

Course Syllabus - CS 202

Fall 2017

1. Course: CS 202 - Computer Science II

2. Term Specific Information:

- Session: Fall 2017
- Credits: 3.0
- Class Interaction:
Class Hours: Tu, Th, 7:30 - 8:45 am
Classroom: MS 215
- Labs:
Lab Hours: Th, 9:00 - 12:50 am
Lab Location: SEM 321
- Instructor: Christos Papachristos
Office: ARF 116 (Office) or ARF 004 (Lab), Check both locations.
Email: cpapachristos@unr.edu
Office Hours: TuTh 5:00-6:00 pm (Tentative); and by appointment
- Teaching Assistants: Bahadir Ali, Spencer Gibb, Jun Yi
Email: bpehlivan@unr.edu, sgibb@unr.edu, junyi@unr.edu [nevada.unr.edu]

Office	Bahadir Pehlivan:	Tu-Th 12:00-1:00 pm	at SEM211
Hours:	Spencer Gibb:	Mo-We 12:00-1:00 pm	at ECC
(Tentative)	Jun Yi:	We-Fri 1:00-2:00 pm	at ECC
- NV PASS Leader: Kurtis Rodrigue
Email: kurtisr@nevada.unr.edu
Room: Monday ECC Lab B, Tuesday ECC Lab C
Hours: Monday 5:40-7:40 pm, Tuesday 7:30-9:30 pm

3. Course Description:

• Emphasis on problem solving and program development techniques. Typical numerical and non-numerical problems are examined. Design, implementation, and abstraction principles of elementary data structures.

4. Course Prerequisites:

- (CS 135) Computer Science I
- **Note:** You must have at least a C in CS I (C- and below does not count.)

5. Prerequisites by Topic:

• Basic Program Design, including the usage of the proper control structures for selection and iteration. An understanding of, and the ability to use functions, including prototypes and definitions, along with parameter passing. Declaration and usage of

single and multidimensional arrays, including the passing of them as parameters to functions. Basic Stream I/O, including the usage of external files.

6. Textbook:

- Required: None
- Recommended: *Absolute C++ (Sixth Edition)*, by Walter Savitch
Programming and Problem Solving With C++, (Edition 6), Nell Dale, Chip Weems

Some relevant online sources:

C++ (and C) Reference links for standard Libraries/Headers, Data Types, STL, etc. in latest and past standards:

- cppreference.com
- cplusplus.com

For the ones who want to remember the C language:

- [Essential C](#)
- [An Introduction to C](#)
- [An Introduction to the C Programming Language and Software Design](#)
- [TutorialsPoint: Learn the C Programming Language](#)

C++ related courses/links:

- [A Quick Introduction to C++](#)
- [C++ Language Tutorial](#)
- [TutorialsPoint: Learn the C++ Programming Language](#)
- [An Introduction to C++](#)
- [A Complete Guide to Programming in C++](#)
- [Thinking in C++](#)

You may find many other online sources. You may also use any C++ textbook as a supplement to the lecture.

7. Course Objectives:

- Present the foundation for Object Oriented Design. Using the C++ programming language as a tool, Function and Operator Overloading will be covered and Templates will be introduced. The use of Pointers and Dynamic Memory will be covered leading to the introduction of Lists (array based and dynamically allocated linked lists), as well as coverage of other elementary data structures such as Stacks and Queues (array based and linked-list based). Basic algorithms including Recursion, as well as the Standard Template Library, to operate on these elementary data structures, will be covered.

8. ABET Accreditation Criterion 3 Program Outcomes:

- An ability to apply knowledge of computing, mathematics, science, and engineering.
- An ability to design and conduct experiments, as well as to analyze and interpret data.
- An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs, within realistic constraints specific to the field.
- An ability to use current techniques, skills, and tools necessary for computing and engineering practice.
- An ability to apply design and development principles in the construction of software systems or computer systems of varying complexity.

9. Course Outline (Tentative):

- The following is not necessarily intended as a sequential ordering.

Topic	Lectures
C++ Primer, C++ I/O	2
Function Prototypes, Pointers, References	1
Structs	1
Classes	4
Inheritance	2
Polymorphism	2
Dynamic Memory	4
Classes and Dynamic Memory	1
Data Structures and Dynamic Memory	1
Arrays	2
Linked Lists	2
Stacks, Queues	2
Templates	2
Recursion	1
Midterm	1
Final Exam	1

10. Labs, Quizzes, and Assignments:

- The lab assignments require the solutions to problems using the computer. We will be using the Linux boxes in the College of Engineering Computing Center (SEM 321). You will be instructed how to submit your assignments for grading.
- Late assignments will incur strict penalties.

- All formal homework assignments (including exercises and projects) and all exams (quizzes, midterm and the final exam) are to be treated as individual and not collective efforts.
- Any lab quizzes will be on sheet during the time of the lab section. You will be required to hand in your answer sheet for grading at the end of the lab.
- Any lab assignments should be considered as "open-book, take-home tests". If you need assistance with such an assignment, you may consult your instructor, TAs, PASS Leader, or a textbook. You may not receive substantive assistance in any from any other source (i.e., from another student, from computer center personnel, from paid or unpaid tutors, etc.). Any assistance you receive is to be documented in the comment section of your code.
- The only help you may receive from another student is with syntax errors or with questions regarding the computer system. Stealing another person's listing or having another person "ghost write" a lab will be considered cheating.

