# Summarization for CSE231\_Operating Systems, Winter 2020

Course Name: CSE231:Operating Systems

Instructor: piyus@iiitd.ac.in

Total Sent: 193 Total Filled: 155

**Start Date:** May 26, 2020, midnight **End Date:** May 31, 2020, 11:59 p.m.

#### **SECTION 1: Self Assessment**

| N  | ю  | Question  | 1 | 2 | 3  | 4  | 5  | Avg. | . NA |
|----|----|---|---|---|----|----|----|------|------|
| 1. | .1 | What was your attendance in this course with respect to lectures and compulsory tutorials, labs?  1: 0-20% 2: 20-40% 3: 40-60% 4: 60-80% 5: 80-100%   | 4 | 7 | 40 | 56 | 49 | 3.89 | -1   |
|    |    | On an average, how much effort have you put into this course for course-related work (including lectures)?  | • | 0 |    |    | 40 | 0.04 |      |
| 1. |    | 1: Hardly any effort (3 hours) 2:Little effort (3-5 hours) 3:Average effort (5-9 hours) 4:A lot of effort (9-12 hours) 5:Very time consuming (> 12 hours) Standard load for 4-credit courses. Load may vary proportionately for courses with different credits. |   | 3 | 56 | 52 | 42 | 3.81 | -1   |

### **SECTION 2: Course Outcomes**

Average of "Course Outcomes" questions = 3.12

| No  | Question  | 1  | 2  | 3  | 4  | 5  | Avg. | NA |
|-----|---|----|----|----|----|----|------|----|
| 2.1 | Students are able understand fundamental principles and approaches behind process synchronizations, deadlock avoidance, memory management etc   | 18 | 18 | 50 | 41 | 28 | 3.28 | 0  |
| 2.2 | Students are able to write a shell with complete clarity about process creation and process execution.  | 20 | 18 | 46 | 42 | 29 | 3.27 | 0  |
| 2.3 | Students are able to write multi- threaded applications with synchronization primitives and ability to analyze effects of concurrency on process execution and correctness.           | 29 | 26 | 43 | 38 | 19 | 2.95 | 0  |
| 2.4 | Students are able to analyze the impact of OS concepts, e.g. virtual memory, concurrency, on program execution and ability to fine-tune the program to run efficiently on a given OS. | 29 | 18 | 57 | 30 | 21 | 2.97 | 0  |

## **SECTION 3 : Course Organization**

Average of "Course Organization" questions = 3.12

| No  | Question  | 1  | 2  | 3  | 4  | 5  | Avg. | NA |
|-----|---|----|----|----|----|----|------|----|
| 3.1 | The course was effectively organized to achieve course objectives & postconditions.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree | 27 | 25 | 54 | 30 | 19 | 2.93 | 0  |
| 3.2 | The course developed my skills and ability to think critically about the subject.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree   | 27 | 22 | 46 | 38 | 21 | 3.03 | 1  |

| 3.3 | Assignments, homeworks, term paper, projects (as applicable) improved my understanding of the course material.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree | 19 | 14 | 31 | 50 | 41 | 3.52 | 0 |
|-----|--|----|----|----|----|----|------|---|
| 3.4 | The course stimulated my interest in the subject matter and relevant topics.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree                                   | 32 | 23 | 37 | 35 | 27 | 3.01 | 1 |

# **SECTION 4 : Course Administration & Instruction**

Average of "Course Administration and Instruction" questions = 3.01

Average of "Course Organization" and "Course Administration and Instruction" questions = 3.05

| No  | Question  | 1  | 2  | 3  | 4  | 5  | Avg. | NA |
|-----|---|----|----|----|----|----|------|----|
| 4.1 | The instructor clearly defined and explained the post-conditions, course objectives, expectations and course policies.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree                                | 26 | 17 | 42 | 45 | 22 | 3.13 | 3  |
| 4.2 | The instructor presented the subject matter effectively.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree  | 33 | 25 | 36 | 33 | 27 | 2.97 | 1  |
| 4.3 | The instructor was integral to my learning of the subject matter of this course.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree  | 33 | 24 | 40 | 34 | 23 | 2.94 | 1  |
| 4.4 | The assessments (of exams, graded homeworks, quizzes, graded labs, projects, etc.) allowed me to demonstrate my understanding of the course material.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree | 25 | 19 | 34 | 45 | 31 | 3.25 | 1  |
| 4.5 | The instructor provided constructive feedback in an effective manner in his evaluations.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree  | 40 | 24 | 42 | 31 | 16 | 2.73 | 2  |
| 4.6 | The instructor tried his best to address students' questions, difficulties and other concerns with respect to the course.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree                             | 33 | 19 | 38 | 40 | 24 | 3.02 | 1  |

