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Republic of the Philippines
Western Mindanao State University
Institute of Computer Studies
DEPARTMENT OF COMPUTER SCIENCE

OUTCOMES-BASED EDUCATION (OBE) COURSE SYLLABUS IN INTRODUCTION TO COMPUTING
1st Semester, SY 2020-2021

Western Mindanao State University

VISION

The University of Choice for higher learning with strong research orientation that produces professionals who are socially responsive to and responsible for human development; ecological sustainability; and, peace and security within and beyond the region.

MISSION

The Western Mindanao State University, set in a culturally diverse environment, shall pursue a vibrant socio-economic agenda that include:

- A relevant instruction paradigm in the education and training of competent and responsive human resource for societal and industry needs;
- A home for intellectual formation that generates knowledge for people empowerment, social transformation and sustainable development; and;
- A hub where science, technology and innovation flourish enriched by the wisdom of the Arts and Letters, and Philosophy.

Institute of Computer Studies

GOALS

The institute shall provide academic excellence in the field of Information and Communication Technology, with emphasis on the following goals:

a. Produce quality, excellent and eco-friendly graduates imbued with gender responsiveness.
b. Achievement of highest level of accreditation and center of excellence imbued with outcomes-based education.
c. Partner with national and international industries as an outlet for research development and extension.
d. Support faculty members through faculty development programs to be competitive with the highest global standards.

Bachelor of Science in Computer Science Program Outcomes	GOALS			
	a	b	c	d
a. Utilize effectively the concepts of computer science theories and methodologies, and mathematical concepts in modeling, designing and developing of computer-based systems of varying complexity.	✓			
b. Adapt new technologies and ideas in the design, analysis and implementation of software.	✓	✓		✓
c. Formulate an effective solution to solve Information Technology-related problems through proper research and understanding of problem.	✓	✓	✓	

Bachelor of Science in Computer Science Program Outcomes	GOALS			
	a	b	c	d
d. Demonstrate the ability to work cohesively with members of a team using their individual skills to the successful completion of a project.	✓	✓		
e. Manage the available human and technical resources effectively and efficiently.	✓			
f. Recognize the societal needs and its professional, legal, security, and ethical issues relevant to computing career practice.	✓		✓	
g. Produce computer-related researches relevant with institutional, regional and national priorities.			✓	✓
h. Produce computer-related researches that are responsive to the needs and concerns of the communities they serve.	✓		✓	✓
i. Pursue personal development and lifelong learning through research, graduate studies, training and membership to professional organization to be globally competitive.	✓			✓

COURSE CODE   **CC 100**

COURSE NAME   **Introduction to Computing**

PREREQUISITE   **None**

COURSE CREDIT   ***3 Units (2 units lec+1 unit lab=2 hours lecture, 3 hrs laboratory)***

COURSE DESCRIPTION   This course provides a wide understanding of computers, number systems, data types and representations, digital logic systems, assembly and machine language, compilers and translators, operating systems, and computer ethics.

COURSE LEARNING OUTCOMES:

At the end of the semester, the students can:	Program Outcomes							
	A	B	C	D	E	F	G	H
1 Operate a personal computer.	✓	✓	✓	✓				
2 Select, use and document appropriate logic design.								
3 Use word processing, spreadsheet, and presentation applications.								
4 Install Operating System (OS) components and office productivity tools.								
5 Use email and search the web using browsers.								
6 Manage users and resources (files, directories, applications, etc.) through an operating system.								
7 Know the values and work ethics expected of an ICT professional.								
8 Design algorithms to solve given problems using flowcharting and pseudocoding techniques.								

TEXTBOOK/S:

- Commission on Information and Communications Technology (Now DOST—ICTO). Introduction to Computers and the Linux OS. Philippines
- Commission on Information and Communications Technology (Now DOST—ICTO). Introduction to the Internet, Cyber Security and Ethics. Philippines

REFERENCE/S   The following books will be used as major references
- Mano, M.M. & Ciletti, M. (2013). *Digital Design: Introduction to Verilog. (5th Edition)*. New Jersey: Pearson Education/Prentice Hall.
- McHoes, A. , Flynn, I. (2011).*Understanding Operating Systems*. 6th Edition. USA: Cengage Learning. .
- Albano G.A., Atole, R., Ariola, R.J., (2003). Introduction to Information Technology. Philippines: Trinitas Publishing, Inc.
- Japan Information Processing Development Corporation. JITSE (2002). Introduction to Computer Systems. Japan
  Office Help and Training accessed from https://support.office.com/

