

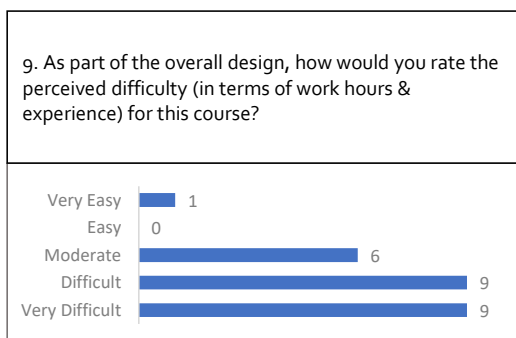
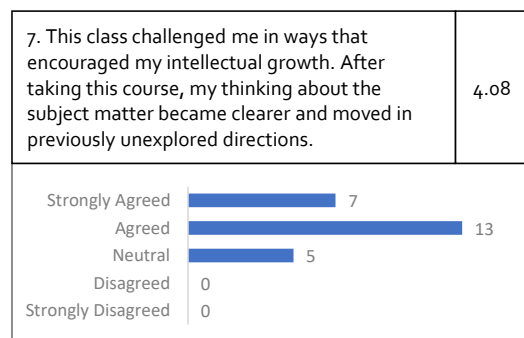
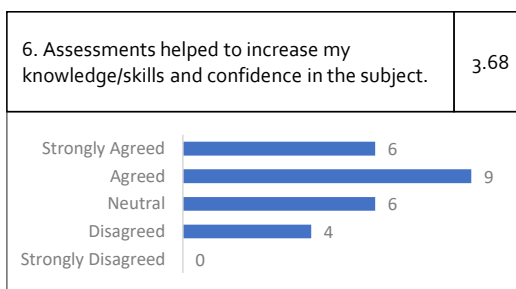
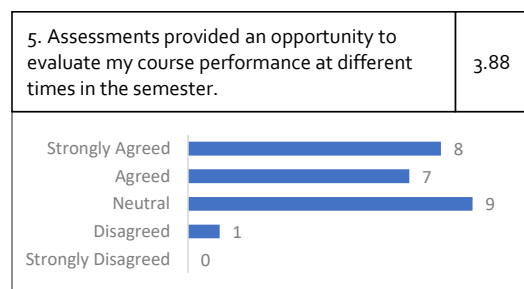
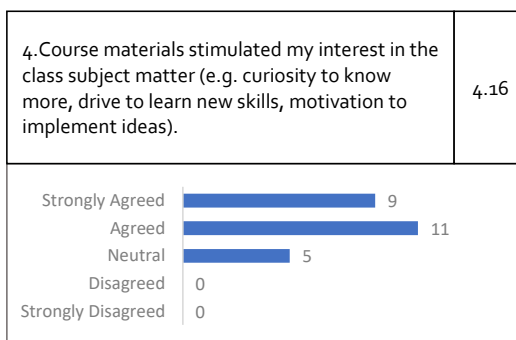
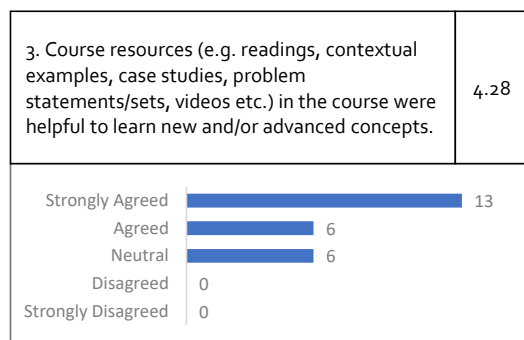
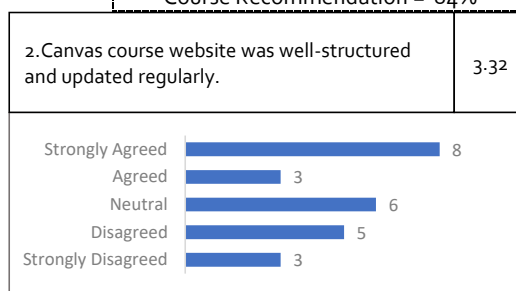
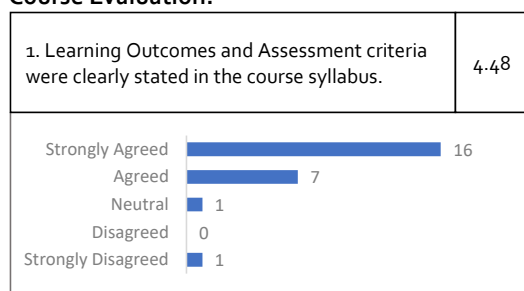