# **SECTION 5 : Additional Components**

| No  | Question   | 1  | 2  | 3  | 4  | 5  | Avg. | . NA |
|-----|--|----|----|----|----|----|------|------|
| 5.1 | The labs helped me in understanding the subject matter better.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree                   | 20 | 4  | 26 | 16 | 22 | 3.18 | 67   |
| 5.2 | The teaching assistant(s) were effective in helping me learn the subject matter.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree | 55 | 24 | 35 | 14 | 12 | 2.31 | 15   |
| 5.3 | The tutorials helped me in understanding the subject matter better.  1: Strongly disagree 2: Somewhat disagree 3: Neutral 4: Somewhat agree 5: Strongly agree              | 50 | 13 | 44 | 12 | 8  | 2.33 | 28   |

# **SECTION 7: OPEN COMMENTS**

| No  | Question and Answer   |    |    |    |    |    |      |    |
|-----|---|----|----|----|----|----|------|----|
| 6.1 | How comfortable were you with attending lectures online?  1. Very uncomfortable 2. Somewhat uncomfortable 3. Neutral 4.  Somewhat comfortable 5. Very comfortable   | 37 | 15 | 25 | 11 | 10 | 2.41 | 57 |
| 6.2 | How different were online lectures from in-class lectures in terms of understanding? Understanding in the online lectures was  1. Highly inferior 2. Somewhat inferior 3. Neutral 4. Somewhat improved  5. Greatly improved | 45 | 14 | 26 | 10 | 7  | 2.22 | 53 |
| 6.3 | What do you feel about the pace of the online lectures? The pace was  1. Very slow 2. Somewhat slow 3. About right 4. Somewhat fast 5. Very fast  | 18 | 14 | 43 | 14 | 7  | 2.77 | 59 |
| 6.4 | How was the interaction between the groups in online Vs physical mode?  1. Very different 2. Somewhat different 3. Neutral 4. Somewhat the same 5. Absolutely same  | 42 | 11 | 28 | 7  | 6  | 2.19 | 61 |

#### Share your suggestions on how the experience could have improved

- The professor expects a lot from student as what is taught. The post knowledge is almost zero.
- Replace piyus sir with someone who is actually interested in teaching.
- Not even able to learn any single concept of operating systems. The assignment were too tough to deal with.
- Give some do-able assignments
- Online lectures
- 1. It would have been nice if we could have online lectures from piyus sir and complete the course
- More interactive classes and tutorial sessions
- No lectures were taken after everything shifted online. Very poir checkibg of assessments and hws. Most students got full for completely incorrect submissions as well.
- Teaching was excellent, but I (as a person getting extremely good marks acc to current grading scheme) believe that assignment weightage should have been increased. Assignments were really interesting, but it's a shame that they were stopped to be checked after full marks: it removed all motivation for doing them. For example, I would love to do the last assignment but keep putting it off by thinking how nobody will even open my submission.
- -NA-
- C language should be taught before the course. To make it easy to cope up with Assignment
- Discussion on the submitted OS assignments would have helped
- Online lectures should have been taken instead of only sharing lecture material and online videos.
- There were 2 deadline every along with other deadlines too, so it was a bit hectic schedule.
- N/
- We never had any online classes for this course. Sir just shared 2-3 boring video lectures which
  were useless.
- No need to improve
- NA
- By changing the professor
- Assignments were an integral part of the learning
- No online lectures were taken.
- There were no online lectures at all. Just a few videos were shared and slides uploaded. When
  lectures were conducted in class, the subject simulated my interest. But I could not as such watch
  videos and I have no knowledege of the subject post midsems.
- The instructor wasn't sure about what he knew. He mocked students for asking questions and often gave very condescending replies. I distinctly remember him mocking a student in front of the entire class and asking him to wear a mask to the class. I honestly don't expect this kind of behaviour from such highly qualified professors.
- He didn't take any online class, only send us the lectures and told to read by yourselves, then why
  colleges are built, we can just learn lectures of Stanford and just come to give examination.
- all thing you need to improve
- Focus more on learning and reduce workload.
- None
- Easy concepts were made difficult, everytime I went for the lecture, after 15min the attitude gets shifted from learning to leaving the class
- NA
- the Instructor made everything seem more difficult that it is.
- None
- nothing
- Online lectures did not take place. The lecture slides were only posted on backpack.
- We should have shown our mid-sem answer sheets.
- No online classes
- Instructor should realize that if so many student students are getting low marks in mid sem and are unable to do assignments, it does not mean that the students are not studying os enough or they are idiots, it means that the course is not designed properly and whatever the prof is teaching is either unclear or not clear enough to do the assignments. Instead of giving irrelevant assignments that literally take 12-13 hrs to be completed prof should little sympathetic that students also have 4 other courses to do.
- Lectures should have been taken by Sir rather than just giving the video links
- Sir has to go somewhat slowly so that all the students are able to understand.
- We could have had online lectures on google meet instead of just youtube videos. That would have encouraged some Q/A stuff too.
- The lecture slides need a massive improvement. The content of lecture slides is NOT AT ALL
  self-explanatory. If a student misses the class, it is really very difficult for him/er to understand those
  concepts themselves through lecture slides.
- Online classes are better as one can re-watch the lecture video
- Self made video with notes similar to that in class will be really helpful.

