Object Oriented Methodology

Week – *0*, Lecture – *0*

Introduction to Course

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IIIT LUCKNOW

What you know so far…

We started in the previous semester with *Introduction to Programming*

The idea was to get you started with the ”art of programming”

We covered basics of programming, e.g.

- The idea of constants and variables in a program
- Different types of data types like characters, integers and real numbers
- Complex data types like arrays and structures
- Conditional and Iterative statements
- Functions and Pointers, etc.

In the process, you probably learnt some elementary *C* as well

- Remember, you have to learn the programming through practice, in the class we will only study concepts
- This is why we had programming labs, where you had to solve a problem within a given amount of time

So how do we continue our journey?

What we covered in the previous semester can be called as *Structured Programming*

There is another form of this art that is usually more common – *Object Oriented Programming*

In this course, we will cover this art in more detail

- Whatever you learnt in the previous semester will still be used…
- … so it is a good idea to revise everything if you've become a little rusty in the past 10 days or so !!

Similar to C in the previous semester, this time we will use *C++* as the tool for learning concepts

- This means that in your labs, you will write code in C++

Similar to the previous semester, we will focus more on concepts

- You will have to practice on your own to get better at the art

Competitive Coding vs System Building

In this semester, you have another course running in parallel – *Data Structures*

- It is important that you do well in Data Structures, since it will aid you competitive coding skills

In this course, we will focus more on system building

- This is a skill that is useful when you do an internship, join a company or start your own venture

Both these aspects of programming are crucial for your overall development as a programmer

Remember, these skills are not “complementary”, they are “supplementary”

- They will both provide you different types of scenarios to practice programming
- So try your best to do well in both !!

Major Highlights of this course

We will begin by discussing the question – “how should we build a software system?”

- We will have a look at the typical steps that are followed while developing software

We will cover some designing skills

- Remember why we started with Algorithms and Pseudocode, and then went to the code?
- Because Algorithms and Pseudocode may you think before you write actual code
- We will see how software development begins with some “non-coding” activities…
- … which can be considered analogous to writing Algorithms or Pseudocodes

We will discuss some system building skills, e.g.

- Creating Network connections, running codes in parallel, building simple GUI applications etc.

You will apply your knowledge on a small term-project

- You will have to do many such projects during your B.Tech and beyond…

Evaluation – Theory

I did not have a good experience with shepherding towards the end of the previous semester

Many of you, also did not like the concept of “Class Participation Marks”

Thus, this time, we will only have Live Lectures

- I will share the recordings of the lecture though

So, this time, the evaluation will be purely exam oriented

- 10% - Surprise Quizzes during lectures
- 20% - Term Project
- 30% - Mid-semester Exam
- 40% - End-semester Exam

There will be attendance though (since it is an academic requirement for instructors)

Evaluation – Labs

There will be 4 Lab exams during the semester

If the timetable doesn't change, these lab exams will be held on

- 14th and 15th April
- 12th and 13th May
- 9th and 10th June
- 7th and 8th July

You can miss at most one of these – I will count the best *three* out of the *four* scores

Other labs will be practice labs for you

- I will give you a problem to solve, but you are not expected to submit the solution
- The TAs will be online with you for a period of 2 hours
- Use this time to attempt the problem, and if you get stuck somewhere, seek help from the TAs
- This way, you can prepare for the Lab exams better

We will start from tomorrow !!

ANY QUESTIONS OR CLARIFICATIONS?