SCHOOL OF INFORMATION TECHNOLOGY
General Luna Road, Baguio City

UB VISION

In pursuit of perfection, the University of Baguio is committed to provide balanced quality education by nurturing academic excellence, relevant social skills and ethical values in a fun-learning environment.

UB MISSION	**SCHOOL MISSION**
The University of Baguio educates individuals to be empowered professionals in a global community.	The School of Information Technology is committed to create a dynamic learning environment conducive to the development of globally competitive IT professionals.
INSTITUTIONAL OBJECTIVES The University of Baguio aims to produce a graduate who: 1. exemplifies a higher standard of learning; 2. manifests the mastery of relevant skills; 3. upholds a conduct that is rightful and just; 4. undertakes scientific and significant researches; 5. advocates sustainable programs for the community and the environment; and 6. leads and demonstrates exemplary performance in the field of specialization.	**SCHOOL OBJECTIVES** The School of Information Technology aims to produce a graduate who: 1. applies and innovates methodologies in developing and managing computing solutions; 2. adapts to the fast-changing technologies in diverse environments; 3. exemplifies desirable behavior and attributes; 4. conducts relevant researches for the innovation of Information Technology products and services; 5. initiates and participates in community-based activities that contribute to sustainable development; and 6. utilizes leadership qualities for commendable performance in the field of endeavor.
INSTITUTIONAL CORE VALUES **COMPETENCE + INTEGRITY = SERVICE** COMPETENCE: University of Baguio is committed to nurturing excellent professionals. INTEGRITY: University of Baguio is committed to cultivating a community with ethical values. SERVICE: University of Baguio is dedicated to building a community that advocates sustainable programs for the society and the environment.	**PROGRAM OBJECTIVES** The BSCS program aims to produce a graduate who: 1. implements competently the design of algorithmically complex software; 2. handles skillfully technological advancements as an algorithm specialist; 3. exemplifies suitable qualities and behavior; 4. performs researches beneficial for the advancement of networking products and processes; 5. leads in community-related activities aligned to the area of specialization; and 6. acts as the prime mover in Algorithm Engineering.

I. LEARNING OUTCOMES

Program Outcomes Common to all Types of Schools: The graduates have the ability to:	**PROGRAM OBJECTIVES**					
	P1	**P2**	**P3**	**P4**	**P5**	**P6**
1. Articulate and discuss the latest developments in the specific field of practice;						✓
2. Effectively communicate orally and in writing using both English and Filipino;					✓	
3. Work effectively and independently in multi-disciplinary and multi-cultural teams;					✓	
4. Act in recognition in recognition of professional, social, and ethical responsibility; and			✓			
5. Preserve and promote “Filipino historical and cultural heritage”.					✓	
Program Outcomes Common to University:						
Graduates of universities participate in the generation of new knowledge or in research and development projects.				✓		
Program Outcomes Common to the Discipline: The graduates have the ability to:						
1. Analyze complex problems, and identify and define the computing requirements needed to design an appropriate solution;	✓					
2. Apply computing and other knowledge domains to address real-world problems;	✓					
3. Design and develop computing solutions using a system-level perspective;		✓				
4. Utilize modern computing tools.				✓		
Program Outcomes for Bachelor of Science in Computer Science: The graduates have the ability to:						
1. apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements;	✓					
2. identify, analyze, formulate, research literature, and solve complex computing problems and requirements reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines;	✓					
3. apply mathematical foundations, algorithmic principles and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;		✓				
4. have knowledge and understanding of information security issues in relation to the design, development and use of information systems;		✓				
5. design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations;		✓				
6. create, select, adapt and apply appropriate techniques, resources and modern computing tools to complex computing activities, with an understanding of the limitations to accomplish a common goal;				✓		

7. function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings;					✓	
8. communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions;					✓	
9. recognize the legal, social, ethical and professional issues involved in the utilization of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices;			✓			
10. recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.			✓			

II. Program Learning Outcomes (PLO)

PLO	Performance Indicators. The graduate should be able to
1. apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements;	1. model and critique processes using math expressions, logic and statistics; 2. construct formal proofs; 3. produce simplified models for processes; 4. apply standardized solution formula and models to solve problems; 5. implement mathematical algorithms and can correctly code logical expressions; 6. characterize and interpret data and results and apply the conclusion to support algorithm development.
2. identify, analyze, formulate, research literature, and solve complex computing problems and requirements reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines;	1. engage in research to find multiple alternatives for solving a problem; 2. conduct feasibility studies; 3. decompose a problem into components; 4. modify a problem definition as new information arrives; 5. formulate solution strategies; 6. solicit requirements from users and flexibly integrate new information; 7. estimate behavior of possible solutions and seek information needed for the solution; 8. develop a comprehensive requirements specification document; 9. map problem components to appropriate language, platforms and hardware; 3. evaluate the space, time, and financial demands of the solution.
3. apply mathematical foundations, algorithmic principles and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;	1. construct formal proofs; 2. produce simplified models for processes; 3. apply models to solve problems; 4. understand and reproduce mathematical definitions; 5. apply standardized solution formula; 6. translate a complex model into code; 7. create logically correct code through the use of mathematical algorithms; 8. analyze the code's complexity and efficiency; 9. provide formal verification of the code's correctness;