### Course Evaluation: Discrete Mathematics

Semester	Spring 2022
Course Instructor	Waqar Saleem
Course Code	CS/MATH- 113
Component	Lecture
Section	L1
Class Size	27
Response Rate (%)	93% (n=25)
Avg. Rating of Course	3.98
Avg. Rating of Instructor	4.37

#### Course Evaluation:

Course Recommendation = 84%

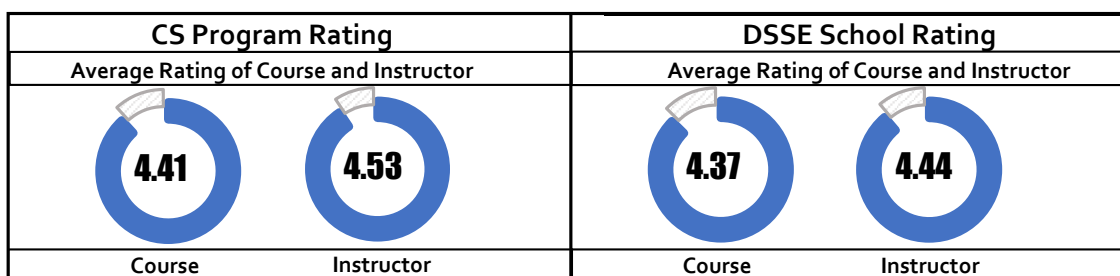
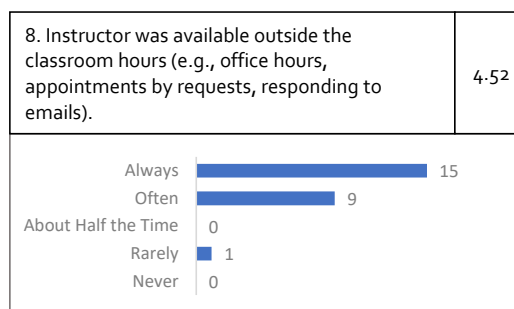
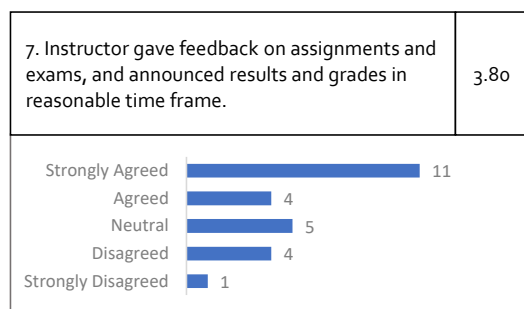
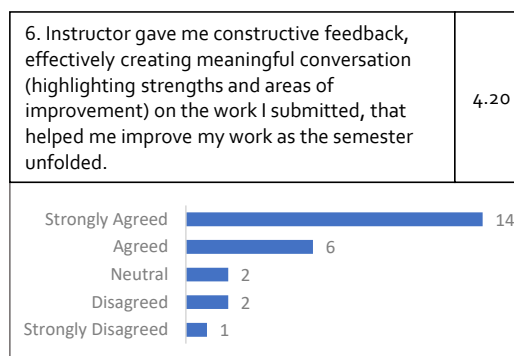
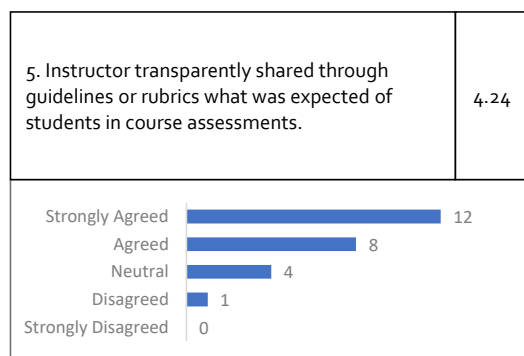
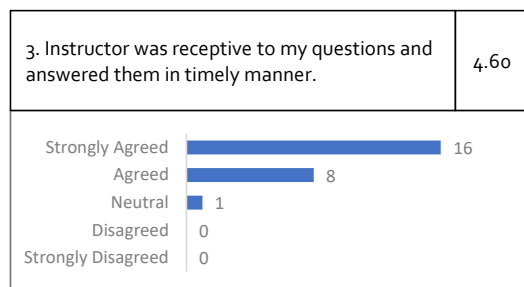
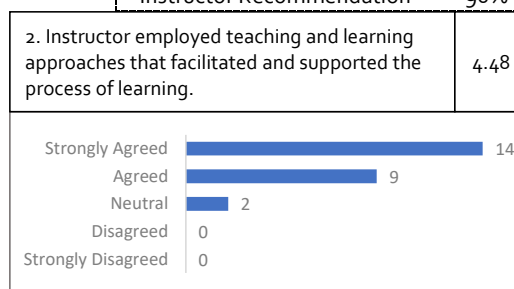
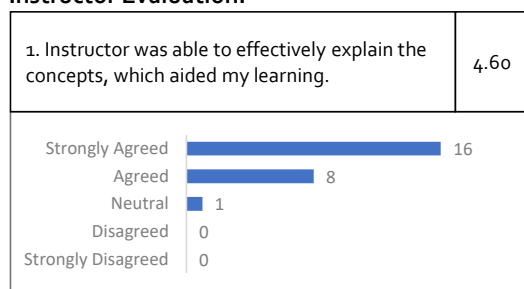