65-69 .... 2.75   (5)

GRADE COMPONENT AND CORRESPONDING WEIGHT:

60-64 .... 3.0   (5)

Below 60 .... 5.0

GRADE COMPONENT AND CORRESPONDING WEIGHT:

A. Mid Term Exam (Final Exam)	40 %
B. Quizzes	25%
C. Assignments/output (problem set, readings, short activities, reports)	15%
d) Tasks (Synthesis Paper, Reaction paper, Term Paper, other projects)	15%
e) Attendance/ Behaviour	5%
Total	100%

Percentage grade range with equivalent point grade at 60% passing grade are as follows :

99-100 .... 1.0   (2)
95-98 .... 1.25   (4)
90-94 .... 1.50   (5)
85-89 .... 1.75   (5)
80-84 .... 2.0   (5)
75-79 .... 2.25   (5)
70-74 .... 2.5   (5)

Numerical Rating	% Equivalent	Letter Equivalent	Descriptive Equivalent
1.00	98-100	A+	Excellent
1.25	91-95	A	Very Outstanding
1.50	86-90	A-	Outstanding
1.75	81-85	B	Very Good
2.00	76-80	B+	Good
2.25	71-75	B-	Very Satisfactory
2.50	66-70	C+	Satisfactory

2.75	62-65	C	Fair
3.00	60-64	C-	Passing
5.00	Below 60	F	Failure
Inc.	Lacks requirements and/or final examination		Incomplete
AW	Authorized Withdrawal (Dropped from class with permit)		
UW	Unauthorized withdrawal (Dropped from class for non-attendance/non-appearance for 20% of prescribed attendance)		

Authorized Withdrawal (Dropped with permit)	AW
Unauthorized Withdrawal (Dropped from class for non-attendance/non-appearance for 20% of prescribed attendance)	UW

CLASSROOM POLICIES

Attendance: Per article 286 of the WMSU code, regular attendance is required of all students. Attendance is counted upon the first day of regular classes, regardless of the time of the student's enrolment. Students who came in to class within 15 minutes after the start time will still be considered present; otherwise the student will be marked as late. Seven consecutive absences may be a ground for students to be dropped in the subject. Students who cannot attend the class due to illness must contact the instructor immediately regarding the absence and discuss any quiz missed in the class.

Wearing of Prescribed School Uniform and ID: Per article 391 of the WMSU code, every student must wear the prescribed college uniform unless, for certain valid reasons, s/he has written exemption from the Dean of Student Affairs which s/he must show on demand. Students are exempted from wearing their school uniform during Wednesdays and Saturdays since these days are considered as a wash day. Students are also required to wear their school ID when inside the campus, at all times.

Cleanliness and Room Organization: For lecture and laboratory, students are advised to arrange the chairs and tables (if any), and pick up pieces of trash before the start of the class. A student is also assigned in random to keep the white or black board clean before and after the class. Lighting, air conditioners and other electrical equipment should also be turned on and off during and after the class respectively. Additional rule for laboratory is that students are required to wear their shoe protectors when coming in to the laboratory room.

Seat Plan: For the seat plan during lecture classes, students are arranged alphabetically during quizzes or major exams. However, students are given the freedom to choose the seat and place they are comfortable with inside the room during lecture classes. For laboratory, students are arranged alphabetically. There should be one computer for each student.

Cellphone/Mobile Devices: Cellular phones or any mobile device should be set to silent or vibrate mode to avoid disruption in class discussion. Important calls and texts must be answered outside the classroom.

Student Facilitators: Student facilitators are selected from the class by the teacher. These students will assist their classmates in accomplishing the laboratory activity given by the teacher. This is done only upon the instruction of the teacher.

Quizzes: Quizzes are given to students at least once after a chapter or two which may be announced or unannounced. Students are advised to use the CET Exam Booklet during quizzes. Calculators and mobile devices are not allowed during quizzes.

Major Examinations: Major exams such as midterm and final exams are given to students based on the schedule specified in the university calendar. Students must present the student permit before they will be allowed to take the exam. They are also advised to use the CET examination booklet for the major exams. Students who fail take the major exams due to illness (with medical certificate) should inform the instructor early so they will be given a special exam before the submission of grades. Otherwise, an "INC with No Final/Midterm exam" will be submitted by the instructor. A calculator may be used depending on the content of the exam. However, mobile devices are strictly prohibited during major exams. Failure to do so will be considered as a form of cheating.

