NVCC CSC202-001N
Computer Science II– 4 Credit Hours– Fall 2016
Monday / Wednesday from 3:30 PM to 5:10 PM Room CT-103

Syllabus/Course Outline

Instructor
Tanes Kanchanawanchai
Office: CC120-F
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Email: **tkanchanawanchai@nvcc.edu**

Office Hours

Monday/ Wednesday	5:10pm – 6:25pm
Tuesday/ Thursday	5:20pm – 6:25pm

By Appointment

Monday - Thursday	6:25pm – 7:40pm

Academic Dishonesty

When College officials award credit, degrees, and certificates, they must assume the absolute integrity of the work you have done; therefore, it is important that you maintain the highest standard of honor in your scholastic work.

The College does not tolerate academic dishonesty. Students who are not honest in their academic work will face disciplinary action along with any grade penalty the instructor imposes. Procedures for disciplinary measures and appeals are outlined in the Student Handbook. In extreme cases, academic dishonesty may result in dismissal from the College. Academic dishonesty, as a general rule, involves one of the following acts:

1. Cheating on an examination or quiz, including giving, receiving, or soliciting information and the unauthorized use of notes or other materials during the examination or quiz.
2. Buying, selling, stealing, or soliciting any material purported to be the unreleased contents of a forthcoming examination, or the use of such material.
3. Substituting for another person during an examination or allowing another person to take your place.
4. Plagiarizing means taking credit for another person's work or ideas. This includes copying another person's work either word for word or in substance without acknowledging the source.
5. Accepting help from or giving help to another person to complete an assignment, unless the instructor has approved such collaboration in advance.
6. Knowingly furnishing false information to the College; forgery and alteration or use of College documents or instruments of identification with the intent to defraud.

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Attendance/Student Participation

Education is a cooperative endeavor between the student and the instructor. Instructors plan a variety of learning activities to help their students master the course content. Your contribution is to participate in these activities within the framework established in the class syllabus. Faculty will identify specific class attendance policies and other requirements of the class in the class syllabus that is distributed at the beginning of each term. Successful learning requires good communication between students and instructors; therefore, in most cases, regular classroom attendance, or regular participation in the case of a non-traditional course format, is essential.

It is your responsibility to inform your instructor prior to an absence from class if this is requested by the instructor in the class syllabus. You are responsible for making up all course work missed during an absence. In the event of unexplained absences, your instructor may withdraw you administratively from the course.

If you do not attend at least one class meeting or participate in a distance learning class by the Census Date (Last Day to Drop with a Tuition Refund), your class registration will be administratively deleted. This means that there will be no record of the class or any letter grade on your transcript. Furthermore, your class load will be reduced by the course credits, and this may affect your full-time or part-time student status. Your tuition will not be refunded.

Late Assignments

Projects: Assigned work should be submitted on time. You will have a long lead time in which to prepare, ask questions, and seek help. Therefore, unless a major accident, illness, work assignment, or other extenuating circumstance prevents you from submitting work on time, late assignments will be subject to a late submission penalty and will lose 10 percent (1 letter grade) per day up to 5 days. No assignment will be accepted after 5 days without an approved, documented excuse. Late work will not be accepted without an approved, documented excuse.

Class Policies

- All assignments and projects will be submitted in the beginning of the class on the specified due date (provided on Blackboard). You are also required to submit your assignments and projects on Blackboard.
- All programming projects and assignments must be compiled before submission. Not-compiled assignments and projects will be rewarded a failing grade or zero point.
- Copy and paste the result of the program in MS. Word document or record the result using screen record software (i.e. Screencastomatic, QuickTime, etc.). Submit both the program and the result on Blackboard.
- Students are responsible for abiding by the Plagiarism Policy.
- Students must give credit to source and provide references.
- All exam and quiz are close book and notes along with turn off all electronic equipment. Students are not allowed to use internet during the exam and quiz.

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- Make-up exams and quizzes will not be given.
- Please allow 7 days to receive grade and feedback on your work after each assignment and project due date.
- You are required to visit Blackboard daily for the latest class information.
- click here for link to academic information in nova catalog.
- During the inclement weather, students are required to maintain regular class participation via Blackboard further communication and instruction will be provide on Blackboard's announcement during the period.
- **click here for link to important dates.**
- Fire/emergency evacuation procedures: "in case of emergency, please follow the emergency procedure as discussed on the first day of class and as posted in the classroom."
- The award of W after the last day to withdraw without grade penalty REQUIRES official documentation and the Dean's signature

