**Object Oriented PRogramming**

**Second Year – First Semester**

**Asst. Lect. Ahmed Najat Ahmed**

**Academic Year: 2022-2023**

**Course Book**

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| **S. No.** | **Information** | **Details** |
|  | **Course Name** | Object Oriented Programming |
|  | **Course Code** | CN201OOP |
|  | **Lecturer In-charge** | Ahmed Najat Ahmed |
|  | **College/Department** | Engineering and Computer Science/Computer Science |
|  | **Contact Information** | E-mail:a.afandy@lfu.edu.krd  Mobile:7504717099 |
|  | **Time (in hours) per Week** | Theory: 2 hours  Practical: 2 hours |
|  | **Office Hours** | Sunday to Thursday (8:00-3:00)P.M |
|  | **Teacher’s Academic Profile** | Currently I am working as Assistant Lecture, Department of Computer Engineer, College of Engineering & Computer Science, Lebanese French University, Erbil, Iraq. I have completed my UG (B.cs-CE) in Ishik University, Iraq and PG (M.sc-CSE) inUniversity of Kurdistan-Hawler, Iraq. So far, I have published more than 5 research articles in various reputed international journals and conferences. |
|  | **Academic Title** | Assistant Lecturer |
|  | **Keywords** | Object, Class, Functions, Inheritance |
|  | **Course Overview:** This course provides in-depth coverage of object-oriented  programming principles and techniques using C++. Topics include classes, overloading, data abstraction, information hiding, encapsulation, inheritance, polymorphism, file processing, templates, exceptions, container classes, and low-level language features. The course briefly covers the mapping of UML design to C++ implementation and object-oriented considerations for software design and reuse. The course also relates C++ to GUI, databases, and real-time programming. The course material embraces the C++ language standard with numerous examples demonstrating the benefits of C++. | |

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| **12.** | **Aims & Objective: The** objectives of this course are to let students: • have understanding the basic concepts and techniques which form the object-oriented programming paradigm. Students completing the course should know: The model of object-oriented programming: abstract data types, encapsulation, inheritance and polymorphism |
| **13.** | **Course Requirement:**   Student should know basic concepts of OOPs.  All students should attend lectures carefully.  All students should attend on Classroom Tests, Discussions, their Assignments, and Examinations such as Mid-term and Final. |
| **14.** | **Teaching and Learning Method:**   * Model * PowerPoint * Video conference calls * Data Show * Whiteboard * Laser pointer * Slides * Group Work * Practical Sessions * Assignments |
| **15.** | **Assessment Scheme:**   * 25 % Midterm exam * 15 % Attendance, quizzes + Assignment * 10 % Practical Exam * 50 % Final Exam |
| **16.** | **Students Learning Outcome:**   * Upon successful completion of this course, the student will be able to: (Knowledge based) * Understand the features of C++ supporting object-oriented programming * Understand the relative merits of C++ as an object-oriented programming language * Understand how to produce object-oriented software using C++ * Understand how to apply the major object-oriented concepts to implement object-oriented programs in C++, encapsulation, inheritance and polymorphism * Understand advanced features of C++ specifically stream * I/O, templates and operator overloading |
| **17.** | **Course Reading List and References**  Book: Robert Lafore, “Object-Oriented Programming in C++”, Sams |
| **18.** | **Course Content** |

**Course Content**

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| **Week** | **Lecture Date** | **No. of Hours** | **Topics** |
| 1. | 13/9/2022 | 2 | Introduction of OOPs |
| 2. | 20/9/2022 | 2 | Principles of OOPs, |
| 3. | 27/9/2022 | 2 | Basics of C++, Identifiers, Variables and Constant, Operators and Constant |
| 4. | 4/10/2022 | 2 | Function |

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| 5. | 11/10/2022 | 2 | Function continue |
| 6. | 18/10/2022 | 2 | Function Parameters |
| 7. | 25/10/2022 | 2 | Faction Overloading |
| 8. | 1/11/2022 | 2 | Object and class |
| 9. | 8/11/2022 | 2 | Private and Public |
| 10. | 15/11/2022 | 2 | Static Data and Function |
| 11. | 22/11/2022 | 2 | Constructors and their type |
| 12. | 29/11/2022 | 2 | Constructors and their type continue |
| 13. | 6/12/2022 | 2 | Destructor |
| 14. | 13/12/2022 | 2 | encapsulation |
| 15. |  | Final Examination | |

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| **19.** | **Examinations:**  **The official LFU-IT Exam System is followed regarding this subject.** |
| **20.** | **Notes:** |