6.5

| ŀ | No | Question | 1 | 2 | 3 | 4 | 5 | NA |
|---|----|----------|---|---|---|---|---|----|

#### What helped you learn in this course?

- Tutorial
- The lecture slides were good. I liked how we had professor's notes below each slides, that helped a lot in studying.
- Not even a single concept
- Slides
- YouTube
- Slides and classes
- Online lectures by NPTEL ONLY. Class lectures provided no benefit. Tutorials were a chaos. Assignments were far difficult than anything taught in class.
- 1. Lectures and lecture slides, piyus sir teaches really well. Lectures are really interesting.
- Doing the assignments and homeworks
- Professor and his slides.
- The instructor's dedication and the simplicity with which he presented the course matter was an integral part of the learning process.
   He was extremely flexible and considerate regarding many deadlines throughout the course.
- Interest
- Programming assignment and homework
- Lecture Slides
- Assignments
- Online materials > Professor.
- NA
- YouTube video by some other teachers and self-study
- Assigments and Homework
- 7 1 Lectures
  - Shubham Mittal helped me a lot.
  - Assignments
  - The assignments and homeworks.
  - Homeworks and programming assignments.
  - slides and assignment
  - The course content was good.
  - The lectures, homeworks and assignments all were really helpful.
  - less than 10 percent this is not only my case even if you ask any student than more than 30 percent student will tell you that thing
  - Nothing
  - Prof
  - Assignments helped learn concept better when you see things really working in front of your eyes.
  - none
  - The assignments and home work
  - nothing
  - The content should have been more balanced and the pace should be such that it suits the students. The understanding of the concepts should be given priority.
  - Lecture slide and online materials
  - assignments were challenging and required thorough understanding of the concepts
  - Lectures
  - Assignments/ Homeworks/ Questions related to assignments in endsem/midsem ensured that everybody does these properly.
  - Lecture slides
  - Asiignments and homeworks. Instructor's teaching was very good.