Laboratory Activities: Laboratory hands-on activities are given to students every meeting. The laboratory output is graded based on a rubric score card. A major laboratory hands-on activity is given to students during the midterm and final exam week.

Consultation: Aside from the regular system of consultation offered by the adviser and/or guidance counselor, the faculty shall provide the student with consultation hours for students to inquire regarding their subject/course, ask for clarification or further explanation of certain topics discussed or to be discussed in the subject, and other concerns related to the subject. The student should set an appointment at least a day before the consultation to avoid conflicts of schedule.

Plagiarism and Cheating: Per article 489 of WMSU code, Cheating in any form during examinations or any act of dishonesty in relation to his/ her studies, such as but not limited to plagiarism; asking another student to take an examination for him/her; or doing it for another. On the **first offense**, suspension of not less than one semester but not more than one year. On **second offense,** the disciplinary action is **DISMISSAL**. Hands-On exam, particularly programming hands-on exam allows students to open books or API documentations for reference but not source codes of previous activities or exams or worst, source codes of other students. Claiming programs or fragment of codes of others as yours, as well as copying documentations or part of the documentation is a form of plagiarism. Students will automatically get a 5.0 on the final rating for the subject/course for cheating or plagiarism if proven guilty beyond reasonable doubt.

Submission/Presentation of Projects/Requirements: Submission or presentation of projects or requirements must be on time. No project or requirement will be accepted after the due date unless with a valid reason.

COURSE REQUIREMENTS
- 2 Written Major Exams (Midterm and Final Examination)
- 2 Hands-On Major Exam, Weekly Laboratory Exercises
- At least 6 Quizzes (3 quizzes midterm + 3 quizzes final term)
- 1 Project for the final term

CONDITIONS FOR PERFORMANCE EVALUATION
- Active participation in all class activities.
- At least 55% passing in all exams and other graded requirements.

RUBRICS FOR CLASS PARTICIPATION

RUBRIC SCORE	DESCRIPTION
(0) POOR	Absent
(1) FAIR	- Present, not disruptive. - Tries to respond when called on but does not offer much. - Demonstrates very infrequent involvement in discussion.
(2) SATISFACTORY	- Demonstrates adequate preparation: knows basic case or reading facts, but does not show evidence of trying to interpret or analyze them. - Offers straightforward information (e.g., straight from the case or reading), without elaboration or very infrequently (perhaps once a class). - Does not offer to contribute to discussion, but contributes to a moderate degree when called on. - Demonstrates sporadic involvement.
(3) VERY SATISFACTORY	- Demonstrates good preparation: knows case or reading facts well, has thought through implications of them. - Offers interpretations and analysis of case material (more than just facts) to class. - Contributes well to discussion in an ongoing way: responds to other students' points, thinks through own points, questions others in a constructive way, offers and supports suggestions that may be counter to the majority opinion. - Demonstrates consistent ongoing involvement.
(4) EXCELLENT	- Demonstrates excellent preparation: has analyzed case exceptionally well, relating it to readings and other material (e.g., readings, course material, discussions, experiences, etc.). - Offers analysis, synthesis, and evaluation of case material, e.g., puts together pieces of the discussion to develop new approaches that take the class further. - Contributes in a very significant way to ongoing discussion: keeps analysis focused, responds very thoughtfully to other students' comments, contributes to the cooperative argument-building, suggests alternative ways of approaching material and helps class analyze which approaches are appropriate, etc. - Demonstrates ongoing very active involvement.

