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VISION

Mapúa shall be among the best universities in the world.

MISSION


- 1. The University shall provide a learning environment in order for its students to acquire the attributes that will make them globally competitive.
- 2. The University shall engage in publishable and/or economically viable research, development and innovation.
- 3. The University shall provide state-of-the-art solutions to problems of industries and communities

PROGRAM EDUCATIONAL OBJECTIVES	Mission		
	1	2	3
Within five years after graduation, graduates of the Computer Science program should have:			
1. Undertaken projects that show ability to solve complex technical problems and to work in teams on problems whose solutions lead to significant societal benefits.	✓	✓	✓
2. Demonstrated professional computing success via promotions and/or positions of increasing responsibility.	✓	✓	✓
3. Demonstrated life-long learning via progress toward completion of an advanced degree, professional development or computing related training courses and certification/s	✓	✓	✓
4. Undertaken projects that take into consideration safety, health, environmental concerns and the public welfare, through adherence to required codes and laws.	✓	✓	✓
5. Exhibited high standards of professional behavior and attitude.	✓		✓
6. Applied personal standards to achieve excellence.	✓	✓	✓

Student Outcomes	Program Educational Objectives					
	1	2	3	4	5	6
1. An ability to analyze a problem, and to identify and define the computing requirements appropriate to its solution.	✓		✓			✓
2. An ability to design, implement, and evaluate a computer-based solution to meet a given set of computing requirements in the context of the discipline.	✓		✓	✓		✓
3. An ability to communicate effectively with a range of audiences about technical information	✓	✓	✓		✓	✓
4. An ability to make informed judgments in computing practice based on legal and ethical principles	✓			✓	✓	✓
5. An ability to function effectively on teams to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.		✓	✓	✓	✓	✓
6. An ability to identify and analyze user needs and to take them into account in the selection, integration, evaluation, and administration of computer-based systems	✓	✓	✓			✓

COURSE SYLLABUS

- 1. **Course Code:** CSS121
- 2. **Course Title:** Computer Programming1
- 3. **Pre-requisite:** None
- 4. **Co-requisite:** None
- 5. **Credit:** 2 units
- 6. **Course Description:** This course focuses on the logic formulation in solving problem using flowcharting and pseudo codes. Also, it covers an introduction to programming using structured language. Topics include procedural syntax, program flow description, variables and data types, programming selection structures, and iterative structures.

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7. Course Outcomes (COs) and Relationship to General Education Outcomes


Course Outcomes After completing the course, the student must be able to:	Student Outcomes*					
	1	2	3	4	5	6
1. Understand the logicformulation using flowcharts and pseudo codes.	I	I				
2. Student will be familiarized in various programing languagestructures.	I	I				

\*Level: I – Introduced; R – Reinforced; D – Demonstrated


Commented [EJMQ1]: Or Program Educational Objectives

8. Outcome-Based Modular Course Design

Course Title	Credit Units	Module Code	Module Title	Lec Hrs.	Lab Hrs.	Weeks	Credit Units	Pre-requisites	May be taken if remedial
Computer Programming 1	2.0	CSS121-8M1	Understanding Algorithm Design	3	0	6	1.0	None	✓
		CSS121-8M2	Coding Standards, Testing, and Debugging Techniques	3	0	5	1.0	None	✓

