Republic of the Philippines
Western Mindanao State University
COLLEGE OF COMPUTING STUDIES
DEPARTMENT OF COMPUTER SCIENCE

OUTCOMES-BASED EDUCATION (OBE) COURSE SYLLABUS IN HUMAN COMPUTER INTERACTION
2ND Semester, SY 2024-25
(HCI 116)

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.

College of Computing 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. **Bachelor of Science in Computer Science Program Outcomes**	✓			
b. Adapt new technologies and ideas in the design, analysis and implementation of software.	✓	✓		✓
A. Utilize effectively the concepts of computer science theories and methodologies and adapt new technologies and ideas in formulating effective solutions to address public health and safety, cultural, societal, gender and environmental considerations. c. (**Competent Computer Science Professional, Socially Responsive**)	✓	✓	✓	
d. Work cohesively with members of a team using their individual skills to the successful completion of a project. **(Team Player)**	✓	✓		

COURSE CODE   **HCI 116**

COURSE NAME   **HUMAN COMPUTER INTERACTION**

PREREQUISITE   **None (3rd Year Standing)**

COURSE CREDIT   3 *Units (3 hours lecture)*

COURSE DESCRIPTION   This subject focuses on the way people interact with technology, particularly with computer systems Interaction in this case is not only limited to the way people or users respond or make use of technology. It also includes understanding and practicing usability principles in design technology, evaluation design and accessibility issues.

COURSE LEARNING OUTCOMES:

At the end of the semester, the students can:	Program Outcomes								
	A	B	C	D	E	F	G	H	I
1 Incorporate usability heuristic in designing user interfaces	✓		✓						
2 Differentiate user-centered design (UCD) against function-centered design (FCD)	✓	✓	✓	✓					
3 Develop appropriate user interfaces for domain specific applications	✓	✓	✓						
4 Evaluate the effectiveness of a design of an application or product in solving domain specific problems	✓	✓	✓			✓	✓		

TEXTBOOK   Dix, A. Finlay J., Abowd, G, and Beale, R. (2004) Huma Computer Interaction 3rd ed., Pearson Education Limited

REFERENCE/S   The following books will be used as major references

- Rogers, Y., Sharp, H and Preece, J. (2007) Interaction Design: Beyond Human Computer Interaction, Second Edition, Wiley & Sons
- "User Interface Design ", at http://usernomics.com/user-interface-design .html
- "Ethics in HCI and Usability", at http://stcsig.org/usability/topics /ethics.html
- "Human –Computer Interaction – Wikipedia, the free encyclopedia" at https://en.wikipedia.org/wiki/Heuristic_evaluation

GRADE COMPONENT AND CORRESPONDING WEIGHT:

FINAL RATING
  Midterm Grade......................40%
  Final term Grade..................60%
         100%

  MIDTERM GRADE
   Midterm Exam 40%
   Quizzes 30%
   Seatwork...10%
   Group Work 10%
   Assignment 10%
             100%

  FINAL TERM GRADE
   Final Term Exam 40%
   Quizzes 20%
   Seatwork/Group Work...............................20%
   Project..20%
             100%

FORMULA FOR COMPUTING PERCENTAGE GRADES

Passing Grade = 75%

Percentage Grade = raw score / total number of items x 55 + 45
 Example: raw score = 28, total items = 50
   GRADE = 28/50 x 55 + 45
     = 0.56 x 55 +45
     =30.8 +45
     =75.8%

TOTAL SCORE................................. 28 correct out of 50 items
PERCENTAGE GRADE 76%
NUMERICAL RATING 2.75
REMARKS...................................... PASSED

% EQUIVALENT	NUMERICAL RATING
97-100	1.0
94-96	1.25
91-93	1.5
88-90	1.75
85-87	2.0
82-84	2.25
79-81	2.5
76-78	2.75
75	3.0
Below 75	5.0
Lacks requirements and/or final exam	INC
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 which is properly validated for the semester 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. It can also be use as a notebook incase files in electronic form is given ahead.

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.

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)
- 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.

RUBRIC SCORE	DESCRIPTION
(0) **POOR**	Absent or did not answer at all
(1) **FAIR**	Provides a solution for the given problem with <u>minor error</u> but the answer is <u>entirely provided/dictated by classmates</u>.
(2) **SATISFACTORY**	Provides <u>a correct solution</u> for the given problem <u>supported by notes/references</u> but <u>cannot explain</u> the answer.
(3) **VERY** **SATISFACTORY**	Provides <u>a correct solution</u> for the given problem <u>without notes/references</u> but tries to <u>explain but not confident</u> enough with the answer.
(4) **EXCELLENT**	Provides <u>a correct solution</u> for the given problem <u>without notes/references</u> and without hesitations, <u>explain the answer confidently to class</u>.