#### What changes would improve your learning?

- Enthusiastic teacher maybe
- Please change the instructor as it is one of the most important topic from interview purpose and I have so much phobia from it that I can't even study for interview also Thanks for making it like this. I really wanted to study OS but this was not what I expected.
- Tutoriolo
- There should be an option for the guiz
- This course is not just for the students who are already intelligent enough to understand it. It should be moulded in a way that it best suits everyone, from the most intelligent to the not-so intelligent, from the fast learners to the slow learners. Content should be ore decided and conveyed.
- 1. We wanted to do pintOS and I was really sad that it was removed this year from the course. 2. Assignments were made too easy, by giving out too many assignments especially those optional 6 pts assignment where one just had to run the simulator and report the results (They didn't require any efforts and were therefore ineffective and didn't deserve to be of 6% of course weightage). 3. Considering number of assignments and homeworks, everyone would have got a full 30% in that. So the only thing which decided someone's grade was a 1-hour midterm exam. 4. Since no-one will be willing to take risk by opting end-term exam, i guess no one would study whatever was there in second half of syllabus: (5. Few questions of midterm weren't clearly stated. Like the last question no where stated that we can assume anything which would make memory allocator optimal. Everyone thought that it is a hypothetical inefficient allocator and we need to write how can we still deal with it. Rest everything was good and nicely designed. It was overall a really good course but please bring back pintOS for coming batches.
- Proper checking of assignments and homeworks
- More weightage to assignments with hardness increases. A1 was very very good. No other assignment came close because they all had too much help from the Professor. It kinda felt like spoon-fed instead of figuring out ourselves.
- -NA-
- The instructor should change his teaching methods and the contents of the course.
- Rigour of assignment
- XV6 was not understandable, it would have been great if sir did the video lecture himself explain the concepts
- 1. Sir should be more responsive to Backpack discussions. 2. Online lectures should have been taken.
- Reduce number of deadlines every week.
- NA
- Not having any online classes after the midsem and only depending on online resources massively impacted my preparation as well as my understanding of the subject. I believe I could have learned better if lectures would have continued during the lockdown period.
- Just change the professor. He make the best course of CSE so much complex. When I studied from YouTube I found it very easy and and understand everything but
  when the sir taught us same thing he made everything confusing and complex. I don't why sir went into so deep that's not required for a BTech students. Sir taught us
  PhD level which went above our heads and yeah sir made whole course completely useless. I didn't learn anything from sir's lectures. Only got passed because of my
  self study.
- None
- NA

#### 7.2 By changing the professor

- None
- More assignments should be given with more weightage Remove limit on max marks on assignments since they are very good for learning and keep them for bonus. It does not make sense to make mid-sem of 65% of total since it had badly affect the students. End sem marks should be evenly distributed in mid-sem, assignment and HWs. Reduce the syllabus and focus on quality and not on quantity.
- The lectures could have been much more engaging.
- Please conduct either an online course or an offline course once college reopens so that we have knowledge of whatever was supposed to be taught post midsems
- It would have been better of an Endsem assignment was conducted.
- Sir, should have organised online lectures for the course during the pandemic.
- nothing
- Less deadlines
- None
- Change the professor
- Assignments, that more related towards the os concepts. Homeworks may be reduced to compensate.
- please, explain slowly giving examples.
- The lecture slides and the way it was delivered.
- Please change instructor maybe he has a PHD, but he doesn't know how to teach. And if we compare it with other colleges, the course was really tough, I don't think there is any point of making it so hard
- nothing
- The assignments should have gradual changes in the difficulty level. It should involve whatever has been taught in the class.
- Even though sir tries his best to explain thinks but it is very difficult to understand things. If the lecture slides were more than text and some graphical things then it would be more helpful
- Slow teaching
- If online part of the course was handled a bit well. After midsems, we were almost taught nothing. And it really impacted my learning of the subject
- Better lecture slides.
- Instructor must be changed.
- Keeping a cap on max marks from assignments and homeworks hindered learning as after 4-5 assignments and homeworks, many students lost motivation to do further as they has gained the max. Better way would be to consider best x out of n assignemnts/homeworks.
- The learning process was highly disrupted due to closure of the institute. For most of the students the transaction from on-campus to off-campus mode was a smooth one, but not for all. As many students relied majorly on the resources provided on the campus. I faced many technical problems mainly slow internet. The courses need too much of self-learning through the internet, and now even more than before. I also feel that there has been too much focus on the evaluation rather than teaching post the mid sem break.