RUBRICS FOR GROUP PRESENTATION

Criterion	4—Excellent	3—Good	2—Fair	1—Needs Improvement
Delivery	• Holds attention of entire audience with the use of direct eye contact, seldom looking at notes • Speaks with fluctuation in volume and inflection to maintain audience interest and emphasize key points	• Consistent use of direct eye contact with audience, but still returns to notes • Speaks with satisfactory variation of volume and inflection	• Displays minimal eye contact with audience, while reading mostly from the notes • Speaks in uneven volume with little or no inflection	• Holds no eye contact with audience, as entire report is read from notes • Speaks in low volume and/ or monotonous tone, which causes audience to disengage
Content/Organization	• Demonstrates full knowledge by answering all class questions with explanations and elaboration • Provides clear purpose and subject; pertinent examples, facts, and/or statistics; supports conclusions/ideas with evidence	• Is at ease with expected answers to all questions, without elaboration • Has somewhat clear purpose and subject; some examples, facts, and/or statistics that support the subject; includes some data or evidence that supports conclusions	• Is uncomfortable with information and is able to answer only rudimentary questions • Attempts to define purpose and subject; provides weak examples, facts, and/ or statistics, which do not adequately support the subject; includes very thin data or evidence	• Does not have grasp of information and cannot answer questions about subject • Does not clearly define subject and purpose; provides weak or no support of subject; gives insufficient support for ideas or conclusions
Enthusiasm/Audience Awareness	• Demonstrates strong enthusiasm about topic during entire presentation • Significantly increases audience understanding and knowledge of topic; convinces an audience to recognize the validity and importance of the subject	• Shows some enthusiastic feelings about topic • Raises audience understanding and awareness of most points	• Shows little or mixed feelings about the topic being presented • Raises audience understanding and knowledge of some points	• Shows no interest in topic presented • Fails to increase audience understanding of knowledge of topic
Collaboration	• The teammates always worked. It was evident that all of the group members contributed equally to the presentation.	• The teammates worked most of the time. And it seems like every did some work, but some people are carrying the presentation.	• The teammates sometimes worked. However it seems as though certain people did not do as much work as others.	• The teammates never worked. It seems as though only a few people worked on the presentation.

COURSE OUTLINE

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
WEEK 1	**Topic 1 (Lecture):** *WMSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System (2 hours)*						
	✓ WMSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System	Be aware of and appreciative of the University's VMGO, classroom policies, course overview, requirements and grading system.	Individual participation in class discussion and group presentation via zoom	Rubrics score card for class participation via zoom		**C, D, E**	Appreciation
	Topic 2 (Laboratory): *History of Computers (3 hours)*						
	✓ The History of Computers	✓ Recall the history of computers ✓ List the significant events on the history of computers ✓ Identify the people behind the development of first computers	Film viewing of a documentary featuring the history of computers via zoom	Softcopy of the written output on the history of computers	1	A,B	Appreciation Motivation
WEEK 2 & 3	**Topic 2 (Lecture):** *Computer Hardware (4 hours)*						
	✓ Hardware • Input Devices • Output Devices • Central Processing Unit (CPU) • Secondary Storage	✓ Classify hardware as input devices, output devices, the central processing unit (CPU) and secondary storage ✓ Distinguish input devices from output devices ✓ Identify the basic components of CPU ✓ Determine the two classes of secondary	Individual participation in google met or zoom Online Quiz about the topics discussed	Quiz results	1	A,B	Appreciation Cautiousness

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
		storage media ✓ Identify the names of some secondary storage media available in the market today					Resourcefulness Unity Teamwork
		Topic 2 (Laboratory): Computer Hardware (3 hours)					
WEEK 2	✓ Parts of a Computer System Unit ✓ Computer Hardware Safety Rules ✓ System Unit Assembly and Disassembly	✓ Define computer hardware ✓ Identify and show the parts of a computer system ✓ Discuss the computer hardware safety rules ✓ Demonstrate assembling and disassembling of computer systems	Individual participation in online class discussion on the proper handling of computer hardware	Rubrics score card for class participation via google met or zoom	1	**A,B**	Appreciation Cautiousness Alertness Unity Teamwork
WEEK 4	**Topic 3 (Lecture):** *Software and Peopleware (4 hours)*						

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
& 5	✓ Software • System Software • Application Software ✓ Peopleware ✓ Classification of Computers ✓ Capabilities and Limitations of Computers	✓ Define and illustrate computer software ✓ Determine the different system software available ✓ Utilize appropriate application software on a given task or activity ✓ Know the different titles used to describe the major composition of peopleware ✓ Classify computers according to purpose and types of processing ✓ Discuss the capabilities and limitations of computers	Individual participation in online class discussion Group activity: *Round-Robin Technique* Students will discuss the capabilities and limitations of computers. Via google met or zoom Online Quiz about the topics discussed	Rubrics score card for class participation via google met or zoom Quiz results	1	A, B	Appreciation Cautiousness Alertness Unity Teamwork
	Topic 3 (Laboratory): *Word Processing (3 Hours)*						
WEEK 3	✓ Introduction • Basic Steps in	✓ Identify and illustrate the basic steps in Word	Class discussion using Net OP or LAN School to	Softcopy of the activity	8	A, B	Appreciation