	10. considered design trade-off in designing and developing a computer-based system.
4. have knowledge and understanding of information security issues in relation to the design, development and use of information systems;	1. familiar with security basics and current trends in security and privacy; 2. establish and follow effective practices for developing secure code; 3. attend at least one seminar related to information security.
5. design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	1. construct standard design documents to support the approach to a project; 2. engage in research to find multiple alternatives to well-understood technologies and development methodologies and use them to produce solutions to a problem; 3. apply software engineering principles to produce multiple solutions to a problem using high level languages; 4. create a structured set of tests and use them to validate a system's specifications and identify a system's fault.
6. create, select, adapt and apply appropriate techniques, resources and modern computing tools to complex computing activities, with an understanding of the limitations to accomplish a common goal;	1. research and successfully identify applicable and appropriate tools; 2. use different hardware and software platforms for computing; 3. use the state-of-the-art techniques and tools in the computing field.
7. function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings;	1. recognize team dynamics and work in leadership and non-leadership roles; 2. delegate and accept responsibilities effectively; 3. assume a designated role in the group; 4. mutually respect diversity of team members strengths and weaknesses; 5. share and accept ideas; 6. mentor others; 7. contribute a fair share to the workload.
8. communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions;	1. articulate ideas for the assigned task; 2. use infographics to assess, interpret and explain information; 3. conform to the prescribed format and use correct grammar and spelling; 4. provide references to support the documents; 5. plan and deliver an oral presentation for the assigned task; 6. manage time, engage the audience, respond to questions appropriately and exude confidence; 7. critique the presentation and identify the strengths and weaknesses; 8. convey instructions clearly.
9. recognize the legal, social, ethical and professional issues involved in the utilization of computer technology and be guided by the adoption of appropriate professional, ethical and legal practices;	1. articulate understanding of multiple points-of-view pertaining to legal, social and ethical issues in the field of computing; 2. articulate appropriate elements of a code of ethics in reference to a specific situation; 3. apply laws, proper etiquette and proactive social behavior in IT practices.

10. recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.	1. use libraries, online repositories and web tools for effectively and efficiently identifying pertinent information; 2. apply learnings from conferences, seminars, trainings and other avenues for professional development; 3. analyzes new content by decomposing, comparing and contrasting, recognizing patterns, and interpreting information and draw reasonable generalizations; 4. articulate how new information relates to prior knowledge; 5. apply new knowledge and skills to solve computing problems 6. demonstrate ability to reflect on their learning process.

Course Description:

This course teaches students to design user interfaces based on the capabilities of computer technology and the needs of human factors. The course covers human capabilities, design principles, prototyping techniques, evaluation techniques, and the implementation of graphical user interfaces. Deliverables include short programming assignments and a semester-long individual/group project. Students design a user interface for a system and implement a prototype from a list of informal requirements. Students design a user interface by a design process based on current human–computer interaction principles.

II. : LEARNING PLAN

COURSE COVERAGE – FIRST GRADING (LECTURE)							
WEEK NO	COURSE LEARNING OUTCOMES	COURSE CONTENT	DURATION	TEACHING-LEARNING ACTIVITIES (TLA)	ASSESSMENT TASKS (AT)	RESOURCES	PRC TOS
1	LO1. critically evaluate interactive products and construct new implementation based on the understanding of human-computer interaction. PLO2-PI1 PLO6-PI1 LO2. explain how interaction design relates to human-computer interaction and other fields and apply good its principles to own designs. PLO6:PI1	Introduction, HCI principles, and guidelines	3 hours	Lecture-discussion Critiquing Assigned Reading Peer feedback	Quiz LO1-LO8 Free writing Assignment LO1-LO8 Recitation LO1-LO8 Reflective Learning statements, buzz	Handouts	Not Applicable

