WICHITA STATE
UNIVERSITY

## CS 211, Introduction to Programming, Fall 2017

| | |
|---|---|
| **Instructor:** | Adam Sweeney |
| **Department:** | EECS |
| **Office Location:** | Jabara 251 |
| **Telephone:** | (316) 978-5265 |
| **Email:** | adam.sweeney@wichita.edu |
| **Preferred Method of Contact:** | email |
| **Office Hours:** | MW: 2:00 – 3:30 PM, TR: 10:00 – 11:30 AM, by appointment |
| **Classroom; Days/Time:** | (Room number; Days and times) |
| **Prerequisites:** | MATH 111 – College Algebra |
| **Lecture Teaching Assistant:** | Mohommad Hossein Erjaei - mxerjaei@shockers.wichita.edu |
| **Lecture Teaching Assistant:** | Muad Shahin - mmshahin@shockers.wichita.edu |
| **Lab Teaching Assistant:** | Mohommad Hossein Erjaei |
| **Lab Teaching Assistant:** | Kavitha Chandrashekar |
| **Lab Teaching Assistant:** | Derek Drew |

### How to use this syllabus

This syllabus provides you with information specific to this course, and it also provides information about important university policies. This document should be viewed as a course overview; it is not a contract and is subject to change as the semester evolves.

Any changes will be announced in class and posted to Blackboard.

### Academic Honesty

Students are responsible for knowing and following the Student Code of Conduct http://webs.wichita.edu/inaudit/ch8_05.htm and the Student Academic Honesty policy http://webs.wichita.edu/inaudit/ch2_17.htm.

Students caught cheating will receive a grade of 0 for that assigned task and a warning. If caught again, they will fail the course and disciplinary action will be pursued.

### Course Description

*3 Classroom hours; 2 Lab hours.* First course in computer programming in a high-level language. Emphasizes analyzing problems, designing solutions and expressing them in the form a well-structured program using the procedural aspects of C++.

### Definition of a Credit Hour

Success in this 4-credit hour course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction and preparation/studying or course related activities for a total of 180 hours.
*Go to:* http://webs.wichita.edu/?u=academicaffairs&p=/definitionandassignmentofcredithours/ *for the policy and examples for different types of courses and credit hour offerings.*

## Measurable Student Learning Outcomes

*Upon successful completion of this course, students will be able to:*

- *Navigate and perform basic file system operations from a Linux CLI environment*
- *Assess problems, derive an algorithm, and employ the algorithm as a solution using C++*
- *Understand basic programming concepts and constructs such as loops, arrays, variables, etc., and successfully deploy them in C++ programs*

## Required Texts/Readings Textbook

The textbook for this course is Problem Solving with C++ (10th edition) by Walter Savitch.
ISBN13: 978-0-13-444828-2

## Other Readings

Think Like a Programmer: An Introduction to Creative Problem Solving by V. Anton Spraul
ISBN13: 978-1593274245

The Linux Command Line: A Complete Introduction by William E. Shotts Jr.
IBSN13: 978-1593274245

## Other Equipment/Materials

No extra equipment is required, but many students may find a laptop or home computer to be very useful.

## Class Protocol

- Students are expected to attend lecture sessions, participate in class discussions, and ask questions to seek clarity.
- Students are expected to keep track of due dates and exam/quiz dates. These dates will be announced in class and posted to Blackboard.
- This class is a bit unique in that students will start out possessing varying programming abilities across a wide range. This class is the first step in closing that gap. As such, it is important that students understand and respect these differences in skill.

