TRIMEX COLLEGES
Trojan Bldg., Poblacion City of Biñan, Laguna
Tel No. (049) 511-9278

COURSE SYLLABUS

Course Code	:	**CS 101 (CS Fundamentals)**
College	:	**Computer Studies Department**
Department	:	**Computer Studies Department**
Degree Program	:	**Bachelor of Science in Computer Science**
Instructor	:	**Mr. Lester R. Ramos**
		lesterrramos@yahoo.com
Consultation Period	:	**Saturday 8:00am – 12:00pm**
Course Description	:	

Basic information technology concepts; fundamentals of algorithm development; high-level language and programming applications; computer solutions of IT related problems.

Course Learning Outcomes (LO):
On the completion of the course, student is expected to be able to do the following:

Institutional Graduate Outcomes	Program Graduate Outcomes	LO No.	Learning Outcome
Globally Competent	**Technology driven**	LO1	Understand the basic information technology concepts
Globally Competent	**Globally Competent**	LO2	Use application software and the internet properly
Globally Competent	**Technology driven**	LO3	Acquire proficiency in algorithm development using a high level programming language
Technology Driven	**Technology driven**	LO4	Use the computer as a tool in engineering practice
Service-Oriented Professional	**Globally Competent**	LO5	Design Implement test, and debug a program based on a given specification, that uses each of the following fundamentals programming components; (1) Primitive data types (2) Basic Computation (3) Simple i/o (4) Conditional and iterative structures (5) Definition functions and parameter passing and (6) Recursion
Team Player	**Responsive Leaders**	LO6	Assess and recommend revision to another programmer's code (1) Regarding documentation and program style standards that contribute to reliability and maintainability of software (2) Regarding appropriateness of chosen conditional and iterative constructs given a programming task, and (3) Regarding thoroughness in applying procedural abstraction.

Final Course Output:
As evidence of attaining the above learning outcomes, the student has to do and submit the following:

1. **Solution Documentation** that highlights the following:

    1. Understand the basic information technology concepts (LO1)

        Students must have a good understanding in hardware, software concepts and programming concepts. Students must identify the latest technology in hardware, software and programming and must submit a research study about the latest technology in software, hardware and programming.

    2. Use application software and the internet properly (LO2)

        Students must be familiar with the different application software that can be used which is necessary for engineering practice to be able to perform task effectively and efficiently. Students must submit a research study about the different software application that can be used for engineering activity.

    3. Acquire proficiency in algorithm development using a high level programming language (LO3)

        Students must be proficient in C language in order to create a program. Student must submit a program which will demonstrate their skills in the said programming language. The program will be evaluated by the instructor and will be graded based on the rubrics. If error occurs during the evaluation it can be subjected for debug and recode until the error has been fix.

    4. Use the computer as a tool in IT practice (LO4)

        Students must install a latest Programming application and be able to create a simple program that will display hello world. The instructor will validate the program created by the students and should conform to the requirements set by the instructor.

    5. Design Implement test, and debug a program (LO5)

        Projects must be submitted before the deadline. Follow the directions indicated by the instructor. Students will be given a sample problem using c language program they need to code in order to make it a working program.

    6. Assess and recommend revision to another programmer's code (LO6)

        A project will be given to the students in order to pass the course. Students need to re code the sample program in order to make it a working program. The program should pass the standards being set by the instructor. A working program should be submitted to the instructor.

2. **Assessment Report** on another student's database design that highlights the following:

    1. Understand the basic information technology concepts (LO1)

        Student should pass the written exam in order to pass the assessment for the course. Students must achieve a passing score and it will be evaluated by the instructor. Topic will be given is based on the basic information technology concepts.

    2. Use application software and the internet properly (LO2)

        Students must install an application software of their choice and should run a simple programing language program using the application software they choose. The program must be working in order to pass the assessment.

3. Algorithm development using a high level programming language _____(LO3)

   Student must formulate a flowchart for a given problemand be able to translate it into a working program.The output will be evaluated based on the requirements and rubrics. A working program should be submitted on time.

4. Use the computer as a tool in engineering practice_____(LO4)

   Students must create a program using c language and it should pass the requirements set by the instructor. The program should be submitted on time and evaluated by the instructor.

5. Design Implement test, and debug a program_____(LO5)

   Students will be given a problem wherein they need to construct a flowchart and be able to codeit using C language programming. The program should pass the requirements set by the instructor to pass the assessment.

6. Assess and recommend revision to another programmer's code_____(LO6)

   Students will be given an assessment at the end of the term in which they will demonstrate their skills in programming. They need to recode a given program and make it a working program to pass the assessment. Students should follow the Directions set by the instructor.