2-4	LO3. explain through presentation/discussion the application of the main principles of a user-centered approach in hci. PLO6:PI1, PLO7:PI1-PI5, PLO8:PI5-PI7 LO4. present and discuss a simple lifecycle model of interaction design; PLO8:PI5-PI7 LO5. Identify the steps and perform activities conducted in the interaction design process. PLO2-PI1 PLO6-PI1,PI2, PI3	Design Process: Iteraction design basics HCI in the software process Design rules Implementation support Universal Design	4 hours		sessions LO1-LO8 Small group activities LO3 workshop LO6 Self-check/Self-Assessment LO1-LO6	Laptop LCD projector Self-Assessment Sheets Design thinking kit Task sheets	
5	LO6. Describe what a conceptual model is and use interface metaphors as part of a conceptual model PLO6:PI3, PLO7:PI5, PLO8:PI5-PI7, PLO7:PI1-PI5 PLO9-PI2	Conceptualizing Interaction: Models, Interface Metaphors, Interaction types	3 hours				
6	First Grading Examinations (lec)		2 hours				
		Subtotal	12 hours				

COURSE COVERAGE – FIRST GRADING (LABORATORY)							
WEEK NO	COURSE LEARNING OUTCOMES	COURSE CONTENT	DURATION	TEACHING-LEARNING ACTIVITIES (TLA)	ASSESSMENT TASKS (AT)	RESOURCES	PRC TOS
1	LO1. familiarize and use correct HTML syntax, and appropriate HTML elements and attributes based on W3C standards through the use of appropriate HTML document editors/tools; PLO1:PI1 PLO6:PI1-PI3	Webpage development with HTML: Development environment Basic Tags Formatting Tags Lists	1 hour	Lecture-discussion Demonstration Critiquing	LO1-LO33 Quiz Free writing LO1-LO33 Assignment Recitation LO1-LO33 Reflective Learning statements, buzz sessions LO1-LO33 Small group activities workshop Self-check/Self-Assessment	Handouts Laptop LCD projector Self-check Sheets Task sheets	
	LO2. validate HTML documents through online validation tools that checks the markup validity of Web documents in HTML. PLO6:PI1-PI3		2 hours				
2-5	LO3. efficiently construct linked HTML documents with standard html formatting tags, form controls, correct and/or appropriate media type and content to HTML documents while observing applicable copyright laws and permissible use of downloaded media; PLO1:PI3-PI4 PLO3-PI10 PLO6:PI1-PI3 PLO9-PI3	Tables Media Links Forms	12 hours				
6	First Grading Examination (lab)		3 hours				
		Subtotal	18 hours				

COURSE COVERAGE – MIDTERMS (LECTURE)							
WEEK NO	COURSE LEARNING OUTCOMES	COURSE CONTENT	DURATION	TEACHING-LEARNING ACTIVITIES (TLA)	ASSESSMENT TASKS (AT)	RESOURCES	PRC TOS
7	LO6. explain through presentation/discussion what cognition is and it's relevance in interaction design PLO6:PI1, PLO7:P5, PLO8:PI5-PI7	Cognition and Perception	2 hours		LO1-LO33 Quiz Free writing LO1-LO33 Assignment Recitation LO1-LO33 Reflective Learning statements, buzz sessions	Handouts Laptop LCD projector Self-check Sheets Task sheets	
	LO7. explain through infographics how memory can be enhanced through technology aids PLO6:PI1, PLO7:P5, PLO8:PI2-PI7						
	LO8. discuss what and how attention affects people's ability to multitask. PLO6:PI1, PLO7:P5, PLO8:PI5-PI7						
8	LO9. explain through multimedia (i.e. video, interactive presentation, etc.) what is meant by social interaction and it's importance in interaction design PLO6:PI1, PLO7:P5, PLO8:PI5-PI7	Social Interaction: Introduction Types of Social Interaction Social interaction in UI design	2 hours		LO1-LO33 Small group activities workshop Self-check/Self-Assessment		
	LO10. discuss how social mechanisms used by people in communicating and collaborating PLO6:PI1, PLO7:P5, PLO8:PI5-PI7						

9-10	LO11. explain how our emotions relate to behavior and user experience. PLO6:PI1 PLO8:PI7	Designing Experience: Emotional Interaction	3 hours				
	LO12. describe how technologies can be designed to change people's attitudes and behavior. PLO8:PI7						
10-11	LO13. describe UX design and it's relationship and role related to the design discipline PLO8:PI5-PI7	UX Design	3 hours				
	LO14. identify the analytical and technical aspect of UX design PLO8:PI5-PI7						
	LO15. describe how the individual features of the design impact user experience. PLO8:PI5-PI7						
12		Midterm Examination (lec)	2 hours				
		Subtotal	12 hours				