## Grading Scale

WSU uses a +/- grading scale for final grades and to calculate grade point averages. In this class, grades are assigned according to the following chart.

| Percentage | Letter Grade | Grade Points | Interpretation |
|------------|--------------|--------------|----------------|
| 93+ | A | 4.00 | 'A' denotes excellent performance |
| 90+ | A - | 3.70 | |
| 88+ | B + | 3.30 | |
| 83+ | B | 3.00 | 'B' denotes good performance |
| 80+ | B - | 2.70 | |
| 79+ | C + | 2.30 | |
| 77+ | C | 2.00 | 'C' denotes average performance |
| 75+ | C - | 1.70 | |
| 70+ | D + | 1.30 | |
| 65+ | D | 1.00 | 'D' denotes unsatisfactory performance |
| 60+ | D - | 0.70 | |
| 0 – 59.9 | F | 0.00 | 'F' denotes failing performance |

## Grade Breakdown
The following chart shows the weight of assigned tasks in calculating the final grade

| Homework | 50% |
|----------|-----|
| Quizzes | 10% |
| Exams | 40% |

## Assignments
There will be 10 assignments in this course. They will be due one week from assignment. No extensions will be given.

## Extra Credit
There will be opportunities for extra credit in this course. They will be announced throughout the semester. At a minimum, extra credit can account for 5 percentage points on the final grade.

## Late Assignments
Late assignments can be submitted up to three (3) days late at the cost of a letter grade per day. This policy can be waived on a case-by-case basis if there is a documented emergency and earliest reasonable contact from the student.

## Missed Assignments and Exams
Exams cannot be made up after they have been administered to the class. If you know you will be absent on the day of the exam, contact the professor as early as possible to schedule an exam time. This policy can be waived on a case-by-case basis if there is a documented emergency and earliest reasonable contact from the student.

## Important Academic Dates
*For Fall semester 2017, classes begin Aug. 21, 2017, and end Dec. 7, 2017. The last date to drop a class and receive a W (withdrawn) instead of F (failed) is Oct. 31, 2017. There are no classes on Sep. 4, Oct. 14-17, Nov. 22-26, Dec. 8, 2017. The final exam is Dec. 11, 2017 from 9:00 – 10:50 am.*

## Disabilities
If you have a physical, psychiatric/emotional, or learning disability that may impact on your ability to carry out assigned course work, I encourage you to contact the Office of Disability Services (DS). The office is located in Grace Wilkie, room 203, (316) 978-3309 (voice/tty) (316-854-3032 videophone). DS will review your concerns and determine, with you, what academic accommodations are necessary and appropriate for you. All information and documentation of your disability is confidential and will not be released by DS without your written permission.

## Counseling & Testing
The WSU Counseling & Testing Center provides professional counseling services to students, faculty and staff; administers tests and offers test preparation workshops; and presents programs on topics promoting personal and professional growth. Services are low cost and confidential. They are located in room 320 of Grace Wilkie Hall, and their phone number is (316) 978-3440. The Counseling & Testing Center is open on all days that the University is officially open. If you have a mental health emergency during the times that the Counseling & Testing Center is not open, please call COMCARE Crisis Services at (316) 660-7500.

### Diversity and Inclusive

Wichita State University is committed to being an inclusive campus that reflects the evolving diversity of society. To further this goal, WSU does not discriminate in its programs and activities on the basis of race, religion, color, national origin, gender, age, sexual orientation, gender identity, gender expression, marital status, political affiliation, status as a veteran, genetic information or disability. The following person has been designated to handle inquiries regarding nondiscrimination policies: Executive Director, Office of Equal Opportunity, Wichita State University, 1845 Fairmount, Wichita KS 67260-0138; telephone (316) 978-3186.

### Intellectual Property

Wichita State University students are subject to Board of Regents and University policies (see http://webs.wichita.edu/inaudit/ch9_10.htm) regarding intellectual property rights. Any questions regarding these rights and any disputes that arise under these policies will be resolved by the President of the University, or the President's designee, and such decision will constitute the final decision.

### Shocker Alert System

Get the emergency information you need instantly and effortlessly! With the Shocker Alert System, we will contact you by email the moment there is an emergency or weather alert that affects the campus. Sign up at www.wichita.edu/alert.