| _   |   |   |
|-----|---|---|
|     |   | Comments on labs (if any) with respect to the course and your learning.   |
|     | • | Demotivating  |
|     | • | NA  |
|     | • | Labs are very important it help us a lot to learn the concepts clearly.   |
|     | • | -NA-  |
|     | • | I dont think , I learnt anything new in this course.  |
|     | • | Grading criteria is to lenient. To many optional assignment. If we add up the total marks of both mandatory and optional assignment it will be more than 40. But you can get at max 20 marks. |
|     | • | NA  |
|     | • | None  |
|     | • | NA  |
| 7.3 | • | By changing the professor   |
|     | • | None  |
|     | • | NA  |
|     | • | The assignments were nicely designed and helped me learn a lot.   |
|     | • | totally useless   |
|     | • | Awful   |
|     | • | NA  |
|     | • | NA  |
|     | • | none  |
|     | • | None  |
|     | • | They were very difficult and should have been assisted by the faculty or TAs in an involved manner.   |
|     | • | The Assignments are tough, some sort of hints would be great  |
|     | • | Nothing   |
|     | • | NA  |

|     | Comments on teaching (if any) assistant(s) with respect to the course and your learning.   |  |
|-----|--|--|
|     | They were only good thing about the course   |  |
| ŀ   | They themselves don't know anything how would they remove our doubt  |  |
|     | • NA   |  |
|     | TA are helping.  |  |
| •   | I didn't even see any TA taking responsibility as a TA. Find better TAs, maybe Btechs, who are actually willing to do the job and are not just doibg to get the stipend.   |  |
|     | They only evaluated, no affect on teaching.  |  |
|     | • -NA-   |  |
|     | Not worth, useless.  |  |
|     | • NA   |  |
|     | • NA   |  |
|     | • NA   |  |
|     | TF also didn't understood what sir's teaching in class then how could she answer our questions.  |  |
|     | • None   |  |
| 7.4 | NA   |  |
|     | Change the professor   |  |
|     | • None   |  |
|     | TAs are not much aware of the stuff about the course.  |  |
|     | The TAs seemed mostly clueless about everything.   |  |
|     | <ul> <li>teacher is good but he have not common sense for teaching and I want to ask a question why teacher himself check our answer sheet i am asking this thing because i think he does not read our answer he directly give us 0 if he think that the answer is not matching with my slide</li> </ul> |  |
|     | • None   |  |
|     | • Good   |  |
|     | • None   |  |
|     | • None   |  |
|     | The most disappointing thing in the course. Never attended any tutorial after the first one. TA's asks for our problem and tell us they will give answer in the next class.  |  |
|     | Average TA's   |  |
|     | • NA   |  |

|     | Comments on tutorials (if any) with respect to the course and your learning.   |     |
|-----|--|-----|
|     | <ul> <li>The tutorials were very much useless. They didn't teach much of the OS concepts, rather taught very basics of C language that we already did in the module.</li> </ul>  |     |
|     | Irrelevant things were taught which were not even related to the course  |     |
|     | • NA   |     |
|     | Tutorial was not well maintained sir should provide marks for it so students can attend the tutorial.  |     |
|     | <ul> <li>Completely useless tutorials, attended 5-6, no ta arrived for 2-3of them and seems like the tas had no idea about what was being taught in class. The instructor had nothing planned for the tutorials</li> </ul> | ıt  |
|     | Complete waste of time.  |     |
|     | • -NA-   |     |
|     | • Useless  |     |
|     | Didn't help much, quizzes in tutorials as well as programming assignment discussion would have improved it   |     |
|     | • NA   |     |
|     | • NA   |     |
|     | We never had any meaningful tutorial for this course.  |     |
|     | Everythin was perfect ,I loved how every question from midsem was somehow related to homework given to us.   |     |
| 7.5 |  |     |
|     | Change the professor   |     |
|     | • None   |     |
|     | • Useless  |     |
|     | <ul> <li>Nobody used to turn up in tutorials. And even on attending, the slides of refresher module were repeated. So tutorials were mostly useless.</li> </ul>  |     |
|     | <ul><li>was they happen?</li></ul>   |     |
|     | • None   |     |
|     | • Good   |     |
|     | • None   |     |
|     | • none   |     |
|     | • None   |     |
|     | <ul> <li>Tutorials were waste of time. Never attended one. TA should be better and they should also have the knowledge for tocurse as well.</li> </ul>   | he  |
|     | • Ok   |     |
|     | • NA   |     |
|     | <ul> <li>Could be way better. Instead of just doubt session, these could have some small os programing session, which will he in learning.</li> </ul>  | elp |
|     |  | •   |
|     |  |     |