3. **Personal Realizations** that highlights the following:
   Shows interest on the subject matter with good oral participation during the class recitation. No absences for the whole term and meets all the requirements in the subject.

Rubrics for Assessment:
Throughout the course, the level of achievement will be measured using this rubric. The same rubric will be used for your self-assessment during each learning, assessment activities and consultations.

CRITERIA	4 – Exemplary	3 - Satisfactory	2 - Developing	1 – Beginning	0 - Unacceptable
Knowledge of Concepts and Principles	Other works can be assessed and sound recommendations can be developed through the use of concepts and principles	Given a complex situation, appropriate concepts and principles are selected and applied	All concepts and principles can be applied to a non-complex situation	All concepts and principles are remembered, can be consistently explained through own words and demonstrated through an example	A few to all concepts are merely remembered but cannot be explained and demonstrated through an example
Solution Documentation					
Understand the basic information technology concepts	Well organize, demonstrate logical sequencing and sentence structure	Well organize, but demonstrate illogical sequencing or sentence structure	Well organized, but demonstrates illogical sequencing **and** sentence structure.	Weakly Organized	
Use application software and the internet properly	Well organize, demonstrate logical sequencing and sentence structure	Well organize, but demonstrate illogical sequencing or sentence structure	Well organized, but demonstrates illogical sequencing **and** sentence structure.	Weakly Organized	

Acquire proficiency in algorithm development using a high level programming language	Comprehend all activities which cover the knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure, and modelling techniques.	Comprehend most activities which cover the knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure, and modelling techniques.	Comprehend some activities which cover the knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure and modelling techniques.	Not all knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure, and modelling techniques are comprehende d.	
Use the computer as a tool in IT practice	Comprehend all activities which cover the knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure, and modelling techniques.	Comprehend most activities which cover the knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure, and modelling techniques.	Comprehend some activities which cover the knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure and modelling techniques.	Not all knowledge, skills and attitudes of high level programming fundamental concepts, principles, structure, and modelling techniques are comprehende d.	
Design Implement test, and debug a program	Design and demonstrate all activities which cover the knowledge, skills and attitudes required to apply programming analysis and design to solve problems.	Design and demonstrate most activities which cover the knowledge, skills and attitudes required to apply programming analysis and design to solve problems.	Design and demonstrate some activities which cover the knowledge, skills and attitudes required to apply programming analysis and design to solve problems.	Not all activities in design and demonstration which cover the knowledge, skills and attitudes required to apply programming analysis and design to solve problems.	
Assess and recommend revision to another programmer's code	Outstanding knowledge, skills and attitudes required to assess and recommend revision to another programmers code	Acceptable knowledge, skills and attitudes required to assess and recommend revision to another programmers code	Need guidance in knowledge, skills and attitudes required to assess and recommend revision to another programmers code	Needs improvement in knowledge, skills and attitudes required to assess and recommend revision to another programmers code	

Assessment Report					
Understand the basic information technology concepts	Shows complete understanding of the questions, in basic information technology concepts	Shows substantial understanding in basic information technology concepts	Response shows some understanding , in basic information technology concepts	Response shows a complete lack of understanding in basic information technology concepts.	
Use application software and the internet properly	Outstanding knowledge, skills and attitudes required to use application software and the internet property	Acceptable knowledge, skills and attitudes required to use application software and the internet property	Need guidance in knowledge, skills and attitudes required to use application software and the internet property	Needs improvement in knowledge, skills and attitudes required to use application software and the internet property	
Algorithm development using a high level programming language	Outstanding knowledge, skills and attitudes required to develop an Algorithm using a high level programming language	Acceptable knowledge, skills and attitudes required to develop an Algorithm using a high level programming language	Need guidance in knowledge, skills and attitudes required to develop an Algorithm using a high level programming language	Needs improvement in knowledge, skills and attitudes required to develop an Algorithm using a high level programming language	
Use the computer as a tool in IT practice	Outstanding knowledge, skills and attitudes required to use the computer as a tool in engineering practice	Acceptable knowledge, skills and attitudes required to Use the computer as a tool in engineering practice	Need guidance in knowledge, skills and attitudes required to use the computer as a tool in engineering practice	Needs improvement in knowledge, skills and attitudes required to use the computer as a tool in engineering practice	
Design Implement test, and debug a program	Outstanding knowledge, skills and attitudes required to design Implement test, and debug a program	Acceptable knowledge, skills and attitudes required to design Implement test, and debug a program	Need guidance in knowledge, skills and attitudes required to design Implement test, and debug a program	Needs improvement in knowledge, skills and attitudes required to design Implement test, and debug a program	
Assess and recommend revision to another	Outstanding knowledge, skills and attitudes required to	Acceptable knowledge, skills and attitudes	Need guidance in knowledge, skills and attitudes	Needs improvement in knowledge, skills and	

programmer's code	assess and recommend revision to another programmer's code	required to assess and recommend revision to another programmer's code	required to assess and recommend revision to another programmer's code	attitudes required to assess and recommend revision to another programmer's code	
Personal Realizations					
Personal Realization	Reflections and Action Plan were conferred and reflected upon further to improve self-realizations and action plan	Realizations are reflections and action plan against learning, personal characteristics, skills and attitude. Realization were conferred for validation	Realizations are reflections and action plan against learning, personal characteristics, skills, and attitude	Realization are lists of what has been learned in the process and action plan is list of what needs to be learned further	No Personal Realizations and Action plan