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration

	Word Processing
	• Parts of the Microsoft Word Screen
	• Creating/Opening a Document
	• Closing a Document
	• Editing Text Document
	   o Entering Text
	   o Editing a Document
	   o Formatting Techniques
	   o Formatting Paragraphs
	   o Working with Graphics
		Processing
		✓ Show and explain the parts of a Word Processing Application screen
		✓ Demonstrate how to close and edit documents
		✓ Apply utility tools of application software in developing and creating various materials such as graphics, presentations, etc.
			demonstrate to students the parts of word-processing application screen and its uses
			
			Individual hands-on activity:
			*Students will work on an activity that focuses on formatting techniques and graphics.
							Creativity
							
							Resourcefulness
							
							Unity

WEEK 6,	**Topic 4 (Lecture):** *Introduction to Number Systems (8 Hours)*						

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
7, 8 & 9	✓ Number System Conversion ✓ Number System Operations ✓ Decimal Digit Representation ✓ Binary Representation ✓ Fixed-Point Number Representation ✓ Floating Point Number Representation	✓ Define and illustrate number systems and data representations ✓ Perform number system conversion ✓ Perform number system operations by utilizing the addition and subtraction rules applied to the decimal number system, as well as binary, octal and hexadecimal number systems ✓ Discuss and illustrate the decimal digit and binary representation ✓ Discuss and illustrate the fixed-point and floating point number representation ✓ Appreciate the value of utilizing conversion of number systems to maximize the production of programming code	Individual participation in class discussion Board work on conversion of number systems Assignment on Number Representations Group Activity: *4A's (Activity, Analysis, Abstraction, & Assessment) technique* *Students will be provided with an activity based on their assignment Quiz on number system conversion and representation	Rubrics score card for class participation Board work results Hardcopy of the assignment Quiz results	2,3	A, B	Patience Perseverance Alertness Resourcefulness Discernment
WEEK 9	LECTURE MIDTERM EXAM (2 Hours)						
WEEK 4	Topic 4 (Laboratory): *Microsoft Office Word (6 Hours)*						

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
& 5	✓ Word-Processing Application Common Tools • Spelling and Grammar • Envelopes and Labels • Customize • Options ✓ Inserting Tables ✓ Using MS Word Templates ✓ Printing Files • Page and Printer Setup • Preview • Printing the Document	✓ Demonstrate the use of MS Word common tools such as spelling and grammar, envelopes and labels, customize and options ✓ Construct tables in the word document ✓ Make use of the table tools to customize the tables ✓ Demonstrate how to print files	Class discussion using Net OP or LAN School *Students will work on an activity that focuses on the use of word-processing application common tools, tables, and printing	A softcopy of the activities Email a softcopy of the activities	8	A, B	Appreciation Creativity Resourcefulness Unity
Topic 5 (Lecture): *Digital Logic Systems (6 Hours)*							
WEEK 10, 11 & 12	✓ Logic Operations and Gates ✓ Boolean Functions ✓ Canonical and Standard Forms	✓ Define and illustrate logic operations and gates ✓ Determine the output of a logic circuit ✓ Construct basic digital logic circuits ✓ Define and illustrate Boolean Functions ✓ Distinguish Minterms from Maxterms	Individual participation in class discussion via google met or zoom *4 A's Technique* *Students will have a discussion about a problem that uses digital logic circuits for the solution via google meet or zoom	Rubrics score card for online class participation Quiz results	4	A, B	Patience Perseverance Alertness Resourcefulness Discernment

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
		✓ Perform Sum of Minterms and Product of Maxterms	Online Quiz about the topics discussed				
	Topic 5 (Laboratory): *Electronic Spreadsheet (6 Hours)*						
WEEK 6 & 7	✓ A Brief Tutorial on the use of a spreadsheet program ✓ Functions of Excel as an Electronic Spreadsheet ✓ Menus and Sub-menus ✓ Performing Calculations	✓ Demonstrate the environment of a spread sheet program ✓ Determine the functions of Excel as an electronic spreadsheet ✓ Make use of the spreadsheet program menus and sub-menus to create a worksheet ✓ Perform calculations using a spreadsheet program	Class discussion using Net OP or LAN School Individual hands-on activity: *Students will work on an activity that focuses on the use of menus and sub-menus of a spreadsheet program, as well as performing calculations	A softcopy of the hands-on activity performed by the student	8	A, B	Appreciation Creativity Resourcefulness Unity
	Topic 5 (Lecture): *Controlling the Computer (6 Hours)*						
WEEK 13, 14 & 15	✓ Assembly and Machine Language ✓ Compilers and Translators ✓ Programming Languages ✓ Operating Systems	✓ Define and illustrate assembly and machine language ✓ Write program codes using the assembly and machine language ✓ List and report about programming languages ✓ List and report about operating systems	Individual participation in class discussion about assembly and machine language, programming languages and operating systems Group Activity: *A group of students will choose a programming language and present it to	Rubrics score card for class participation Rubrics score card for group presentation Quiz results	5 & 6	A, B	Patience Perseverance Alertness Resourcefulness Discernment Unity

