

# Introduction to Programming (IS-115)

## Instructor Information

**Name:** Alok Pandey, Professor

**Biography:** Alok started teaching programming at the College of Southern Nevada (CSN) in 1997 after joining CSN as a programming instructor. He was programmer/analyst at the Computer Sciences Corporation and then Programmer/Statistician at the Harry Reid Center for Environment studies within the UNLV.

**Office:** Room A-2708 – Technology building, North Las Vegas Campus

**Phone:** 702-651-4793 (I will not be able to return your call if it is not from a local number.)

**Email:** You should use canvas mail to communicate, as I will use it too. However, in emergency, please use following email: [alok.pandey@csn.edu](mailto:alok.pandey@csn.edu) but please use a phrase “IS-115 student followed by topic” in the subject line.

**Office Hours:** Tue: 10:00 – 10:50 and 1:50 – 2:30 (C-133 West Charleston campus)

Wednesday: 1:00 – 2:30 (A-2708 North Las Vegas campus)

Any other time by appointment

## Course Information

**Description:** This is a first course in programming. It deals with the ideas of typical processes, internal computation, input/output, decision and control, and typical application. This course emphasizes problem solving methods and algorithm development.

### Outcomes:

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

- describe computer hardware and an operating system,
- develop algorithms in terms of pseudo codes and flow charts,
- design and code a program that processes user input and produces output. This program will perform simple input operations, formulation of mathematical formulas into the programming language and perform simple output operations,
- design and code a program that uses basic arithmetic operations (add, subtract, multiply, divide). This program will include the use of primitive variable types,
- design and code a program using IF statements in comparisons and using the WHILE and FOR statements in repetition. This program will demonstrate good structured programming practices.

### Text books:

1. **Required:** Prelude to Programming – concepts and design\*,  
6th edition. Author: Venit & Drake,  
Pearson – ISBN: -13: 9780133741636. \*  
You do not need any package – all you need is just the book.

NOTE: There is a copy of this book on reserve at the West Charleston library for use in the library.  
Strongly recommended - Reference book: Starting out with Python – Tony Gaddis – Third Edition -  
Pearson – ISBN: 9780133582734 – Third edition  
The earlier edition of this book is also OK.

- There are several good online books available on Python. We will be using one of the e-books. Here is the link:  
<http://www.swaroopch.com/notes/python/#intro>  
 Also, I will provide Python material in the class. Python online tutorial:  
 Python – 3 Tutorial: <http://docs.python.org/2/tutorial/>  
 Python – 3 Tutorials: <https://docs.python.org/3.5/>

**Meeting Timing:** Tuesday: 11: 00AM – 1:50 PM  
**Meeting Location:** C-133 West Charleston campus

**Software required for this course: We will be using two software in this course:**

- Raptor:** It is free flowcharting software to learn programming concepts without learning syntax of a programming language. You can download and install it on your computer. Appendix-D of the text can help you all about RAPTOR including where to download it from and how to install it.
- You can download Raptor from: : <http://raptor.martincarlisle.com>
- Python: We will also be using a high-level programming language available for free You can download it from: <http://www.python.org/getit/>

**Course Content**

- Input, process, and output:** To understand the activity of programming, first step is to learn about three fundamental steps – input, process, output. In the first step we should also become familiar with the computing environment, and recognize syntax and logic errors.
- Variables (or data types):** To store information in a computer and then to be able to manipulate them, we need variables, as name suggests, where values can vary. Different programming languages come with different types and number of variables.
- Decision Making:** To be able to implement decisions using if statements, understand how to group statements into blocks, learn how to compare integers, floating-point numbers, strings, and objects, recognize the correct ordering of decisions in multiple branches, and program conditions using Boolean operators and variables.
- Iteration and Looping:** To be able to program loops with the while, for, and do statements, avoid infinite loops and off-by-one errors, understand nested loops.
- Introduction to Objects and Classes:** To understand the concepts of classes and objects, realize the difference between objects and object references, become familiar with the process of implementing classes, be able to implement simple methods, understand the purpose and use of constructors, understand how to access instance of an object.

**Grading policies**

<b>Assignments &amp; Quizzes</b>	This will be 45% of total grade. NO MAKEUP.
<b>Exam-1</b>	This will be 15 % of the grade
<b>Exam-2</b>	This will be 15% of the grade
<b>Final Exam or Exam-3</b>	This will be 25% of the grade

- Assignments:** There will be two types of assignments – **Quizzes and Programming Projects.**  
**Quizzes:** You will take your quizzes at the beginning of the class so come on time and come prepared

to take the quiz. If you come late then know that you will miss the quiz and I will not be able to give make up. I may give second chance in some quizzes and an average of the two will be counted as the quiz score.

**Assignments:** There will be at least one assignment per chapter. It must be submitted on due date for grading. You will have possibly 10 assignment/projects for this course. These assignments are going to be programming projects and you have to start them early to complete on time. **We** can discuss assignments in the class if needed but you cannot share your work with anyone. If two works are similar I will give a zero to both in that assignment and then file an integrity report with the college.

