**KELDON 2020/2021**

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| FACULTY | HITM/PROFESSIONAL PROGRAM |
| PROGRAMME |  |
| DEPARTMENT | COMPUTER ENGINEERING |
| COURSE TITLE | INTRODUCTION INTO OBJECT MODELING (UML) |
| COURSE CODE |  |
| CREDIT VALUE |  |
| CREDIT HOURS |  |
| LEVEL | II |
| SEMESTER | 1st |
| INSTRUCTOR’S name | Mr. Shiynsa Charles Lwanga |
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| COURSE DESCRIPTION OR SYNOPSIS | This course deals with UML as a modeling language. Specifically, it deals with all the various UML diagrams |
| COURSE OBJECTIVES | **By the end of this course, students should be able to**   * Define basic terms used in OOM (attributes, object, association, aggregation etc) * Distinguish between UML and other methodologies use for scientific works * List and explain the various structural and behaviourial things in UML * Practically design the class diagram for case study * Practically design the use case diagram for case study * Practically design the interaction diagram for case study * Practically design the state machine diagram for case study * Practically design the activity diagram for case study * Master object oriented design concepts * Automatic generating source codes (.sql codes) from conceptual and logical data models * Carry out a workshop on object oriented software engineering |
| EXPECTED OUTCOME | **After a successful completion of this course, students’ will be able**   * Define basic terms used in OOM * Distinguish between UML and other methodologies like MERISE * Draw and differentiate between structural and behaviourial things in UML * Practically relate real life reality like analyzing a hospital or school management system by drawing its UML diagrams, interpreting and give a blue print of a software to manage such a system * Automatic generating source codes (.sql codes) from conceptual and logical data models * Educate others via a workshop on object oriented software engineering |
| WEEKS (UNITS) | TOPICS |
| 1 | GENERAL INTRODUCTION   * The course objectives * Course outline and chapter layout |
| 2 | Chapter 1   * Basic techniques of modeling computer systems * Overview of Prominent Object-oriented Methodologies |
| 3 | Chapter 2   * Introduction to UML (Unified Modeling Language) |
| 4 | Chapter 3   * Overview of the development process |
| 5 | Chapter 4   * Study of the various UML diagrams (structural and behavioral diagrams) |
| 6 | Chapter 5   * Class Diagram (attributes, association, aggregation, composition, generalization, parameterized classes) |
| 7 | Chapter 6   * Use Case diagram. |
| 8 | Chapter 7   * Interaction diagrams (sequence diagram, collaboration diagram). |
| 9 | Chapter 8   * State Diagram and Activity Diagram. |
| 10 | Chapter 9   * Introduction to object-oriented design (inheritance, encapsulation, polymorphism, abstract interfaces, parameterized types). |
| 11 | Chapter 10   * Design patterns in object-oriented design modeling of the source code. Modeling executable versions. |
| 12 | Chapter 11   * Workshop on object oriented software engineering |

**Mode of evaluation**

Attendance 5%

Continuous assessment 25%

Final semester exam 70%

Nature of the course: 60% practical and 40% theory

Textbook: UML tutorial.pdf

Website: tutorialpoint.com

Tools: E-draw, Power design, MS visio, Windesing