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
			the class Group Activity: *Round-Robin Technique* Students will be asked to present the features and other related facts about selected operating systems Quiz about the topics discussed				Teamwork Creativity
	Topic 6 (Laboratory): *Electronic Spreadsheet (6 Hours)*						
WEEK 8 & 9	✓ Formatting Data Types ✓ Creating Charts ✓ Deleting ✓ Printing Spreadsheets	✓ Demonstrate how to format data in MS Excel ✓ Interpret data using charts ✓ Demonstrate how to print spreadsheets	Class discussion using Net OP or LAN School Individual hands-on activity: *Students will work on an activity that focuses on the topics discussed	A softcopy of the activity related to formatting data types and creating charts	8	A, B	Appreciation Creativity Resourcefulness Unity
	Topic 7 (Lecture): *Computer Ethics, Security and Privacy (4 Hours)*						
WEEK 16 & 17	✓ Computer Ethics ✓ Security and Privacy: Computers and the Internet	✓ Define computer ethics ✓ Enumerate and apply ACM code of ethics ✓ Reflect on the 10 commandments of computer ethics ✓ Discuss about security	Group Activity: *Jigsaw Technique* *Students will discuss about the definition of computer ethics and ACM code of ethics	Rubric score card for class participation Quiz Results	7	A, B	Appreciation Creativity Resourcefulness Unity

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
		and privacy on computers and the internet	Group Activity: *4 A's Technique* *Students will share their thoughts about the 10 commandments of computer ethics Individual participation in class discussion about computer and internet security and privacy Quiz on Ethics and Security and Privacy of Computers and Internet				Teamwork Cautiousness Attentiveness
WEEK 18	**LECTURE FINAL TERM EXAM (2 Hours)**						
WEEK 10	**LABORATORY HANDS-ON EXAM (3 Hours)**						
	Topic 7 (Laboratory): *Presentation Software (6 Hours)*						
WEEK 11 & 12	✓ Presentation Basics ✓ Design Templates ✓ Working with Text ✓ Working with Slides ✓ Creating an Organization Chart ✓ The slide show	✓ Demonstrate presentation basics using a presentation program ✓ Make use of the design templates for the presentation ✓ Design custom templates and masters ✓ Construct an organization chart	Class discussion using Net OP or LAN School Group activity: *Students will create a presentation that features a situation or example about computer ethics, security and privacy *Students will present	Rubrics score sheet for group presentation	8	A, B	Appreciation Creativity Resourcefulness Unity Teamwork

Time Frame	Course Content (No. of Hours Per Topic)	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
	✓ Managing the Show	✓ Illustrate presentations using the slide show command	their presentation to the class				
WEEK 13, 14 & 15	**Topic 8 (Laboratory):** *Assembly and Machine Language*						
	✓ Introduction to assembly and machine language	✓ Produce an output using the assembly and machine language	Class discussion using Net OP or LAN School Individual hands-on activity: *Students will create a program using assembly and machine language	Soft copy of the source code and output of the hands-on laboratory activity the students have created	5	A, B	Appreciation Creativity Resourcefulness Unity
WEEK 16 & 17	**Topic 8 (Laboratory):** *Basic Networking and Internet Usage (6 Hours)*						
	✓ Basic Networking • Network Wiring • Setup • Connection • Troubleshooting ✓ Internet Usage • Search Engine Techniques	✓ Demonstrate basic networking, including setup, connection and troubleshooting ✓ Demonstrate the use of internet	✓ Teacher will use the Net OP and LAN School to demonstrate networking and the use of internet ✓ In group activity, the student will have an activity related to networking and internet usage	✓ A rubric score card for the group activity on networking	7	A, B	Appreciation Creativity Resourcefulness Unity Teamwork
WEEK 18	**LABORATORY FINAL HANDS-ON EXAM (3 Hours)**						

Prepared By:	**Noted:**	**Recommending Approval:**	**Approved:**

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