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**Instructor Evaluation:**

Instructor Recommendation = 96%



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### Students' Comments:

**For this course, please share a brief analysis in terms of achievement of learning outcomes, readings, activities, assessment, and intellectual growth:**

- This course achieved the learning outcomes
- Proofs
- This course enhanced my problem solving and logical thinking abilities. I think I am completely satisfied with the CLOs of this course and all the material uploaded on canvas related to the clos.
- This course was a little challenging, especially where we had to do proofs. Trying to get good at it really improved and increased my intellectual growth.
- Still struggling in many topics
- Course is not well defined or structured. It's vague. Assessments are very difficult and nothing like what's taught in class. Helps in Intellectual growth no doubt though.
- The CLOs were fulfilled well. I liked the on-site quizzes approach better than online quizzes because they were more relevant, encouraged us to revise previous lectures, and were a very good way to get us comfortable with logical notation. However, exam questions were unexpected and even though i did fine throughout the course and prepared for exams well, I was unable to perform well.
- different way of perceiving arguments and how logic works
- Introduced concepts of logic to prove analyze propositions and proving theorems
- This course opened up an entirely new subdomain of mathematics to many of those who were previously unaware of it. The course provided great intellectual stimulation.
- We were supposed to learn sets, relations, functions, logical notations, proof techniques, graph theory, and other topics. There were quizzes and feedback survey every week and homeworks every couple weeks. We also had a midterm and a final exam.
- Learnt to question things and break down the question/topic into subparts in order to solve it. Successfully covered all the topics from the book + through in-class quizzes.
- I learned about the different proof methods, logical notations, and graphs.
- proofs
- Interesting course
- opened my thinking to a new field of study
- The assessments were a difficult and required good understanding of the subject matter, thus the book was a must to read. The book was good for understanding concepts. Overall it was challenging but stimulated intellectual growth.
- I learned that no matter what you do, if the instructor doesnt like you, you wont pass the course. You have to be a robot or non human to be a student of waqar saleem, or else you are gone. The HWs were good enough to enhance my knowledge of this course, but constant in class quizzes in which people are continually getting o should be a question mark for the instructors of this course.
- It was the most challenging course
- I feel like I learned a lot but nothing simultaneously
- My instructor for this course was great. He was able to explain things really well.
- the course was well structured. All CLOs were achieved. The activities and assessments were challenging and stimulated my intellectual growth. the course was very interesting but also quite difficult because of all the logic involved.
- Extremely Loveable course, a formal introduction to Logic and Proofs. All the outcomes were met and my logical thinking got a boost
- Ans: It helped me in my logic
- This course really helped me in expanding my domain of thinking in the mathematics field and helped me look at trivial things in a more organized way.

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### **Favorite, constructively challenging or interesting elements of the course:**

- Discrete maths seemed very fun in class but the quizzes were difficult. Proofs were the most challenging part for me.
- Proofs
- Weekly in class quizzes were quite challenging.
- My favorite part of the course, which is also quite challenging, were the weekly quizzes, and in-class quizzes.
- Daily quizzes
- The content and concepts.
- On-site quizzes.
- in class quizzes
- I like how the content was so logic driven
- The lessons were planned and executed in a way which let the content flow naturally and was easy to understand.
  
- The topic logic intrigued me and I found it quite amusing.
- Class lectures were good and helped improve understanding of the topic
- I loved the online quizzes as they provided me with the opportunity to learn and answer the problems without the worry of losing marks.
- in class examples
- Online quizzes helped with understanding the weekly learnings of the course as we could still look back on our notes and search online about the concepts, that in my opinion helped us better with the learning
- the content of the course was very difficult and new at the same time, hard to understand the exam questions were really tough and so was the weekly physical quiz
- Everything was challenging but interesting.
- Tbh the course is good, but how this is taught and assessed in habib is just not logical.
- Homework
- The logical part of it helped me a lot with reasoning and looking at things with a clearer approach in programming
  
- The in class quizzes which were announced suddenly during the middle of the course were extremely challenging.
  