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9. Course Coverage

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Week	Topic	TLA				AT				Learning Objects	CO
		Tri-X, Bio-X, Blended			UoX	Tri-X, Bio-X, Blended			UoX		
		F2F	Sync	Async		F2F	Sync	Async			
Module 1: Understanding Algorithm Design											
1	Course Orientation		Zoom Lecture/ Discussion		Video Recording		Class Discussion		Discussion Board	Lecture Slides/ Videos	CO1
	Introduction: Algorithm design		Zoom Lecture/ Discussion		Video Recording		Class Discussion		Discussion Board	Lecture Slides/ Videos	CO1
2	Algorithm design Sequential -Flowchart		Zoom Lecture/ Discussion		Video Recording		Class Discussion		Discussion Board	Lecture Slides/ Videos	CO1
	Algorithm design Sequential - Pseudocode		Zoom Lecture/ Discussion		Video Recording		Class Discussion			Lecture Slides/ Videos	CO1
3	Flowchart design Selection- Flowchart		Zoom Lecture/ Discussion		Video Recording		Class Discussion	FA1.1: Online short quiz	FA1.1: Online short quiz	Lecture Slides	CO1
	Flowchart design Selection- Pseudocode	Lecture/ Discussion			Video Recording	Class Discussion				Lecture Slides/ Videos	CO1
4	Flowchart design Looping-Flowchart		Zoom Lecture/ Discussion		Video Recording		Class Discussion		Discussion Board	Lecture Slides/ Videos	CO1

**Commented [EJMQ2]:** In consonance with the Reusability Principle, we introduce this new column on learning objects to refer to artifacts (Beatty, 2019), which can either be instructional artifacts (teacher-deployed, designed, or developed), e.g., reading tasks, video materials, viewing materials, recorded sessions, lesson transcripts, slides, bibliographic entries, and learning artifacts (student-outputs from the learning process), e.g., student video outputs, student research/written materials and discussion boards.


It is suggested that the artifacts under learning objects are listed in order of their deployment/generation into our LMS. A careful and systematic design and deployment of learning objects shall satisfy the requirement of accessibility.

**Commented [EJMQ3]:** For both in-class (Tri-X) and outside class (Bio-X) delivery types.

**Commented [EJMQ4]:** In line with the Equivalency Principle of HyFlex framework, the faculty members shall ensure that F2F, sync, and async ATs will be able to distinguish high- and low-performing students regardless of delivery type. Simply, these ATs must be “equivalent.”

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	Flowchart design Looping- Pseudocode	Lecture/ Discussion			Video Recording	Class Discussion			Discussion Board	Lecture Slides/ Videos	<b>CO1</b>
5	Basic Programming Concepts Coding standards,			Video Recording	Video Recording		FA1.2: Online Short Quiz		FA1.2: ONline Short Quiz	Lecture Slides/ Videos	<b>CO1</b>
	Testing and Debugging Techniques			Video Recording	Video Recording					Lecture Slides/ Videos	<b>CO1</b>
6	Review of Module 1/Consultation		Zoom Lecture/ Discussion		Video Recording		Class Discussion			Lecture Slides/ Videos	<b>CO1</b>
	Summative Assessment	Assessment			Online Assessment	SA1: Long Quiz			SA1: Online Long Quiz	Test	<b>CO1</b>

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Week	Topic	TLA				AT				Learning Objects	CO
		Tri-X, Bio-X, Blended			UoX	Tri-X, Bio-X, Blended			UoX		
		F2F	Sync	Async		F2F	Sync	Async			
Module 2: Coding Standards, Testing, and Debugging Techniques											
7	Sequential Control Structure -Input			Video Recording	Video Recording				Discussion Board	Lecture Slides/ Videos	CO2
	Sequential Control Structure-output			Video Recording	Video Recording				Discussion Board	Lecture Slides/ Videos	CO2
8	Selection Structures -if -if-else -nested if		Zoom Lecture/ Discussion		Lecture/ Discussion/ Coursera		Class Discussion	FA2.1: Online short quiz	FA2.1: Online short quiz	Lecture Slides	CO1
	Selection Structures -switch case	Lecture/ Discussion			Video Recording	Class Discussion			Discussion Board	Lecture Slides/ Videos	CO2
9	Repetition Statements -Single Loop		Zoom Lecture/ Discussion		Video Recording		Class Discussion		Discussion Board	Lecture Slides/ Videos	CO2
	Repetition Statements -Nested Loop	Lecture/ Discussion			Video Recording	Class Discussion			Discussion Board	Lecture Slides/ Videos	CO2

**Commented [EJMQ5]:** In consonance with the Reusability Principle, we introduce this new column on learning objects to refer to artifacts (Beatty, 2019), which can either be instructional artifacts (teacher-deployed, designed, or developed), e.g., reading tasks, video materials, viewing materials, recorded sessions, lesson transcripts, slides, bibliographic entries, and learning artifacts (student-outputs from the learning process), e.g., student video outputs, student research/written materials and discussion boards.