11. Projects:

- Most every week or every two weeks there will be a programming project. Projects will be turned in through WebCampus. The lab instructor will provide details. Projects turned in after their due date and time will be graded as late. The penalty for late submission will be 20%.

No assignment will be accepted 24 hours after the assigned deadline.

12. Exams:

- There will be 1 midterm exam and a comprehensive final exam. All exams will take place in the regular classroom.
- Midterm Exam – Thursday, October 19th, 7:30 am - 8:45 am (Tentative)
- Final Exam – Thursday, December 14th, 7:30 am - 9:30 am (Consult [Online Schedule](#)).

13. Assessment and Grading Scheme:

- The final grade will be based on (tentative):

Component	Percentage
Projects - Lab Quizzes/ Assignments	50% (Breakdown: 40% - 10% each)
Midterm Exam	20%
Final Exam	30%

Average	Grade	Breakdown		
90% and above	A	A- : [90-95)		A : [95-100]
80-89.9 %	B	B- : [80-82.5)	B : [82.5-85)	B+ : [87.5-90)
70-79.9 %	C	C- : [70-72.5)	C : [72.5-75)	C+ : [77.5-80)
60-69.9 %	D	C- : [60-62.5)	D : [62.5-65)	D+ : [67.5-70)
59.9 % and below	F	F		

- **Note:** You cannot earn a passing grade in the course without a passing grade on both the average of the midterm and final exams, as well as the average of the projects. Grade re-scaling (plus/minus) may be assigned based on an outstanding or inferior final exam.

14. Class Absence:

- Class presence will be required, tracked, and factored in, for the course's Lab Sections. For general university policy regarding class absence, see [UAM 3,020](#).

15. Required Course Materials:

- You will be required to execute programming assignments in C++, and be able to provide functional executables and/or demonstrate actual program output. Hence, you will need access or possession of a PC with the required software suite, namely the [Ubuntu Linux](#) Operating System installed (required version [14.04](#)) and minimally the [GNU Compiler Collection](#) version (version 4.8). All mentioned software are Open-Source available.
- Most lectures will be provided as MS PowerPoint presentation files or PDF on WebCampus. You can view these with [PowerPoint Viewer](#) (free, not Open-Source) or another program of your choice (e.g. [LibreOffice](#) which ships with Ubuntu 14.04).
- Most assignments will be handed online on WebCampus. The file format will be PDF, and you may use [Adobe AcrobatReader](#) (free, not Open-Source) to view these (or *evince* which freely ships with Ubuntu Linux 14.04). You will need text editing software to hand in assignments, you may use any format of: PDF, DOC, DOCX, ODT. It is also mentioned that the [LibreOffice](#) suite shipping with Ubuntu 14.04 also includes text editing software.
- You will need network access and web browser software. It is mentioned that Ubuntu 14.04 freely ships with [Mozilla Firefox](#).

16. Unique Class Procedures:

- Some classes will potentially include video or other content from online sources. This will be projected in class for everyone, and the students will not be required to actively open the content at the time of the lecture.

17. Academic Standards:

- You should carefully read the section on UNR Academic Standards found [on-line](#). Your continued enrollment in this course implies that you have read it, and that you subscribe to the principles stated therein.
- In addition to the stated University standards, any assignment found to have more in common with another source (e.g., work of other students, online or published material, etc.) than is determined to be reasonable or acceptable by the course Instructor will be considered to be academic dishonesty.

- Per the University policy, the definition of academic dishonesty also applies to person(s) who provided the material(s) in question.
- When a student has demonstrated academic dishonesty, the policy of the Computer Science and Engineering Department is to apply the following minimum academic penalty of: 1) failure of the assignment with assigned grade of zero, and 2) a formal letter specifying the academic integrity breach and the associated sanction forwarded to the Office of Student Conduct to be placed in the student's permanent file.
- Depending on the egregiousness of the activity and for repeat offenders, sanctions beyond these minimums may be imposed at the discretion of the Instructor.

18. Disability Services:

- Any student with a disability needing academic adjustments or accommodations is requested to speak with the [Disability Resource Center](#) as soon as possible to arrange for appropriate accommodations.

19. Audio and Video Recording:

- Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may be given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

20. Academic Dishonesty:

- Cheating, plagiarism or otherwise obtaining grades under false pretenses constitute academic dishonesty according to the code of this university. Academic dishonesty will not be tolerated and penalties can include filing a final grade of "F"; reducing the student's final course grade one or two full grade points; awarding a failing mark on the coursework in question; or requiring the student to retake or resubmit the coursework. For more details, see the [University of Nevada, Reno General Catalog](#).

21. Academic Success Services:

- Your student fees cover usage of the [Math Center](#) (775) 784-4433, [Tutoring Center](#) (775) 784-6801, and University [Writing Center](#) (775) 784-6030. These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.