Other Requirements and Assessments:
Aside from the final output, the student will be assessed at other times during the term by the following:

- Debugging (Functions) (LO No.5)
- Writing a program using array and strings (LO No.5)

Grading System:

Concepts and Principles with Understanding And Application Assessments and Oral Exam	20%	Knowledge of Concepts and Principles	x 0.2
Solution Documentation	50%	Solution Documentation Rubric Rate	x 0.5
Assessment Report	20%	Assessment Report Rubric Rate	x 0.2
Personal Realizations	10%	Personal Realizations Rubric Rate	x 0.1

Passing Grade: 1.0
Passing Grade conditions: All rubric rates are 1.0

LEARNING PLAN:

Week	Topic	Learning Outcome	Teaching and Learning Activities	Methodologies / Assessment Tasks
1	Introduction to programming concepts	LO1	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
	Hardware Concepts Software Concepts Software Development Life Cycle	LO1 LO2	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
2	Flowchart Logic Formulation Algorithm / flowchart symbols	LO3	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work

3	Introduction to C Programming Familiarization with TC environment	LO4	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
4	Programming Basics Simple C program Data types and use of variables	LO4 LO5	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
PRELIM EXAMINATION				
6 - 7	Logical and Relational operators in C	LO4 LO5	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
8 - 9	Looping Statements in C Break and Continue Statements	LO4 LO5	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
MIDTERM EXAMINATION				
11 - 12	Array - One dimensional array - Two dimensional array	LO4 LO5	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
13 – 14	Matrices - Sample program to input and print data to a matrix Pointers	LO4 LO5	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
SEMI-FINALS EXAMINATION				
15 - 16	Strings	LO4 LO5	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
17 - 18	User Defined Function - Pass by value - Pass by reference	LO6	Interactive Discussion Video Presentation	Long Quiz Board Work Seat work
FINAL EXAMINATION				

REFERENCES:

ONLINE RESOURCES:

CLASS POLICIES:

Project and Grouping

1. Maximum number of students per group is five (5).
2. By week 2, students are required to submit the following:
    a. Template for group project to be submitted to the professor on the prescribed deadline.
    b. Confirmation Form that proves that the project was submitted on time including its date, time, and signature of the professor.

Consultation

1. Professor will schedule a consultation hours regarding the course matter.
2. There should be at least two (2) hours consultation per group per two (2) weeks
3. Professor will leave notes or communicate online if there are some necessary arrangement on the consultation hour.

Class Sessions

1. Students are allowed to use electronic gadgets which are intended only for gathering information related to the course.
2. Students are allowed to use digital cameras to capture writings on the white board only at the end of each session.
3. Should a student miss session, they should be responsible for what was announced or discussed.
4. Graded activity is important and has an impact to students' assessment.
5. Every student will have the chance to lead the entire class in prayer.
6. Students will help the professor in preparing the LCD projector and setting the chairs.
7. The students will present an excuse letter if he or she cannot attend the class.

Attendance

1. Attendance will be checked.
2. Attendance policies will be strictly implemented.
3. Attendance to make-up classes are not required.

Submission of Requirements

1. Requirements are to be submitted physically to the professor or by means of an online. Ensure that there is receiving copy of the requirements or must be sent back if it is in online mode.
2. E-mail and contact number will be given to the students.
3. The professor will acknowledge the receipt of submitted documents.

Communications

1. The professor will suggest that communication will be open. Any suggestions and recommendations are to be entertained inside the class.
2. The students should avoid creating negative feelings with each other. It doesn't help the learning process.
3. Everyone is entitled to give his or her feedback inside the class.
4. Brainstorming in group discussion is utmost appreciated.

TOTAL DAYS SPENT DEVELOPING THIS SYLLABUS	3 Full Days
TOTAL VERSIONS BEFORE ARRIVING AT THIS SYLLABUS	1 Version

Submitted by:	Checked/Evaluated by:	Approved:
Mr. Lester R. Ramos Instructor	**Mr. Rudolph Y. Aluning** Program Head	**Mr. Rito A. Camigla Jr.** Academic Head