It is suggested that the artifacts under learning objects are listed in order of their deployment/generation into our LMS. A careful and systematic design and deployment of learning objects shall satisfy the requirement of accessibility.

**Commented [EJMQ6]:** For both in-class (Tri-X) and outside class (Bio-X) delivery types.

**Commented [EJMQ7]:** In line with the Equivalency Principle of HyFlex framework, the faculty members shall ensure that F2F, sync, and async ATs will be able to distinguish high- and low-performing students regardless of delivery type. Simply, these ATs must be “equivalent.”




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10	Functions -Built-in Functions for Math		Zoom Lecture/ Discussion		Video Recording		FA2.2: Online Short Quiz		FA2.2: Online Short Quiz	Lecture Slides/ Videos	C02
	Functions -User Defined Function and Parameter Passing		Zoom Lecture/ Discussion		Video Recording		Class Discussion		Discussion Board	Lecture Slides/ Videos	C02
11	Review of Module 2/Consultation		Zoom Lecture/ Discussion		Video Recording		Class Discussion			Lecture Slides/ Videos	C02
	Summative Assessment Coursera Certificate of Completion	Assessment			Online Assessment	SA2: Long Quiz			SA2: Online Long Quiz	Test	C02

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10. Lifelong-Learning Opportunities
- Appreciate the value of professionalism in your class work, projects and career as well as the usefulness of, and role of professional societies in lifelong learning.
11. Contribution of Course to Meeting the Professional Component
- Computer Topics – 90%
- General Education Component – 10%
12. Prescribed E-Book and Courseware
- A. Print or Digital (Mapua E-Text Infinity Solution / METIS)
- C++ Programming: From Problem Analysis to Program Design, 8th Edition by D.S. Malik, 2018
13. Other References and Educational Resources
- A. Coursera
- a. Programming for Everybody (Getting Started with Python), University of Michigan
- <https://www.coursera.org/learn/python>
- B. Other Books
- a. Problem Solving with C++, 10th Edition by Walter Savitch and Kenrick Mock, 2017
- b. Basic C++ for Engineers and Scientists, Philippine Edition by Gary J. Bronson, 2016

14. Course Evaluation

Student performance will be rated based on the following:


Module 1

Assessment Tasks		Weight	Minimum Average for Satisfactory Performance
CO 1	FA1.1: Short Quiz	20%	70%
	FA1.2: Short Quiz	20%	70%
	SA1: Long Quiz	60%	70%
Total		100%	70%

Module 2:

Assessment Tasks		Weight	Minimum Average for Satisfactory Performance
CO 2	FA2.1: Short Quiz	10%	70%
	FA2.2: Short Quiz	10%	70%
	FA2.3: Coursera Certificate of Completion	20%	70%
	SA2: Long Quiz	60%	70%
Total		100%	70%



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The module grades will correspond to the weighted average scores shown below

Average	Module Grade	Average	Module Grade
0.00-0.99	ABS	82.00 - 84.99	2.25
1.00 – 49.99	IP	85.00 - 87.99	2.00
50.00 - 69.99	I	88.00 - 90.99	1.75
70.00 - 75.99	3.00	91.00 – 93.99	1.50
76.00 - 78.99	2.75	94.00 - 96.99	1.25
79.00 - 81.99	2.50	97.00 - 100.00	1.00

The module grade average will be the weighted average of the module grades based on the credit units of each module:

$$\text{Module Grade Average} = \frac{\sum_{i=1}^{\text{no of modules}} (\text{credit unit})_i (\text{module grade})_i}{\text{total credit units of the course}}$$

