**Lincoln University**

**Department of** **Computer Science**

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| **Course Title:** | Programming I | **Course number:** | CSC158 |
| **Credit Hours**  | 4 | **Prerequisite (s):** | n/a |
| **Term:** | Fall 2017 | **Co-Requisite (s)** | **MAT110** |
| **Course Method** |  | **Meeting day and Time:** |  |
| **Instructor:** |  | **Classroom/lab/Studio Location:** |  |
| **Office location:** |  | **e-mail:**  |  |
| **Office Hours:** |  | **Phone Extension:** |  |

**COURSE DESCRIPTION:** This course is the first course in a yearlong sequence required for Computer Science majors. It introduces the students to principles of computer programming via a structured programming language. The student will write, test and debug a wide variety of problems drawn from several disciplines. The course will also address program design and program style.

**REQUIRED TEXT:**

C++ How to Program by Deitel & Deitel-*lastest Edition*

**REQUIRED MATERIALS:**

**Assessment Criteria & Alignment (usE Numbers only)**

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| --- | --- | --- | --- |
| Course SLO | PSLOs(indicate #only) | ILOs(indicate #only) | Direct and Indirect Assessment Methods |
| CSLO 1 | PSLO #1 | ILO 2 | 1) In-class computer lab work on general code development assessed through a PSLO specific rubric2) Tests questions on writing programs (that will be assessed through a PSLO specific rubric)3) Projects on writing programs (that will be assessed through a PSLO specific rubric) |
| CSLO 2 | PSLO #3 | ILO 7 | 1) Test questions on tracing existing programs (that will be assessed through a PSLO specific rubric) |
| CSLO 3 | PSLO #1 | ILO 2 | 1) Tests questions on debugging (fixing code errors that will be assessed through a PSLO specific rubric)2) Fixing code errors on projects (that will be assessed through a PSLO specific rubric)3) In-class computer lab work on debugging (that will be assessed through a PSLO specific rubric) |
| CSLO 4 | PSLO #1 | ILO 2 | 1) Tests questions on problem solving (that will be assessed through a PSLO specific rubric)2) Projects on problem solving (that will be assessed through a PSLO specific rubric) |
| CSLO 5 | PSLO #2 | ILO 5 | 1) Tests questions on Algorithms (that will be assessed through a PSLO specific rubric)2) Projects on Algorithms (that will be assessed through a PSLO specific rubric) |

**Course Student Learning Outcomes (CSLO):**

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

* **CSLO #1:** Write several programs using a language such as C++.
* **CSLO #2:** Demonstrate skills for tracing programs by utilizing input/ output of data and computer memory.
* **CSLO #3:** Demonstrate skills for debugging programs, both in terms of syntax/ grammar of the language used as well as logical and run-time errors.
* **CSLO #4:** Use algorithms and computer programming to solve problems in various disciplines such as Math, Physics, Business, etc.
* **CSLO #5:** Demonstrate skills to modify algorithms and programs.

**Program Student Learning Outcomes (PSLO):** (List only those assessed with this course.)

* **PSLO #1:** Programming (in C++)
* **PSLO #2:** Solving Problems & Algorithms
* **PSLO #3:** Analyzing & Using Data

**Institutional Learning Outcomes (ILO):** (List only those assessed with this course.)

* **ILO#2:** Technology and information literacy
* **ILO#5**: Critical thinking
* **ILO#7:** Quantitative literacy

**Calculation of Final Grades**:

The final score will be calculated based on the scores earned in each of the test and project listed below using a weighted average formula shown. The Final letter grade will be awarded using the grading scale guideline shown.

