**Outcomes –Based Education (OBE) Course Design/ Syllabus in Course Code – Course Description**

**Date Revised/Enhanced: August 2023**

**OBECD No.: c/o College Dean**

1. **Guimaras State University**

**Vision:** By 2040, GSU is a premier university on education, green technology, innovations, and community transformation excelling in the holistic development of globally competitive, locally responsive and resilient human capital.

**Mission:** GSU is committed to produce globally competitive, technologically equipped and research-oriented graduates of quality and innovative advanced and higher education programs in sustainable agriculture, fisheries, forestry and tourism, entrepreneurship, liberal arts, education, healthcare, sciences and good governance.

**Core Values:**

1. God-Fearing
2. People Centered
3. Pro-Environment
4. Selfless Public Service
5. Respect for Human Dignity

**Institutional Outcome for Instruction:**

1. Spiritually and morally upright individuals
2. Globally competent professionals
3. Productive and Environment friendly
4. Entrepreneurial and technologically innovative
5. Goal-oriented and service committed
6. Sustainable development advocate
7. **College**

**GOALS**

* Provide quality and excellent education and training for the higher manpower skills of technologist, technicians and professionals;
* Strengthen community involvement for technological and industrial development of the nation;
* Undertake relevant technological researches and innovations that promote the uses of renewable resources and the conservation of energy and natural resources;
* Promote production of high-quality goods and efficient services through green technology for socio-economic development.

1. **Program/ Degree:** [Bachelor of Science in Information Technology or Information Systems or Computer Science]

**Objectives**

[Computer Science]

1. Develop students for a career in the industry equipped with adequate knowledge and skills to become competent applications developer, computer science instructor, database programmer/designer, information security engineer, quality assurance engineer, researcher, systems developer and systems analyst.
2. Strengthen students capability to become competent global practitioners by actively engaging them through the application and utilization of information and communication technology on instruction, research, extension and production.

[Information Systems]

1. Produce graduates who are equipped with current technologies and tools, as well as, quality assurance methodologies that will lead to the development of implementation-ready information systems.
2. Enhance awareness on how to methodically and practically approach a variety of technical, organizational, and managerial issues to ultimately improve ICT integration towards the attainment of strategic business advantage.
3. Inculcate among students the essential virtues and attitudes, as well as develop necessary knowledge and competency levels required of an information technology professional.
4. Train students to systematically appraise the quality of computer-based information systems against user needs and requirements to guarantee user acceptance and implement ability.

[Information Technology]

1. Produce globally competitive, innovative, God-fearing, morally upright and productive information technology professionals;
2. Transfer ICT knowledge and skills for better quality of life of the community;
3. Develop research capabilities for industrial and technological innovations;
4. Engage in revenue-generating ICT jobs and other environment-friendly computing services.
5. **Program/ Degree Outcomes: CHED Memorandum Order No. 25, series of 2015**

[CS/IS/IT General Education/PE/NSTP Subjects per Section 6.1]

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 of professional, social and ethical responsibility
5. Preserve and Promote *“Filipino Historical and Cultural Heritage”*

[Computer Science major subjects per Section 6.3.A]

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 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. An ability to 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. 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 environment considerations.
6. Create, select, adapt, and apply appropriate techniques, resources, and modern 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 being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
9. An ability to 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.

[Information Systems major subjects per Section 6.3.B]

1. Apply knowledge of business processes, computer, mathematics and social sciences appropriate to Information Systems
2. Analyze a problem, identify and define the computing requirements with respect to organizational factors appropriate to its solution and plan strategies for their solution
3. Evaluate information systems in terms of general quality attributes and possible trade-offs presented with the given requirement
4. Design, implement, and evaluate information systems, processes, components, or programs and to source cost-benefits efficient alternatives to meet desired needs, goals and constraints
5. Use knowledge and understanding of enterprises in modelling and design of information systems
6. Deploy and use effectively skills, tools and techniques necessary for information systems practice
7. Function effectively on teams (recognizing the different roles within a team and different ways of organizing teams) to accomplish a common goal
8. Communicate effectively with a range of audiences Communication skills includes technical writing, presentation and negotiation and numeracy
9. Recognize the legal, social, ethical and professional issues involved in the exploitation of computer technology, and be guided by the adoption of appropriate professional, ethical and legal practices both in the local and global community
10. Recognize the need for and engage in an independent and life-long learning, planning self-learning and improving performance as the foundation for on-going professional development

[Information Technology major subjects per Section 6.3.C]

1. Apply knowledge of computing, science, and mathematics appropriate to the discipline
2. Understand best practices and standard and their applications
3. Analyze complex problems, and identify and design the computing requirements appropriate to its solution
4. Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
5. Design, implement, and evaluate computer-based systems, processes, components, or programs to meet desired needs and requirements under various constraints
6. Integrate IT-based solutions into the user environment effectively
7. Apply knowledge through the use of current techniques, skills, tolls, and practices necessary for the IT Profession
8. Function effectively as a member or leader of a development team recognizing the different roles within a team to accomplish a common goal
9. Assist in the creation of an effective IT Project Plan
10. Communicate effectively with the computing community and with society at large about complex computing activities through logical writing, presentations, and clear instructions
11. Analyze the local and global impact of computing information technology on individuals, organizations, and society
12. Understand professional, ethical, legal and security and social issues and responsibilities in the utilization of information technology
13. Recognize the need for and engage in planning self-learning and improving performance as a foundation for continuing professional development
14. **Course No. and Title**
    * + - **[Course Number and Course Description]**
        - Prerequisites: **[Course Number and Course Description requirement prior to take this course. Cross-check with the Program Curriculum and Indicate No Prerequisite if none]**
15. **School Year/ Semester Offered:**