The course grade will be determined from the module grade average using the table below:


Module Grade Average (MGA)	Course Grade
1.0 ≤ MGA ≤ 1.10	1.0
1.10 < MGA ≤ 1.40	1.25
1.40 < MGA ≤ 1.60	1.5
1.60 < MGA ≤ 1.85	1.75
1.85 < MGA ≤ 2.10	2.0
2.10 < MGA ≤ 2.40	2.25
2.40 < MGA ≤ 2.60	2.5
2.60 < MGA ≤ 2.85	2.75
2.85 < MGA ≤ 3.0	3.0
IP	IP
5.00	5.00

15. Other Course Policies

- a. Attendance
 

According to CHED policy, students' total number of absences should not be more than 20% of the total number of meetings or 9 hours for a three-unit-course. Students incurring more than 9 hours of unexcused absences automatically gets a failing grade regardless of class standing
- b. Guided Learning Output
 

Guided learning outputs through various worksheets in each clusters of topics are assigned to the students. Problems encountered in the worksheets will be discussed in class.
- c. Language of Instruction

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Lectures, discussion, and documentation will be in English. Written and spoken work may receive a lower mark if it is, in the opinion of the instructor, deficient in English.

- d. Dress and Grooming Codes  
All of us have been instructed on the Dress and Grooming Codes of the University.

e. Academic Integrity Policy

It is the student's responsibility to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any of the following sanctions may be imposed to any student who is found guilty of committing online academic dishonesty:

- a. Failed mark in the course.
- b. Suspension for a period of less than one term, with or without community service.
- c. Suspension for a period of one term or more, with or without community service.
- d. Non-readmission to the University.
- e. Dismissal from the University.
- f. Expulsion.

The following are considered academic dishonesty:


- 1. Using another MyMapua email address to login to any platform (such as BlackBoard and Coursera) with or without permission.
- 2. Asking or hiring someone else to do their exams, homework, Coursera course, papers, projects or other academic requirements.
- 3. Recording and saving copies of exam questions or answers, or answer keys for distribution.
- 4. Receiving copies of exam questions or answers, or answer keys to an exam from someone who has already taken it.
- 5. Plagiarizing or the unethical act of stealing the thoughts of another without proper citation or reference, acquiring information from the Internet without acknowledging the author, copying from another student's work without permission and submitting it as own work.
- 6. Massive, pre-meditated, organized online cheating using instant messaging/email during a quiz or exam.
- 7. Any form of dishonesty in peer-reviewed assignments/submissions (e.g. Coursera peer-graded submissions).
- 8. Engaging in any activities that will dishonestly improve results, or dishonestly improve or damage the results of others.
- 9. Any other form of dishonesty or cheating in any assessment or course requirement.

All students who will violate the Academic Integrity Policy of the university will be given zero mark for the exam or for the activity and will be given a failing grade for the course. He or she will also be referred to the Prefect of Discipline for appropriate sanction.

f. Consultation Schedule

Consultation schedules with the Professor are posted outside the SSSE Faculty Room. On blended and fully online terms, consultations may be done using any video-sharing platform, such as Facebook Messenger, Zoom, Google Meet, or Blackboard Collaborate. Students are advised It to first set an appointment to confirm the instructor's availability.

g. Appeal system

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All appeals on student assessment must be made by the concerned student within one week after the return of the assessed student work.

In case the student is not satisfied, no later than one week after the decision of the faculty has been made, he can elevate the appeal to the program chair or dean in case there is no program chair. The decision of the program chair or dean is final. The faculty must abide with the moderated decision of the program chair or dean.

15. Course Materials to be Provided to Students

- 15.1. Syllabus
- 15.2. Lecture Slides
- 15.3. Coursera Link

16. Committee Members

- 16.1. Cluster Representative:
  - John Paul Q. Tomas
- 16.2. Professors/ Instructors:
  - Gloren S. Fuentes