RUBRICS FOR BOARD WORK

RUBRIC SCORE	DESCRIPTION
(0) **POOR**	Absent
(1) **FAIR**	<u>Present</u> and <u>not distracting</u> the clas<u>s. Does not show any interest</u> on the discussion, no evidence of trying to interpret or analyze problems given. <u>Does not respond</u> when called and exhibits <u>passive involvement</u> in the discussion.
(2) **SATISFACTORY**	<u>Present</u> and <u>not distracting</u> in the class. Shows <u>little interest</u> on the discussion, no evidence of trying to interpret or analyze problems give<u>n. Infrequently responds</u> when called but without elaboration and <u>mostly read notes</u>/book or dictated by classmates.
(3) **VERY** **SATISFACTORY**	<u>Present</u> and <u>attentive</u> in the class. Shows <u>interest</u> on the discussion<u>, with evidences of trying to interpret or analyze problems</u> given. <u>Inquisitive</u> on topics discussed, and contributes well in the discussion in a constructive way. Frequently <u>responds</u> when called and <u>try to elaborate the answer</u> supported by notes/book or other references.
(4) **EXCELLENT**	<u>Present</u> and <u>attentive</u> in the class. <u>Actively participates</u> on the discussion<u>, with evidences of trying to interpret or analyze problems</u> given. <u>Inquisitive</u> on topics discussed, and <u>contributes much in the discussion</u> in a constructive way. <u>Always responds</u> when called and <u>confidently elaborate the answer</u> supported by notes/book or other references.

RUBRICS FOR CLASS PARTICIPATION

RURUBRICS FOR BRAIN STORMING ACTIVITY

RUBRIC SCORE	DESCRIPTION
(0) **POOR**	Absent
(1) **FAIR**	The members of group slightly understood the topic assigned to them. At least one member could explain or answer the question being asked relevant to the topic assigned but some members still could not understand or follow the explanations. Could not elaborate more on the answer and only the presenter of topic and the instructor understood the explanation with little evidence on class understanding the topic.
(2) **SATISFACTORY**	Every member of the group clearly understood the topic assigned to them but not all members demonstrate enough confidence to explain it to others. At least one member could explain or answer clearly the question being asked relevant to the topic assigned supported by other members of the group if the presenter fails to elaborate the answer. The class as a whole partly understood the topic and elaborated further by the instructor.
(3) **VERY** **SATISFACTORY**	Every member of the group clearly understood the topic assigned to them and demonstrates enough confidence to explain it to others. Any member could explain or answer clearly the question being asked relevant to the topic assigned. The class as a whole understood the topic with little help from the instructor for further explanation.
(4) **EXCELLENT**	Every member of the group clearly understood the topic assigned to them and demonstrates enough confidence to explain it to others. Any member could explain or answer clearly the question being asked relevant to the topic assigned and elaborates further if there are clarifications. The class shows complete understanding of the topic explained by the group without further explanation from the instructor.

COURSE OUTLINE

Time Frame	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Course Content (No. of Hours Per Topic)	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
WEEK 1, 2 & 3	**Orientation:** *WMSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System (1 hour)*						
	✓ Exhibit awareness and appreciation of the University Vision, Mission & Quality Policy, College Goals, and Program objectives. ✓ Demonstrate understanding of the classroom policies, course requirements, and grading system.	✓ *WMSU VMGO, Classroom Policies, Course Overview, Course Requirements, Grading System*	Individual participation in class discussion	Rubric score sheet of class participation		F, G, H, I	Appreciation
	Topic 2: *Introduction to HCI (8 hrs)*						
	✓ Trace the key concepts & ideas from past IT innovators & designers to technologies in the present ✓ Identify the different social & structural sciences that affect the field of HCI ✓ Discuss the significance & contributions of HCI in designing usable & accessible technologies	✓ History/ Background of HCI • HUMAN • COMPUTER • INTERACTION • PARADIGMS ✓ Significance of HCI to the field of Information Technology	Individual participation in class discussion Group presentation	Rubric score sheet of graded recitation.	1	A, B	Appreciation
WEEK 4 & 5	**Topic 3:** *Interfaces & Interaction Design (6 hrs)*						
	✓ Define & differentiate interfaces from interactive concepts ✓ Classify interfaces according to purpose and target users ✓ Apply the different design concepts in designing an icon for a cellphone feature	✓ Definition & Basci Concepts ✓ Scope & Target Users Classification	Individual participation in class discussion Design Assignment : Icon design for a cellphone feature	Rubric score sheet for graded recitation.	1	A,B	Appreciation

