Texas A&M University-Central Texas
CIS 3340-115 (60057), Advanced C++ Programming
Summer 2020

COURSE DATES, MODALITY, AND LOCATION
Course Dates: Jun 01, 2020 - Jul 24, 2020
Course Location: Online
Course Hours: N/A
This course is 100% online and will utilize the A&M-Central Texas Canvas Learning Management System [https://tamuct.instructure.com/].

INSTRUCTOR AND CONTACT INFORMATION
Instructor:  Dr. Randy Brown
Office:  Remote
Phone:  By Special Need Only
Email: rwbrown@tamuct.edu (for Non-Course Related)
Canvas Inbox for Course Related
COBA Department Main Phone Number: (254) 519-5437
COBA Department Main Email: cobainfo@tamuct.edu
COBA Department Main Fax#: (254) 501-5825

Office Hours
100% Virtual, by appointment.  Send Email to schedule

Student-instructor interaction
This course is fully online and will use the TAMUCT Canvas Learn System for all portions of the course. You will use the Canvas username and password communicated to you separately to logon to this system. The course syllabus, schedule, supplemental readings, class announcements, power point slides, learning modules, homework assignments, exams and other course related documents will be posted on Canvas. Each student is responsible for the posted material and should check the Canvas at least weekly for updates. The course outline in this syllabus shows the basic schedule for the semester.

Please send all course related correspondence to me using Canvas Inbox. Please use TAMUCT email only when Canvas is not available. I check messages several times a day during the week and at least once during the weekends. I will try to respond within 24 hours during Monday through Thursday and within 48 hours on Friday through Sunday. Please do not hesitate contact Canvas Inbox or TAMUCT email if there are any personal problems or challenges that are hindering your regular progress in the course.

WARRIOR SHIELD
Emergency Warning System for Texas A&M University-Central Texas
Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email,
text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by 911Cellular [https://portal.publicsafetycloud.net/Account/Login] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

COURSE INFORMATION
Course Overview and description
An advanced course in the C++ programming language. Covers the advanced features of C++ such as classes, friends, abstraction, operator overloading, inheritance, polymorphism, templates, and object-oriented programming techniques. Students will analyze and program several representative problems.
Prerequisite: CIS 3330 or approval of School Director.

Course Objective or Goal
Student Learning Outcomes

- Understand and master syntax and features of the C++ Programming Language:
- Control structures;
- Using standard library functions and templates;
- Creating programmer-defined classes;
- Implementing programmer-defined data types;
- Exception handling;
- Operator overloading;
- Polymorphism and virtual functions; and
- The Linked-List data type as an exercise in class design.
- Apply principles of program design and logic:
- Functional abstraction;
- Modular design using functions;
- Encapsulation techniques;
- Class design incorporating all of the principles listed above.
- Apply principles of program logic to isolate errors:
- Debuggers included with the Integrated Development Environment;
- Setting breakpoints and watch variables;
- Using output to report program progress;
- Using “stubs” and “drivers” to test small, manageable components.
- “Learn-by-doing” problem solving methodologies that can be applied to various programming languages and other life situations.
Required Reading and Textbook(s)

1. Book (Required):
   Starting out with C++ Early Objects, 10th ed.
   Authors: Gaddis, Walters, Muganda

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Access to a computer with a web-capable programming language and a Web Browser. Students preferring to use their own computers are required to have products, data encodings, file names, system structure, and products equal to those provided in the computer lab and the server used in class.

Current publications: The campus library contains numerous books and periodicals relating to Computer Science. The student should take advantage of this resource by visiting the library.

Other materials: We will be using additional sources for some of the more advanced topics not covered by the book.

COURSE REQUIREMENTS

Course Requirements:

- Exams: There will be a term project that will act as a final exam. It will utilize Database, Objects, etc. Exact requirements will be published by the end of Week 2. This project will be worth 400 points (40%).

- Homework/Practice Problems: There will be practice problem sets throughout the semester. The total number has not been set, but the aggregate total will be 400 points (40%).

- Reading Assignments: All assigned chapters will be used as the basis for class and/or Canvas discussions. Study the assigned readings before each class. In addition, there will be some supplemental readings to cover concepts not included in the textbook.

- Participation/Discussion Questions: (from TAMU-CT Student Catalog): Student absences are considered by the University to be strictly between the individual student and faculty member. The faculty member has the responsibility and authority to determine whether make-up work can be done because of absences. Students may request make-up consideration for valid and verifiable reasons such as illness, death in the immediate family, legal proceedings, or participation in University-sponsored activities. Students who participate in University-sponsored activities are responsible for obtaining a written
explanation for their absence from the faculty/staff member who is responsible for the activity.