Important Dates

Class begins	August 22
Labor Day holiday. College closed.	September 5
Last day to drop a class with a tuition refund or change to audit (census date).	September 8
No Classes	October 10 - 11
Last day to withdraw without grade penalty	November 1
Non-instructional day. No Classes.	November 23
Thanksgiving holiday. College closed.	November 24- 25
College closed.	November 26- 27
Last day of class	December 7
Midterm Exam from 3:30 PM to 5:10 PM	November 2
Final Exam from 2:00 PM to 3:40 PM	December 14

Participation Policy

Student is required to participate in the class discussion. Student will be call to discuss and present in front of the classroom. A portion of your grade will be determined by the degree to which you participate in the class discussions on the discussion readings (see Course Outline and Calendar). You should come to class each session having completed all the required readings (Topics for each week listed on Course Outline and Calendar) and ready to discuss them. I reserve the right to give unannounced quizzes on any reading material for the week.

Disruptive Behavior

Please be considerate. Private conversations during lecture or class discussions, ringing mobile phones, texting, sleeping, or walking into class late or out of class early all distract and disturb your instructor and your classmates, and will count against your participation grade. Repeated instances of rude behavior will result your removal from the classroom. If you have a question or a comment on the

course material, please raise your hand and share it with the class. The row of seats nearest the door is for late arrivers or early departures. Seating on this row is at the discretion of the instructor.

Abuse

Any student who seems to be under the influence of alcohol or intoxicating drugs, or who is abusive or violent will be referred to campus police immediately.

Guidelines for E-Mail Communication

The easiest way to contact me outside of class is through e-mail. In order to receive a response to your message, however, your e-mail must meet the following requirements:

- You must include your full name, the name of the class, and the day and time when it meets in the title of your message. I have on average between 150-200 students a semester, so you need to provide me with as much information as possible if you want a timely answer to your message.
- Please allow at least 48 hours before following up.

Course Description

This course covers object-oriented software development concepts and techniques with various data structures. Each data structure will be studied by examining its structure and how it can be implemented and applied to the software development using objects and classes. Java will be used as the programming language in this class.

Course Objectives

Upon completion of this course, the student will be able to given a problem, design and deploy efficient object-oriented software by analyzing the data, identifying and organizing the data components and structures, and using an object-oriented programming language and environment to design and test the software.

Prerequisite

CSC 201 (computer science I) or equivalent is the prerequisite.

Required Textbook(s) and Instructional Materials to be Acquired by Student

Nell Dale, Daniel T. Joyce, Chip Weems; "Object-Oriented Data Structure using Java, 3rd edition"
ISBN 978-1-4496-1354-9

Readings, Web-sites and Internet Links

http://java.sun.com/docs/books/tutorial/
There will be additional web-sites and internet links on blackboard.

Course Outline and Calendar

Week	Topic	Essential Work

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1	Chapter 1:Getting Organized • Software Engineering • Object Orientation • Classes, Objects, and Applications • Organizing Classes	
2	Chapter 1:Getting Organized • Data Structures • Basic Structuring Mechanisms • Comparing Algorithms: Big-O Analysis Chapter 2:Abstract Data Types • Abstraction • The StringLog ADT Specification • Array-Based StringLog ADT Implementation Software Testing	
3,4	Chapter 2:Abstract Data Types • Introduction to Linked Lists • Linked List Stringing ADT Implementation • Software Design: Identification of Classes • Case Study: A Trivia Game Chapter 3:The Stack ADT • Stacks • Collection Elements • Exceptional Situations • Formal Specification	Assignment 1 Due
5	Chapter 3:The Stack ADT • Array-Based Implementations • Application: Well-Formed Expressions • Link-Based Implementation • Case Study: Postfix Expression Evaluator	
6	Chapter 4:Recursion • Recursive Definitions, Algorithms, and Programs • The Three Questions • Towers of Hanoi • Counting Blobs • Recursive Linked-List Processing • Removing Recursion • Deciding Whether to Use a Recursive Solution	
7	Chapter 5:The Queue ADT • Queues • Formal Specification • Array-Based Implementations	

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	• Application: Palindromes • Application: The Card Game of War • Link-Based Implementation • Concurrency, Interference, and Synchronization • Case Study: Average Waiting Time	
8	Chapter 6:The List ADT • Comparing Objects Revisited • Lists • Formal Specification • Array-Based Implementations • Applications: Poker, Golf, and Music • The Binary Search Algorithm • Reference-Based Implementations • Storing Objects and Structures in Files	Assignment 2 Due
9	Midterm Exam (Cover Ch1-6) from 3:30 PM to 5:10 PM	Midterm Exam November 2
10	Chapter 7: More Lists • Circular Linked Lists • Doubly Linked Lists • Linked Lists with Headers and Trailers • A Linked List as an Array of Nodes • A Specialized List ADT • Case Study: Large Integers	
11	Chapter 8: Binary Search Trees • Trees • The Logical Level • The Application Level • The Implementation Level: Basics • Iterative Versus Recursive Method Implementations	
12	Chapter 8: Binary Search Trees • The Implementations Level: Remaining Operations • Comparing Binary Search Tree and Linear Lists • Balancing a Binary Search Tree • A Nonlinked Representations of Binary Trees • Case Study: Word Frequency Generator	Assignment 3 Due
13	Chapter 9: Priority Queues, Heaps, and Graphs • Formal Specification of a Graph ADT • Implementations of Graphs • Graph Applications	