Time Frame	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Course Content (No. of Hours Per Topic)	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
	Topic 4: *People (6 hrs)*						
WEEK 6 & 7	✓ Explain the differences of human behavior towards the use of technology particularly computer systems ✓ Enumerate the abilities and limitations of human beings that affect their understanding and/or use of technology ✓ Identify the different ways people perceive things and how this affects the way technology is designed	✓ Human Behavior ✓ Abilities and Limitations ✓ Perception and Conceptual Design	Individual participation in class discussion Group activity with members chosen randomly. Given a particular human behavior, the group is to choose a particular innovations using technology that uses interfaces. Individual : Journal that has at least two entries of personal experiences using technology Presentation of group output Individual Evaluation with Quiz	Rubric score sheet of class participation Rubric score sheet for evaluating the group output and presentation. Quiz Results.	1,2,4	A,B	Patience Cautiousness Appreciation

Time Frame	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Course Content (No. of Hours Per Topic)	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
	Topic 5: *Usability (3 hrs)*						
WEEK 8	✓ Enumerate at least 10 usability heuristics for designing computer systems ✓ Explain the importance of having guidelines in designing web-based systems ✓ Determine the factors involve in deciding the design of usable interfaces	✓ Usability Heuristics ✓ User-Centered Design (UCD) vs. Function-Centered Design (FCD) ✓ Designing for the World Wide Web (www) ✓ Graphical User Interfaces ✓ The user, the device and the Environment	Lecture - Discussion Activity: Compare and discuss different GUI designs for: 1. computer system 2. school websites 3. cellphones Presentation of the comparisons	Rubric score sheet for pair activities output and presentation	1,2,4	A,B, D, E	Patience Teamwork Appreciation
WEEK 9	**MIDTERM EXAM (3 hrs)**						
	Topic 6: *GUI Design and I/O Devices (6 hrs)*						
WEEK 10-12	✓ Design a Graphical User Interface (GUI) for a given set of specifications ✓ Identify the differences in design and mode of operations of different I/O devices ✓ Explain the significance of GUI in the design and implementation of 21st century technology	✓ When to use and not to use GUI ✓ Designing I/O devices for efficiency Factors for page/screen layout and ergonomics design	Group report on sorting algorithms Presentation of the algorithm and its analysis.	Rubric score sheet for group reports and presentation of outputs.	1,2,4	A,B,D,E	Patience Teamwork Diligence
WEEK	**Topic 7 :** *Prototyping (6 hrs)*						

Time Frame	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Course Content (No. of Hours Per Topic)	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
12-13	✓ Identify the scope of an intended design ✓ Enumerate the different media that can be used to create a prototype ✓ Differentiate the properties of each medium enumerated ✓ Create an initial design for the prototype of their final project ✓ Apply the appropriate scaling for a prototype	✓ Scope of the prototype ✓ Selecting the appropriate medium ✓ Scaling	Individual participation in class discussion Group activity in designing prototype Presentation of proposed prototype	Rubric score sheet for individual participation, group reports and presentation of outputs.	1,2,3,4	A,B,D,E	Patience Teamwork Diligence Appreciation
	Topic 8: *Evaluation (6 hrs)*						
WEEK 14-15	✓ Identify the different (HCI) design evaluation ✓ Explain the significance of a design evaluation process ✓ Perform a mini evaluation on an assigned design	✓ Classification of evaluation methods ✓ The process of evaluating a design ✓ Analysis of evaluation results	Individual participation in class discussion Group activity on evaluating different types of designs whether they are good or bad and explain why they are so Presentation of group output	Rubric score sheet for individual participation, group reports and presentation of outputs.	1,2,3,4	A,B,D,E	Patience Teamwork Diligence Appreciation
WEEK	**Topic 9 :** *Accessibility (3 hrs)*						

Time Frame	Desired Student Learning Outcomes/Competencies At the end of each topic and semester, the students can	Course Content (No. of Hours Per Topic)	Outcome-Based (OBA) Activities (Teaching & Learning Activities)	Evidence of Outcomes (Assessment of Learning Outcome)	Course Learning Outcomes	Program Outcomes	Values Integration
16	✓ Explain the importance of considering technology ✓ Identify and explain different accessibility issues ✓ Design an interface/layout for people with disabilities	✓ Scope of the prototype ✓ Selecting the appropriate medium	Individual participation in class discussion Individual activity : research technologies or innovations for people with disabilities (e.g. sidewalk designs , websites for the blind , Braille keyboards , etc.)	Rubric score sheet for individual participation	1,2,3,4	A,B,D,E	Patience Appreciation
WEEK 17 & 18	**FINAL EXAM (6 hrs)** **Written Exam (2 hrs)** **Final Project:** Presentation of a prototype design of a device chosen by the students **(4 hrs)**						

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