Student absences are considered by the University to be strictly between the individual student and faculty member. The faculty member has the responsibility and authority to determine whether make-up work can be done because of absences. Students may request makeup consideration for valid and verifiable reasons such as illness, death in the immediate family, legal proceedings, or participation in University-sponsored activities. Students who participate in University-sponsored activities are responsible for obtaining a written explanation for their absence from the faculty/staff member who is responsible for the activity.

As this is an online class, participation will be determined through online discussion questions posted each week. Participation will be worth a total of 200 points (20%)

- Late Submissions: Homework Assignments will be considered late if submitted after the due date/time. Each CLASS DAY late will be a 10% deduction (20% per week) That means that NO submissions will be accepted if submitted more than 5 weeks after the due date. Any submissions AFTER 5 weeks will be considered lack of participation and will result in a lower participation score. In addition, discussions (if assigned) MUST be completed within the week during which the discussion is assigned (i.e. late discussions will NOT be allowed). Late tests will NOT be accepted!

NOTE: NO work (nothing, nada, zilch) will be accepted after the last day of “class” (7/24/2020).

- Other Notes about assignments:
  - All assignments will have a specified submission format (docx, pdf, or zip). You MUST use the specified format or the submission will not be accepted
  - If there are multiple parts, submit all parts in a SINGLE zip file. I would suggest you create a folder for each assignment, then you can zip that entire folder at once
  - Make sure all programs are labelled in a logical manner that makes it easy for me to figure out which program is which.
  - Canvas is NOT completely accurate as far as total grades go unless you select the gradebook option to set all ungraded items as 0. If you do this, you will know what your grade is at all times (assuming I’m caught up on grading...)
  - Grades are not given; the student earns them. Rubrics are employed whenever possible to assure that the grading of an individual assignment is consistent. There are always disagreements about the grade given to a work product and a student’s expectation; students are encouraged to make sound well-reasoned arguments as to why they should receive more points. Arguments that are not well-reasoned include:
1. I need a better grade because I am on probation.
2. I come from a good family.
3. I will be deported.
4. I will lose my scholarship.
5. I think it is an A paper.

### Grading Criteria Rubric and Conversion

<table>
<thead>
<tr>
<th>Required Activity</th>
<th>Number</th>
<th>Points</th>
<th>Total</th>
<th>Range</th>
<th>Letter</th>
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<tbody>
<tr>
<td>Final Exam Project</td>
<td>1</td>
<td>400</td>
<td>400</td>
<td>895-1000</td>
<td>A</td>
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<tr>
<td>Topical Problems</td>
<td>Several</td>
<td>40</td>
<td>400</td>
<td>795-894</td>
<td>B</td>
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<tr>
<td>Attendance/Participation</td>
<td>200</td>
<td>200</td>
<td>400</td>
<td>695-794</td>
<td>C</td>
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<tr>
<td>Total</td>
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<td></td>
<td></td>
<td>595-694</td>
<td>D</td>
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<td></td>
<td></td>
<td></td>
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<td>0-594</td>
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</table>

### Posting of Grades

All student grades will be posted on the Canvas Grade book and students should monitor their grading status through this tool. Grades for weekly assignments, discussions, quizzes and exams should be posted (no guarantees) within 1 week following the due date.

### COURSE OUTLINE AND CALENDAR

#### Complete Course Calendar

<table>
<thead>
<tr>
<th>Week</th>
<th>Begins</th>
<th>Current Content</th>
<th>Due (at end of week – Sunday @ 11:59pm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1-Jun</td>
<td>Introduction, Syllabus Acknowledgement</td>
<td>Introduction, Syllabus Acknowledgement</td>
</tr>
<tr>
<td>2</td>
<td>8-Jun</td>
<td>Chapter 10</td>
<td>Term Project Part 1</td>
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<tr>
<td>3</td>
<td>15-Jun</td>
<td>Chapters 11-12</td>
<td>Chapter 10 Discussion</td>
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<td>Chapter 10 Homework</td>
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<tr>
<td>4</td>
<td>22-Jun</td>
<td>Chapters 13-14</td>
<td>Chapters 11 &amp; 12 Homework</td>
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<td></td>
<td>Chapters 11 &amp; 12 Discussion</td>
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<tr>
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<td>Term Project: Part 2</td>
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<tr>
<td>5</td>
<td>29-Jun</td>
<td>Special Topic: Connecting to a Database</td>
<td>Chapters 13 &amp; 14 Homework</td>
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<td></td>
<td></td>
<td></td>
<td>Chapters 13 &amp; 14 Discussion</td>
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<tr>
<td>6</td>
<td>6-Jul</td>
<td>Chapters 15-17</td>
<td>Database Homework</td>
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<td>Database Discussion</td>
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<td>Term Project: Part 3</td>
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<td>13-Jul</td>
<td>Chapters 18-20</td>
<td>Chapters 15-17 Homework</td>
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<td>Chapters 15-17 Discussion</td>
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<tr>
<td>8</td>
<td>20-Jul</td>
<td>Final &quot;Stuff&quot;</td>
<td>Chapters 18 - 20 Homework, Final Project</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Chapters 18 - 20 Discussion</td>
</tr>
</tbody>
</table>