14	Chapter 10:Sorting and Searching Algorithms • Sorting • Simple Sorts • $O(N \log_2 N)$ Sorts	
15	Chapter 10:Sorting and Searching Algorithms • More Sorting Considerations • Searching • Hashing	
16	Final Exam Review (Cover Chapter 7-10)	Assignment 4 Due
17	Final Exam from 2:00 PM to 3:40 PM	Final Exam December 14

Course Evaluation and Grading
Evaluation Criteria Table
The final grades will be based on the following categories:

CATEGORY WEIGHT	%
Assignments	40
Midterm Exam	30
Final Exam	30
Total	100

Grade Scale

Score (%)	Grade
90-100	**A**
80-89	**B**
70-79	**C**
60-69	**D**
Below 60	**F**

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"NOVA is a place for learning and growing. You should feel safe and comfortable anywhere on this campus. In order to meet this objective, you should: a) let your instructor, his/her supervisor, the Dean of Students or Provost know if any unsafe, unwelcome or uncomfortable situation arises that interferes with the learning process (Campus Police-703-764-5000); b) inform the instructor within the first two weeks of classes if you have received a special needs or a disability accommodation that may affect your performance in this course. The Special Needs/Disabilities Counselors are in CA 112, 703-323-3200."

I, _____, have read and understand the syllabus. I have the right to ask questions regarding to class regulations and agree to follow the policy and rules of this class.

_____ _____

Student Signature **Date**

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Emergency Response and Preparedness:
Annandale Campus is committed to providing, safe and continuous educational opportunities to its students. The Annandale Campus's Emergency Response Procedures were created to address emergencies that may happen on campus. These activities consist of plans, procedures, training, drills, and are reviewed annually and amended as needed.

Below are listed the important points to consider for the safety of yourself and others at the Annandale Campus

Safety preparation:

- Review the posted evacuation routes from your location. This should include classrooms, labs, offices, and meeting rooms. Take note of the primary route of evacuation and the secondary route of evacuation from your location. Know where to go for a building evacuation, weather emergency, Power outages and chemical emergency.
- Assembly Point: Occupants should meet in the front of the building on the lawn furthest away from the building. Near the NOVA green sign (for none weather emergency evacuation).
- Tornado or Severe Weather Shelter Location: Occupants should meet on the first floor of CM or CT buildings depending on your class room location (for weather emergency evacuation).

Fire Alarms:

- Take your belongings with you.
- Evacuate the building immediately in an orderly manner: This should be done in accordance with the Evacuation Route posted on the wall near the door. Close all doors when leaving.
- Do Not Use The Elevators.
- Do not use cell phones, unless designated to do so by the Police.
- Move to the designated assembly areas, as directed by the evacuation wardens or your instructors. Usually, you have no way to know whether an incident is an actual emergency or a drill. Never assume it is a drill.
- Know where to go for a building evacuation: Occupants should meet in the front of the building on the lawn furthest away from the building. Near the NOVA green sign.

Other Alerts:

- Be aware that NOT ALL alerts are fire alarms. They will require different responses.
  - Tornado
  - Shelter in Place
- Familiarize yourself with the different procedures. Severe weather vs. Police incident sheltering.

Safety Awareness:

- Be aware of people requesting information with no apparent need for that information.
- Immediately report lost keys or ID cards to the appropriate office (POLICE CAMPUS OFFICE located on second floor of CA Building)
- Take time out to familiarize yourself with building evacuation plans.
- Know the location of fire extinguishers and emergency fire pulls.
  - Fire Extinguisher Location _____
  - Fire Pull Location _____
- Be informed and stay informed. Register for NOVA ALERT Consider monitoring news media reports and subscribing to news web sites offering free e-mail news notifications. To register for this service, go to: https://alert.nvcc.edu/register.php
- Be aware of abandoned parcels or other items in unusual locations or high traffic areas.
- Use care, caution, common sense and control.

Campus Police- (703) 764-5000

In case of an emergency, please follow the emergency procedure as discussed on the first day of class/lab as posted in the classroom.