SECTION HEADING

CSCI 2245: Fundamentals of Programming II

Description

Fundamentals of Programming II discusses topics including object-oriented programming techniques, essential data structures such as stacks, queues, trees, sorting and searching algorithms using a high-level programming language.

Credits

4

Prerequisite

CSCI 2240

Topics to be Covered

1. Pointers

2. Operator overloading

3. Inheritance

4. Polymorphism

5. Stream input/output

6. Exception handling

7. File processing

8. Searching and sorting

9. Linked lists

10. Stacks, queues, trees

Learning Outcomes

1. Develop and implement correct and efficient programs using the C++ language.

2. Define, compare and contrast the fundamental concepts of object-oriented programming: data abstraction, encapsulation, inheritance and polymorphism.

3. Design algorithms according to object-oriented concepts.

4. Design and develop classes which implement the concepts of data abstraction, encapsulation, inheritance and polymorphism.

5. Design and develop programs implementing data structures utilizing the Standard Template Library.

6. Implement exception handling.

7. Examine searching and sorting algorithms.

8. Define the finer points of pointers, dynamic allocation, linked list, stacks, queues, trees.

Credit Details

Lecture: 4

Lab: 0

OJT: 0