#### Important University Dates

See Academic Calendar: [https://www.tamuct.edu/registrar/academic-calendar.html](https://www.tamuct.edu/registrar/academic-calendar.html)
TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements
This course will use the A&M-Central Texas Instructure Canvas learning management system. We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.

Logon to A&M-Central Texas Canvas [https://tamuct.instructure.com/] or access Canvas through the TAMUCT Online link in myCT [https://tamuct.onecampus.com/]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support
Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.
For issues related to course content and requirements, contact your instructor.

Online Proctored Testing
A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

Other Technology Support
For log-in problems, students should contact Help Desk Central
24 hours a day, 7 days a week
Email: helpdesk@tamu.edu
Phone: (254) 519-5466
Web Chat: [http://hdc.tamu.edu]

Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy
If you discover that you need to drop this class, you must complete the Drop Request Dynamic Form through Warrior Web.[https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-
Faculty cannot drop students; this is always the responsibility of the student. The Registrar’s Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar’s Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar’s Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

**Academic Integrity**

Texas A&M University - Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student’s academic performance and includes, but is not limited to, working with others in an unauthorized manner, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student’s work, collusion, and the abuse of resource materials. All academic misconduct concerns will be referred to the university’s Office of Student Conduct. Ignorance of the university’s standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more information regarding the Student Conduct process, [https://www.tamuct.edu/student-affairs/student-conduct.html](https://www.tamuct.edu/student-affairs/student-conduct.html). If you know of potential honor violations by other students, you may submit a report, [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0).

**Academic Accommodations**

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university’s programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information please visit our Access & Inclusion Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]
Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education’s Office of Civil Rights, the Dean of Student Affairs’ Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit Student Affairs [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution’s Title IX Coordinator. If you would like to read more about these requirements and guidelines online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University’s Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, on a remote online basis. Visit the Academic Support Community in Canvas to view schedules and contact information. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors will return at the Tutoring Center in Warrior Hall, Suite 111 in the Fall 2020. Student success coaching is available online upon request.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, success coaching, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

University Writing Center

The University Writing Center (UWC) at Texas A&M University–Central Texas (TAMUCT) is a free service open to all TAMUCT students. For the Summer 2020 semester, all services will be online as a result of the COVID-19 pandemic. The hours of operation are from 10:00 a.m.-4:00 p.m. Monday thru Thursday with satellite hours online Monday thru Thursday from 6:00-9:00 p.m. This summer, the UWC is also offering hours from 12:00-3:00 p.m. on Saturdays starting June 27th and ending July 18th.
Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students’ ideas and writing, our tutors highlight the ways in which they read and interpret students’ texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via WCOnline [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC and/or need any assistance with scheduling.

University Library
The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 85,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our Library website [http://tamuct.libguides.com/index].

OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas
Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if
someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don’t agree with their behaviors and tell survivors we will support them. Your actions matter. Don’t be a bystander; be an agent of change. For additional information on campus policy and resources visit the Title IX webpage [https://www.tamuct.edu/compliance/titleix.html].

Behavioral Intervention
Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, who are exhibiting concerning behaviors, or individuals causing a significant disruption to our community, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the referral online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the Behavioral Intervention Team website for more information [https://www.tamuct.edu/student-affairs/bat.html]. If a person’s behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5800.

INSTRUCTOR POLICIES.
1. Instructor reserves the right to modify the syllabus during the course of the semester for the benefit of the students.
2. Instructor reserves the right to supplement the material presented in the text with additional material that may benefit the students by either providing additional information or a different point of view.
3. Instructor expects that the students will act in a curious and professional manner in all interactions with other students and the instructor.
4. Instructor reserves the right to modify grading rubrics. Changes to grading rubrics are only made to current and/or future assignments.
5. Any changes made will be announced in class and posted on Canvas.

Copyright Notice
Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas’ Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.