriate folders on myLeo(D2L).*

### **Student Responsibilities or Tips for Success in the Course**

1. Attend every lecture as long as you are able to.
2. Check myLeo at least twice a week.
3. Read the text materials before and after every lecture, and use the slides as your guideline.
4. Start your homework assignments early.
5. Do your own work. If you have difficulties in an assignment, ask the instructor. Do not copy other people's work.
6. Contact the instructor when you are confused.

## **GRADING**

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Weights of the assessments in the calculation of the final letter grade.

Exercises                    20%

Quizzes                     20%

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|              |     |
|--------------|-----|
| Midterm Exam | 30% |
| Final Exam   | 30% |

### Assessments

Lab exercises are graded based on whether the student have participated in the exercise. (i.e., You receive the credit as long as you work on the exercise question, even if your answer is incorrect.) Exams are comprehensive. The time and location of each exam will be announced one week before the exam.

Quizzes are not comprehensive unless otherwise specified. The time of each quiz will be announced before the quiz.

Make-up quizzes/exams are given only if there is an emergency. If you take a make-up quiz/exam, you may receive a different set of questions with approximately the same difficulty level as the regular quiz/exam. Alternatively, you may also choose to receive a grade based on your in-class ranking in the next quiz/exam.

## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

Zoom Video Conferencing Tool

[https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom\\_Account.aspx?source=universalmenu](https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu)

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

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## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructor.

### Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### Interaction with Instructor Statement

To communicate with me about this course you are to use the email address on this syllabus. Please include the course number in the beginning of the subject field for every email message. During the week, you can generally expect a response to your emails within 1 business day. *If you do not receive my response in 2 business days, please send a second email to me.*

You can also call me at my office or stop by my office during office hours. You can also schedule an appointment by email.

My office location, phone number, and office hours are subject to change and amendment.

## COURSE AND UNIVERSITY PROCEDURES/POLICIES

### Course Specific Procedures/Policies

Make-up quizzes/exams are given only if there is an emergency. If you take a make-up quiz/exam, you may receive a different set of questions with approximately the same difficulty level as the regular quiz/exam.

When a make-up quiz/exam is impossible, you will receive a grade based on your in-class ranking in the next quiz/exam. E.g., if you miss Quiz 1 because of an emergency, and your rank in Quiz 2 is 10<sup>th</sup> in the class, then we will copy the 10<sup>th</sup> grade in Quiz 1 to your grade.

Extra credit may be possible.

### Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### University Specific Procedures

#### Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

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<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedures 13.99.99.R0.01](#)

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

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Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **AI use policy [Draft 2, May 25, 2023]**

Important: *In this course, the use of AI is disallowed.*

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Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

- 13.99.99.R0.03 Undergraduate Academic Dishonesty
- 13.99.99.R0.10 Graduate Student Academic Dishonesty

## **COURSE OUTLINE / CALENDAR**

| Lecture | Topic/activity                               |
|---------|--|
| 1       | Basic programming elements, Input and Output |
| 2       | Data types and identifiers                   |
| 3       | Operators and expressions                    |
| 4       | If statement                                 |
| 5       | Repetition                                   |
| 6       | Function                                     |
| 7       | Function continued                           |
| 8       | Midterm exam                                 |
| 9       | Array and string                             |
| 10      | Pointer                                      |
| 11      | Structure                                    |
| 12      | Shallow copy and deep copy                   |
| 13      | Class and object                             |
| 14      | Class and information hiding                 |
| 15      | Class and inheritance                        |
| 16      | Final exam                                   |

Course calendar will adapt to the actual progress of the classes and may not be accurately the same as the table above.

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