**Test #1:** 100 points

**Mid-term Test (#2):** 100 points

**Test #3:** 100 points

**Final Test (#4):** 100 points.

**Projects 1-5:** 20 Points each

**Tests:**         80%
**Projects (3 to 5):**     20%

**Final Score**= (Test1 Score + Midterm Score + Test3 Score + Final Test Score)/400 \* 80

 + (P1 Score + P2 Score + P3 Score+ [P4 Score] + [P5 Score])/ (60 or [80] or [100]) \* 20

**The grading scale guideline:** \*\*

**GRADING SCALE:** (Should follow Department and/or College Template)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | F |
| GPA Points | 4.0 | 3.7 | 3.3 | 3.0 | 2.7 | 2.3 | 2.0 | 1.7 | 1.3 | 1.0 | 0.0 |
| % | 100-93 | 92.9-90 | 89.9-88 | 87.9-82 | 81.9-80 | 79.9-78 | 77.9-72 | 71.9-70 | 69.9-67 | 66.9-60.1 | 60 and under |

**SCHEDULE OF LEARNING topics covered**

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| **Class Meets:** **•ASSIGNMENT SELECTION & SCHEDULE MAY BE SUBJECT TO CHANGE•** |
| **Week 01:** | Introduction to Computers / Computer Science (Chapter 1)Introduction to C++ programming (Chapter 2)cin/ cout statements data typesvariablesstring typeoperators |
| **Week 02:** |
| **Week 03:** | Control statements (Chapter 4-5)**Test # 1** (will be administered in two parts) |
| **Week 04:** |
| **Week 05:** | Introduction to classes and objects (Chapter 3)Control statements (Revisited, Chapter 4-5) |
| **Week 06:** |
| **Week 07:** | Functions (Chapter 6) |
| **Week 08:****Midterm** | **Mid-term Week** |
| **Week 09:** | Arrays (Chapter 7) |
| **Week 10:** | File processing (Chapter 17)**Test# 3** |
| **Week 11:** |
| **Week 12:** |
| **Week 13:** | More on object oriented programmingMore on IO streams (Chapter 15) |
| **Week 14:** |
| **Week 15:** | Operator overloading (Chapter 11) and review |

#### **University ATTENDANCE POLICY:**

Lincoln University uses the class method of teaching, which assumes that each student has something to contribute and something to gain by attending class. It further assumes that there is much more instruction absorbed in the classroom than can be tested on examinations. Therefore, students are expected to attend all regularly scheduled class meetings and should exhibit good faith in this regard.

Please note the following (click the link below for more detailed information):

1. **Four** absences may result in an automatic failure in the course.
2. **Three** tardy arrivals may be counted as one absence.
3. Absences will be counted starting **January 25, 2016**
4. In case of illness, death in the family, or other extenuating circumstances, the student must present documented evidence of inability to attend classes to the instructor, Vice President for Student Affairs and Enrollment Management. However, in such cases the student is responsible for all work missed during those absences.

More detailed information available at the following link: <http://www.lincoln.edu/registrar/2014Catalog.pdf>

**STUDENTS WITH DISABILITIES STATEMENT:**

Lincoln University is committed to non-discrimination of students with disabilities and therefore ensures that they have equal access to higher education, programs, activities, and services in order to achieve full participation and integration into the University.  In keeping with the philosophies of the mission and vision of the University, the Office of Student Support Services, through the Services for Students with Disabilities (SSD) Program, provides an array of support services and reasonable accommodations for students with special needs and/or disabilities as defined by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.  The Services for Students with Disabilities Program seeks to promote awareness and a campus environment in which accommodating students with special needs and/or disabilities is natural extension of the University’s goal.

Any student with a documented disability should contact the Office of Student Support Services.

<http://www.lincoln.edu/studentservices/index.html>

**UNIVERSITY ACADEMIC INTEGRITY STATEMENT:**

Students are responsible for proper conduct and integrity in all of their scholastic work. They must follow a professor's instructions when completing tests, homework, and laboratory reports, and must ask for clarification if the instructions are not clear. In general, students should not give or receive aid when taking exams, or exceed the time limitations specified by the professor. In seeking the truth, in learning to think critically, and in preparing for a life of constructive service, honesty is imperative. Honesty in the classroom and in the preparation of papers is therefore expected of all students. Each student has the responsibility to submit work that is uniquely his or her own. All of this work must be done in accordance with established principles of academic integrity.

<http://www.lincoln.edu/registrar/2014Catalog.pdf>

**POLICY ON ELECTRONIC DEVICES IN CLASSROOM:**

Cellphone and other electronic devices use is not permitted at any time during class (unless instructed to do so by the instructor). Cellphones and other electronic device must be put away out of sight during the entire class. Failure to put away phones completely out of sight will lead to immediate dismissal from class and you will be marked absent for the day.