Course information sheet for IC 150 P Computation for engineers Lab

Odd semester: August to November, 2016

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Intended learning outcomes

If you have had three months of training in being a carpenter, than you can make a simple usable stool. If you have had three months of training as a potter, then you can make a simple brick, and a cup from which someone can drink tea. Likewise, at the end of this semester, you will be expected to be able to solve simple tasks by writing effective C programs. And you will also be expected to understand and debug a 'simple' C program that has been written by one of your classmates.

Course Activities

Week	Activities, Deadlines
Sep 6th to 9th	Lab assignment 1
Sep 13th to 16th	Lab assignment 2
Sep 20th to 23rd Tuesday 20th September	Lab assignment 3 project groups assigned and guidelines issued on choosing project topics
Sep 27th to 30th	Lab assignment 4
Oct 4th to 7th	Lab assignment 5
Oct 11th to 14th **3 PM, Friday October 14th**	NO LAB ACTIVITY deadline for submitting groups' one paragraph descriptions of projects
Oct 18th to 21st **Friday October 21st**	Lab assignment 6 you will be informed whether or not your project topics are acceptable
Oct 25th to 28th	Lab assignment 7
Nov 1st to 4th	Lab assignment 8
Nov 8th to 11th **3 PM, Friday November 11th**	Lab assignment 9 deadline for submitting each group's one page long project synopsis
Nov 15th to 18th	Group project synopsis evaluation
Nov 22nd to 25th	Group project work
Nov 29th to Dec 2nd	Group project final evaluation

There will be 9 + 3 = 12 lab sessions. The first 9 will be on lab assignments given to you.

The last 3 sessions will be used for working on and evaluating the programs you write as part of the course project. Usually each assignment sheet will be given to you a week before you are expected to produce programs for it. By the 7th of October, you will be divided into groups of five students each. Each group will be expected to come up with its own idea of a group project by the 11th of November.

Grading:

Activity	Marks
Lab assignment session 1	0 marks
Lab assignment sessions 2 to 9	$8 \times 10 = 80$ marks
Evaluation of project synopsis (during Nov 15th to 18th)	5 marks
Evaluation of individual contributions to project (during Nov 15th to Dec 2nd)	8 marks
Evaluation of overall group result (during Nov 29th to Dec 2nd)	7 marks
Total	100 marks

Grading of individual lab sessions

Activity	Marks
For bringing your notebook with completed programs for all tasks	1 mark
For typing well structured, suitably indented, readable code	1 mark
Algorithms challenge 1	2 marks
Algorithms challenge 2	2 marks
Debugging challenge 1	2 marks
Debugging challenge 2	2 marks
Total	10 marks

You are asked to come with your code written in your notebook, that answer the given tasks. In preparing this code, you are allowed to use anyone's help. But we will test your understanding of your own code. This precisely is the purpose of the challenges described below.

On 'algorithms' challenges:

There will be two distinct challenges of this type during every session. You will be expected to explain the logic behind your program. Basically, we will ask you to explain why your program, or a segment of it produces what you claim it produces. Sometimes, we will ask you to draw the flow-chart corresponding to a chosen sequence of instructions.

On 'debugging' challenges:

There will be two distinct challenges of this type during every session. One or more evaluators will give you a challenge on each task in the assignment. Each such challenge will take the following specific form. The evaluator(s) will ask you to look away while they edit one, two, or three lines of your code. Then, in front of the evaluator you will have to compile the

code, and make it work as it is supposed to. Most commonly, the edits that an evaluator introduces will not create problems with compilation, rather it will make the program produce 'wrong' computations.

Attendance, Missed sessions etc.

1. The minimum attendance requirement is **75 percent (you must attend at least 9 out of the 12 sessions).** However, we really are expecting you to be present at each and every session. After all, by missing a session, you will lose marks that you would have won in that session.

2. Make-up sessions will be arranged only for three valid reasons: (a) sickness certified by IIT Mandi's campus doctors, or (b) official institute activity that was approved and took you away from a lab session (you must have informed the responsible teacher and the course coordinator at least 48 hours ahead of the start of the session), (c) any absence explicitly allowed by the Dean of students. Make-up sessions will not be arranged for any other reasons.

3. If on some week, you want to attend a lab session on a day different from the usual one, then you must do two things: (a) write an email at least 48 hours ahead of the start of the earliest of the two sessions (original and substitute sessions), to the course coordinator with cc to the concerned teachers, stating your intention and a good reason, AND, (b) receive permission from the course coordinator. Without these two things, you are forbidden from swapping lab sessions.

Weekly 'walk-in' consultancy sessions

Some of the TAs will be available at selected times during every week, for students to walk-in and get help.

Slot	TAs available	venue
Mondays 2 - 5	Faria Rehman Vyoma Singh	small PC lab, A5
Tuesdays 2 - 5	Vikas Kumar Vipin Kumar	small PC lab, A5
Thursdays 2 - 4	Maeghel Puri Shivam Richariya Kumar Ashutosh	small PC lab, A5 2 - 3, and A5-1, 3 - 4
Saturdays 10 - 12	Faria Rehman Vyoma Singh Depinder Preet Singh	**Big PC lab, A5**
Saturdays 2 - 4	Akshay Mathew Vikas Kumar Vipin Kumar	**Big PC lab, A5**