COURSE COVERAGE – MIDTERM (LABORATORY)							
WEEK NO	COURSE LEARNING OUTCOMES	COURSE CONTENT	DURATION	TEACHING-LEARNING ACTIVITIES (TLA)	ASSESSMENT TASKS (AT)	RESOURCES	PRC TOS
7	LO4. discuss the importance of CSS to HTML in the context of the World Wide Web and HCI; LO5 identify the basic CSS syntax used to implement design principles in front-end web development. PLO6:PI1-PI3 LO6 customize the appearance of web pages to suit user needs by implement flexibility in design and providing an intuitive and pleasing experience for everyone; PLO6:PI1-PI3	Introduction to CSS CSS properties and attributes CSS implementation	6 hour	Lecture-discussion Demonstration Critiquing	LO4-7 Styled Web pages	Handouts Laptop LCD projector Self-check Sheets Task sheets	
8-11	LO7 build a website that is styled based on established standards of design in the aspects of human-computer interaction, ux/ui design methods design and processes. PLO1:PI3-PI4 PLO8:PI5-PI7 PLO6:PI1-PI3	Responsive Web page design	3 hours				
12		Midterm Examination (lab)	3 hours				
		Subtotal	18 hours				

COURSE COVERAGE – FINALS (LECTURE)							
WEEK NO	COURSE LEARNING OUTCOMES	COURSE CONTENT	DURATION	TEACHING-LEARNING ACTIVITIES (TLA)	ASSESSMENT TASKS (AT)	RESOURCES	PRC TOS

13-14	LO16. explain the rationale and rules for an effective interface design methodology in order to establish a criteria for evaluating the quality of user interfaces.	Introduction to User Interfaces Natural UI	4 hours	Lecture-discussion Critiquing Assigned Reading Peer feedback	LO1-LO33 Quiz Free writing LO1-LO33 Assignment Recitation LO1-LO33 Reflective Learning statements, buzz sessions LO1-LO33 Small group activities workshop Self-check/Self-Assessment	Handouts Laptop LCD projector Self-check Sheets Task sheets	
15-17	LO17. explain how to design user interfaces that anticipate what users might need to do and ensuring that the interface has elements that are easy to access, understand, and use to facilitate those actions. PLO8:PI5-PI7 LO18. describe how to bring together concepts from interaction design, visual design, and information architecture to create an interface with elements that are consistent and predictable in their choices and their layout. PLO8:PI5-PI7	Interface Basics	6 hours				
18	Midterm Examination (lec)		2 hours				
		Subtotal	12 hours				

COURSE COVERAGE – FINALS (LABORATORY)							
WEEK NO	COURSE LEARNING OUTCOMES	COURSE CONTENT	DURATION	TEACHING-LEARNING ACTIVITIES (TLA)	ASSESSMENT TASKS (AT)	RESOURCES	PRC TOS
13	LO8 Discuss the use and importance of JavaScript in frontend webpage development. PLO2	Introduction to JavaScript	1 hours	Lecture-discussion Demonstration Critiquing	LO8-LO9 Styled and dynamic Web pages	Handouts Laptop LCD projector Self-Assessment Sheets Task sheets	Not Applicable
13	LO9 Create simple JavaScript functions and implement them in webpages. PLO2- PI4, PI5, PI6 PLO6-PI1,PI2, PI3	JavaScript Functions	8 hours				
14-17	LO10 Plan, design, develop, and publish a simple web site that is usable and attractive on all devices. PLO2- PI4, PI5, PI6 PLO6-PI1,PI2, PI3	Plan, design, develop, and publish front-end web site with the core front-end development technologies (HTML, CSS, and JavaScript	6 hours		LO10 Individual project (Published website)		
18	Final Project Presentation (lab)		3 hours				
		Subtotal	15 hours				

IV. REFERENCES

Available in the library:

Other references of the teacher (not in the library):

V. ABOUT THE TEACHER/COURSE

Instructor's Information	**(to be given during the class orientation)**
Instructor's consultation time	**(to be given during the class orientation)**
Classroom policies and instructions	**(to be given during the class orientation)**

Grading system	**(to be given during the class orientation; refer to Student Handbook)**
Major requirement/s	****this is/are the requirement/s that is/are to be submitted towards the end of the term hence, should be given during the first week of classes, or those that are to be submitted every grading period**

	NAME	POSITION	SIGNATURE	DATE
Preparer	Erna-kristi N. Martinez	Faculty, SIT		July 2018
Noted	Elsa Ong-ongawan	Head, AMS Section-Library		July 2018
Reviewed and Recommending Approval	Hydi D. Toyeng	Program Chair-BSCS		July 2018
Approved	Engr. Elisabeth D. Calub	Dean, School of Information Technology		July 2018