[Semester, Academic Year]

1. **Course Description**

[Refer to Section 8. If no description available, you may consult the Program Head]

1. **Course Credit/ Unit:** 2 units (2 hours lecture, 0-hour laboratory)
2. **Course/ Subject Outcome:**

[As faculty, you will craft this one. You may consult the Program Head to guide you incase you are in doubt]

* Course Outcome 1
* Course Outcome 2
* Course Outcome 3

1. **Course Design matrix:**

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| --- | --- | --- | --- | --- | --- | --- |
| **DESIRED LEARNING OUTCOMES (DLO)** | **COURSE CONTENT/ SUBJECT MATTER** | **TEXTBOOK/ REFERENCES** | **OUTCOMES-BASED TEACHING & LEARNING (OBTL)** | **ASSESSMENT OF LEARNING OUTCOMES (ALO)** | **RESOURCE MATERIAL** | **TIME TABLE** |
| **MIDTERM** | | | | | | |
| At the end of the unit, the students must have:   * + 1. internalized the college mission, vision, goals, objectives, core values and college instructional outcomes, and     2. identified the course description, requirements, grading system, and course objectives | **UNIT 0: COURSE ORIENTATION**  1. Vision, Mission, Core Values, Quality Statement, Goals Objectives and Outcomes.  2. Course Description, Requirements, Grading System, and Course Objectives | University Website  www.gsu.edu.ph  GSU Student Handbook  Bulletin of Information | * Discussion of Course Syllabus * Question and Answer * Watching the GSC promotional video | * Graded Oral Recitation in accordance with the rubric | * Course Syllabus * GSU Official Website | 1 hr |
| At the end of the unit, the students must have:  1. designed a java program that can handle and accept inputs based on the data types | **UNIT I: CREATING JAVA PROGRAMS AND HANDLING DATA**  1. First Java Program  2. Writing Java Programs: Data Types and Accepting User Input | * (Laura & Perkins, 1996) * (GoalKicker.com) * (Programiz, 2023) * (Forca, 2023) | * Review of Java Compiler Options * Discussion of Java Data Types and Handling Approaches | * Quiz * Laboratory Hands-On Activity * Assignment | * eBooks * Developed Instructional Materials * Online Compiler | 5 hrs |

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| At the end of the unit, the students must have:  1. synthesized the use and manipulation of java classes, variables, and methods | **UNIT II: USING AND MANIPULATING CLASSES, VARIABLES AND METHODS**  1. Working with Methods, Classes and Objects  2. Understanding Blocks and Scope | * (Laura & Perkins, 1996) * (GoalKicker.com) * (Programiz, 2023) * (Forca, 2023) | * Discussion on Access Modifiers and Calling Methods | * Quiz * Laboratory Hands-On Activity * Assignment | * eBooks * Developed Instructional Materials * Online Compiler | 15 hrs |
| At the end of the unit, the students must have:  1. composed java programs that is constructed with operators for planning decisions  2. planned program flow documentation | **UNIT III: USING OPERATORS TO MAKE DECISIONS WITH DOCUMENTATION**  1. Operators  2. Understanding Decision Blocks and Scope  3. Orchestration of Program Flowchart Symbols to represent logical component in a visualized representation | * (Laura & Perkins, 1996) * (GoalKicker.com) * (Programiz, 2023) * (Forca, 2023) | * Discussion on If-Then-Else Clauses, Nested If, Nested Else-If. This also covers the Switch Case and its respective application with the use the operators such as arithmetic, logical and comparison operators * Discussion of Programming Flowchart is also incorporated | * Quiz * Laboratory Hands-On Activity * Assignment | * eBooks * Developed Instructional Materials * Online Compiler | 22.5 hrs |
| Conduct of Midterm Examination |  |  |  | * Pen and Paper Test | Lessons from Unit 0 to Unit III | 1.5 hrs |

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| **FINAL** | | | | | | |
| At the end of the unit, the students must have:  1. composed java programs that can pass array data  2. incorporate repetitive instructions to java code | **UNIT IV: LOOPS AND ARRAYS**  1. One-Dimensional Array  2. Two-Dimensional Array  3. Three-Dimensional Array  4. For Loop  5. Do While Loop  6. While Loop | * (Laura & Perkins, 1996) * (GoalKicker.com) * (Programiz, 2023) * (Forca, 2023) | * Discussion of Looping Concept, Syntax and Application * Discussion of Array Concept * Application of Loop and Array into one java program and its significant application towards business requirement | * Quiz * Laboratory Exercises | * eBooks * Developed Instructional Materials * Online Compiler | 43.5 hrs |
| Conduct of Final Examination |  |  |  | * Pen and Paper Test | * Lessons from Unit IV | 1.5 hrs |

*Note: This syllabus is flexible and may include additional topics and activities deemed necessary by the professor.*

1. **Grading System**

Periodic Examination (Midterm, Final) ---------- 40%

Project/Performance ---------- 30%

Quizzes/Written Activities ---------- 20%

Oral Participation ---------- 10%

**TOTAL**  **100%**

**References:**

**eBook**

Laura, L., & Perkins, C. L. (1996). *Teach Yourself Java in 21 Days.* Indianapolis, Indiana: Sams.net.

GoalKicker.com. (n.d.). *Java Notes for Professionals.*

**Developed Instructional Materials**

Forca, A. (2023). *Computer Programming with Java*

**Online Compiler**

Programiz. (2023). Online Java Compiler. Retrieved from Programiz Online Java Compiler: https://www.programiz.com/java-programming/online-compiler/

**Other Requirements:**

Practical Examination

Online Researches/Homework

Hands On Activity

Prepared and Designed By:  Checked and Reviewed by:

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