2. **Technical difficulties:** I understand that you will be doing assignments and projects at your home computers. However, technical difficulties, of any kind are your responsibility. You must submit your work on due date otherwise you may lose points for that assignments.
3. **Exams:** We will have three exams – all will have M/C, short answer type and programming questions.
4. **Final Exam (or Exam-3):** It will be a comprehensive final exam. However, most questions will come from the new materials covered after the exam-2.
5. **Exams location:** All exams are given in person in classroom
6. **Missed Exam:** There is no makeup for missed exams for any personal reasons.
7. **W grade:** I will not be able to give any student a W grade. You must withdraw from the class by going to registrar office before the drop date given in the college schedule. You will only be able to get earned grade from me.
8. **Incorrect grading:** You are responsible to review your graded exams and assignments. If you feel that you are marked off points incorrectly, please send an email to your instructor as soon as possible and mention the question you want him to review.

**Grade distribution:**

Overall 90% and above Must have a score of 80% or higher on the FINAL	Overall 80% to 89.99% Must have a score of 70% or higher on the FINAL	70% to 79.99% Must have a score of 60% or higher on the FINAL	60% to 69.99% Must have a score of 50% or higher on the FINAL	Below 60% Doesn't matter.
A	B	C	D	F or requested W

College Resources

**ADA Notice:** If you qualify for "reasonable accommodations" in accordance with the American with Disabilities Act (<http://www.ada.gov/>), you must notify me in writing of such by the end of the first week of class. Visit <https://www.csn.edu/disability-resource-center> for more information additional about the Disability Resource Center (DRC). Please know all requests for any accommodations must be approved by the CSN's Disability Resources Center (DRC).

**Withdrawal:** CSN Policy prohibits an instructor from issuing a W grade. If you stop attending class or quit completing the required work, you CANNOT be assigned an automatic "W" or "Withdrawal" grade; you will receive a grade based on the total points you have earned in the class, which, more than likely, will be an "F" to connote you have failed. **If you wish to be withdrawn from this class, it is your responsibility to officially drop the class by the drop date listed in the college catalog/schedule of classes.**

**Moving from credit to audit.** After certain period if you drop the course you will not get any refund back and you will receive whatever your earned grade (possibly an F) on the transcript. I recommend that once you realize that you are unable to devote the needed time to the course, consider changing the course registration from credit to audit. This way you will still be learning the course material and if you continue to do course work you will get "satisfactory" grade for the class instead of a possible F.

**Date of Last Attendance:** Due to financial aid guidelines, CSN instructors are required to record a “Date of Last Attendance” (DOLA) for any student issued a failing grade. If an F is to be issued and all the coursework is completed, the DOLA will be recorded as “FULLY.” If no coursework is submitted, the DOLA will be recorded as “NEVER.”

**IS-115 Material Schedule (Subject to change with proper notice)**

<b>Date</b>	<b>Material Covered</b>	<b>Assignment /Exam</b>
Week -1	<ul style="list-style-type: none"> <li>Syllabus and Introduction.</li> <li>Downloading and installing Raptor software on your computer (details given in Appendix D)</li> <li>Introduction to Raptor. Chapter Zero and One</li> </ul>	Read Chapter Zero, and One. Do Assignment 1B. Prepare for Quiz-1.
Week -2	<ul style="list-style-type: none"> <li>Overview of the Canvas Learning system</li> <li>Chapter 3: Basics of a Program, Data types, Information storing into variables, manipulating variables.</li> </ul>	Quiz-1 on 9/4 Assignment -1B on 9/4 midnight Start working on Assignment 2B
Week -3	<ul style="list-style-type: none"> <li>Chapter Four: Making decisions in programming, If statements, Relational and logical operators, ASCII</li> </ul>	Quiz-2 on 9/11 (On Chap-3) Assignment 2B due 9/11 evening Start Working on Assignment 3B
Week -4	<ul style="list-style-type: none"> <li>Chapter Five: Repetitions in Programming or computer loops, counter controlled loops, infinite loops, sentinel controlled loops, functions</li> </ul>	Quiz-3 is on 9/18 (on Chap – 4) Assignment 3B due by midnight
Week -5	<ul style="list-style-type: none"> <li>Chapter Six</li> </ul>	Quiz-4 on 9/25 (on chap 5) Assignment 4B due by midnight
Week -6	<b>Exam-1 – Covering Chapters 0-5</b> Continue on Chapter six	Exam-1 in class 10/2
Week -7	Chapter Seven : A completely new data structure List	Quiz-5 – 10/9 on Chap 6 Assign 5B due by midnight
Week -8	Chapter – 8 Searching and Sorting arrays	Quiz-6 on 10/16 on Chap 7 Assign 6B due by midnight
Week -9	Introduction to Python. Installation of Python. Basic variables usage in Python. Difference between Python 2 and 3.	Quiz-7 on 10/23 on Chap 7 Assign 7B due by midnight.
Week -10	<b>Exam-2 – Covering Chapters 6-8</b> Python Decisions and Boolean logic	Work on Assign 8
Week -11	Python Looping	Assign 8 due 11/6 midnight
Week -12	Python Functions	Assign 9 due 11/13 midnight
Week -13	Python – File Object and reading methods	Assign 10 due 12/4 midnight
Week -14	Python – Lists	Assign 11 due 12/4 midnight
Week -15 & 16	Review and Final Exams	Final on Dec 11