Programming Fundamentals III Syllabus

Instructor Information

Instructor	Mark Usnick ✎	**E-Mail**	mcusnick@actx.edu ✉
Phone	(806) 371-5239 ☎	**Office Location**	R. E. Byrd Business Building 332
Office Hours			

Course Information

Catalog Year/Term	2016-2017 Spring Semester
Disability Statement	If you have a disability (learning, mental, physical) that affects your ability to participate effectively and have access to any program or service at Amarillo College please contact Disability Services at (806) 345-5639 ☎. Our offices are located in the Student Service Center office 112. More information may be found at www.actx.edu/disability. Disability Services facilitates access to all programs and services according to the ADA, Americans with Disabilities Act and Section 504 of the Rehabilitation Act, as well as other federal and state laws. **Amarillo College Web Accessibility Policy Statement** Amarillo College is committed to providing equal access to all programs and services, including all working, learning, and service environments that affect equal access for persons with disabilities. This commitment to provide equal access and opportunity for persons with disabilities is in compliance with federal and state law. Amarillo College also strives to provide Electronic and Information Resources (EIR) that are accessible to all authorized users. If you find you are unable to access material in an accessible format please contact the Disability Services Office at (806) 345-5639 ☎. This office will work in conjunction with other campus resources to address and accommodate your issue in a timely manner.
Statement for Mental Health and Advocacy & Resource Center:	As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. Amarillo College offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus by calling the AC Counseling Center at 806-371-5191. The AC Counseling Center website is https://www.actx.edu/counseling/ ✎. Also, if you are in need of social services (affordable housing, utilities, transportation, food, clothing, childcare, medical/dental/vision, legal), please call the AC Advocacy & Resource Center at 806-371-5439. The AC Advocacy & Resource Center website is https://www.actx.edu/arc ✎
Administrative Drop Policy	Students who do not attend class on or prior to the census date will be administratively dropped. Effective Fall, 2016

Student Withdrawal Procedures	Students who wish to withdraw from a class must consult with their instructor first. Students can either communicate via email or meet face-to-face with their instructor to begin the withdrawal process. If the instructor and the student both agree that withdrawal is the appropriate course of action, then the instructor will initiate a withdrawal case for the student in the Retention Alert System through Blackboard.
Course	**COSC-2336-001 Programming Fundamentals III**
Prerequisites	Prerequisites: COSC 1337
Course Description	Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs) and algorithmic analysis.
Student Resources	Student Resources Website ✎
Department Expectations	
Hours	(3 sem hrs; 2 lec, 4 lab)
Class Type	On Campus Course

Syllabus Information

Textbooks

NO TEXTBOOK IS REQUIRED FOR THIS CLASS

Supplies

You will need access to the Internet and a Windows PC.

Student Performance

Course Description: Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis.

Learning Outcomes:
Upon successful completion of this course, students will:
To demonstrate the ability to write programs in C++
To demonstrate the different methods of organizing large amounts of data
To efficiently implement common data structures

To efficiently implement solutions for specific problems
To use a symbolic debugger
To analyze programs in terms of time and space efficiency

Students Rights and Responsibilities

Student Rights and Responsibilities

Log in using the AC Connect Portal

In order to receive your AC Connect Email, you must log in through AC Connect at https://acconnect.actx.edu ⚲.

If you are an active staff or faculty member according to Human Resources, use "Exchange". All other students, use "AC Connect (Google) Email".

Expected Student Behavior

Students are expected to maintain a high standard of individual honor in their scholastic work. Students who are guilty of cheating, plagiarism, copying, or dishonesty may be excluded from class with a grade of F; or, in flagrant cases, may be suspended from the College. The faculty of the CIS Department reserves the right to ask a student to verify any portion of a test by reproducing any specific section or all of the test in question.

CS/CIS computers and servers should be used only for completion of academic requirements of the CS and CIS departments at Amarillo College.

Any action that compromises the computer systems at Amarillo College can result in a grade of "F" in this course and possible further disciplinary action.

Grading Criteria

our semester grade (90-100 A, 80-89 B, 70-79 C, 60-69 D, Below 60 F) will be determined as follows:

"lab0"	1%
lab average	33%
midterm exam	33%
final exam	33%

No grades will be recorded (and late penalties will apply) until students complete the contract/contract form ("lab0") which will be distributed by the instructor.

Attendance, Homework, Late Work, Testing and Computer Lab Policies can be found at:

http://cs.actx.edu/~usnick/

Attendance

Students are expected to attend every class.

Roll will be taken at the beginning of class.

Makeup exams will not be given.

Note that this class will require a considerable amount of time outside of class to complete all of the course work!

If you stop working on the class and your average drops below a 60 due to missed assignments and you do not officially drop the course by the deadline, you will receive an F for the course. The deadline for dropping a class at AC is published in the official Amarillo College Schedule of Classes.

Withdraw Policy: If you need to withdraw from the course, you must notify your instructor **via email** no later than 24 hours before the deadline established by the college.

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Calendar

Week 1: Course intro
Week2: Introduction to the C++ language
Week3: C++ continued
Week4: Singly linked list
Week5: Linked list continued
Week6: C++ templates
Week7: Doubly linked list
Week8: Exam1
Week9: Sparse arrays
Week10: Priority queue
Week11: Binary tree
Week12: Merge sort
Week13: Quick sort
Week14: Test2
Week15: Review

Additional Information