### Student Health Services

WSU's Student Health clinic is located in 209 Ahlberg Hall. Hours are 8:00am to 7:00pm (8:00 am to 5:00 pm on Fridays), though the clinic may be closed occasionally on Wednesdays from noon to 1:30pm. The telephone number is (316) 978-3620. In addition to outpatient and preventive care (including immunizations, a prescription service, and testing/counseling for sexually transmitted infections), Student Health can handle minor injuries. All services are confidential.  For more information see www.wichita.edu/studenthealth.

### Title IX

Title IX of the Educational Amendments of 1972 prohibits discrimination based on sex in any educational institution that receives federal funding. Wichita State University does not tolerate sex discrimination of any kind including: sexual misconduct; sexual harassment; relationship/sexual violence and stalking. These incidents may interfere with or limit an individual's ability to benefit from or participate in the University's educational programs or activities. Students are asked to immediately report incidents to the University Police Department, (316) 978- 3450 or the Title IX Coordinator (316) 978-5177. Students may also report incidents to an instructor, faculty or staff member, who are required by law to notify the Title IX Coordinator. If a student wishes to keep the information confidential, the student may speak with staff members of the Counseling and Testing Center (316) 978-3440 or Student Health Services (316)978-3620. For more information about Title IX, go to: http://www.wichita.edu/thisis/home/?u=titleixf

### The Heskett Center and Campus Recreation

Whether you are wanting to be active on campus, relieve the stress from classes or take care of your body, Wichita State Campus Recreation is the place for you. Campus Recreation, located inside the Heskett Center, contributes to the health, education, and development of Wichita State University students, faculty, staff, alumni, and community members by offering quality programs and services. With many programs and facilities which are free to all students and members, Campus Recreation offers its members limitless opportunities. For more information about our

services see www.wichita.edu/heskett.

## CARE Team

Wichita State University is committed to the safety and success of and cares about all members of the University community.  If you or someone you know needs support, is distressed, or exhibits concerning behavior that is interfering with their own or others' academic or personal success or the safety of members of our community, resources and assistance are available.  As your Faculty, I may seek support for you. If you or another member of our campus community is in need of help, please submit a concern at **www.wichita.edu/ubit** or call any CARE team member listed on that webpage.  In case of emergency, please call the University Police Department at (316) 978-3450 or 911.

## Concealed Carry Policy

The Kansas Legislature has legalized concealed carry on public university campuses.  Guns must be out of view, concealed either on the body of the carrier, or backpack, purse or bag that remains under the immediate control of the carrier.   Gun owners must familiarize themselves with WSU's Concealed Carry Policy at http://webs.wichita.edu/?u=wsunews&p=/weapons_policy_documents and the Kansas Board of Regent's policy at http://www.kansasregents.org/about/policies-by-laws-missions/board_policy_manual_2/chapter_ii_governance_state_universities_2/chapter_ii_full_text#weapons.
If you believe that there has been a violation of this policy, please contact the University Police Department at 316 978-3450.

## Tentative Schedule

| Week | Starting | Topics |
|---|---|---|
| 1 | Aug. 21 | Introduction to C++ and Linux and Problem Solving |
| 2 | Aug. 28 | C++ Basics, Control Flow |
| 3 | Sep. 4 | **WILL VOTE ABOUT SEP. 5,** More Control Flow |
| 4 | Sep. 11 | Arrays |
| 5 | Sep. 18 | Arrays (cont.) |
| 6 | Sep. 25 | Recursion |
| 7 | Oct. 2 | Functions (Ch. 4) |
| 8 | Oct. 9 | Functions (Ch. 5) |
| 9 | Oct. 16 | **NO CLASS ON OCT. 16 (FALL BREAK),** General Debugging |
| 10 | Oct. 23 | Strings |
| 11 | Oct. 30 | File I/O |
| 12 | Nov. 6 | Pointers |
| 13 | Nov. 13 | Dynamic Arrays |
| 14 | Nov. 20 | **NO CLASS ON NOV. 22 (THANKSGIVING),** Structures |
| 15 | Nov. 27 | Classes |
| 16 | Dec. 4 | Separate Compilation and Namespaces |
| Final | Dec. 11 | Final is on December 12 from 1:00 – 2:50 PM |