- Everything was pretty challenging but at the same time interesting and stimulating. To find a logic reasoning for everything was fun. My personal favorite were graphs.
- Many interesting elements of which some are follows: Encoding arguments into Logic Using arguments as premises and arriving to a certain conclusion Different Proofing Techniques The whole topic on Graphs was loveable
  
- Ans: The homeworks
- Favorite element of the course were the weekly quizzes that helped solidify the concepts learned during the classes.

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### Elements of the course that need to be revised or improved:

- I think that doing more practice in class would be helpful, especially some tough questions so that we could be better prepared for the quizzes
- There must be 2 mids so that our grade doesn't fall very much.
- Canvas site needs to be improved. Every section should have its own canvas site.
- Canvas site, There should be weekly assignment instead of only 4 assignment. Team should not be formed for assignments.
- Canvas website Homework Quizzes
- I think that the homeworks should be smaller and similar to the ones we get in calculus (also like the recitation questions): a few book questions at a time (working with buddies was a good experience). Recitations should be longer. More time and thorough explanations should be given instead of rushing everything.
  
- canvas should be well structured, timely grading of hws
- The way the quizzes were designed (often straight from the book; they might want to work on that since those or us who had read the book didn't really gain anything from the quizzes)
- The in person quizzes were not the same for every section of the course. The difficulty level was quite hard and most topics (writing proofs) were not covered properly in class. This impacted our overall grade to a great extent. In online quizzes, we had enough time and resources to go through the material and actually learn. However, in-person quizzes discouraged me a lot.
- SA quizzes questions were sometimes vague. Feedback on the in-class quizzes would be appreciated as it'll help us perform better. Recitations could be longer. More examples to be covered in class. Checking of hw could be done before the tests so we know where we are lacking.
- There should be more exams with a (n-1) approach available.
- no exams shud be there
- in person quizzes
- the daily physical quiz was a bad decision as it created added tension in our life and spoiled the grade
- Quizzes should not be taken in every class as it can be difficult to study before each class.
- EVERYTHING.
- Workload
- The quizzes and the amount of things taught in the course
- Assessment structure
- More practice time and better time arrangement for class. Also canvas page can be better organized.
- Nothing to be honest. May be some more inclusion of things that were in the book might work
- Ans: it was good
- In person quizzes can be removed since they felt more like a test that you had to prepare for before every class rather than the online quizzes where you could take your time and make sure you extract the relevant knowledge from the topic. Other alternative could be that the in person quizzes be made a class activity so there is no pressure.

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**How was your overall experience of taking the course with this instructor? How was the quality of teaching and feedback? Please give specific examples to support your answer.**

- It was a good experience since I enjoyed in class and the instructor was very helpful.
- Very nice
- Sir Waqar Saleem is a brilliant instructor. He gives constructive feedback every time and also assists his students with any problem they face. Although he is a strict grader and gives tough quizzes and test, I still strongly recommend him to my peers.
- The overall experience was quite good. Sir Waqar's teaching style is one of the best, and he has a really good command over teaching this course.
- It was overall good experience.
- Very experienced and composed teacher.
- Overall experience was really good. No complains.
- Knows the subject. Very dedicated and patient while teaching. Always there to clear confusions regarding the lecture
- I really appreciate how passionate and the amount of effort the instructor puts into this course. Also he has great command over the concepts and delivers them with utmost clarity.
- Waqar Saleem was a gem of an instructor, and probably the reason the course went smoothly. Say what you will about the other instructors, he knew exactly how to deliver the knowledge in a way that was actually intelligible to the students, even though many of them were exposed to discrete mathematics for the first time
  
- Waqar Saleem is competent at explaining topics, but he is very demanding.
- Sir Waqar was great in terms of teaching but more examples could be shared during class and feedback could be given to help improve our answers. Initially the pace of the class was fine but towards the end it was very rushed which caused a lot of confusions in understanding the last few topics.
- it was a really nice experience. I got to learn a lot.
- Great
- Very respectful and soft spoken teacher, explained everything thoroughly.
- nice experience
- I had an amazing experience with this instructor. The instructor was enthusiastic about the course and taught in an engaging manner. The quality of teaching was good and stimulated my learning.
- Not good at all. my peers from other instructors have good grades, even though i am studying from the course head. I have good grades in literally every other course, how i am failing this one is out of my knowledge
  
- good
- He was great but very trivial and its very difficult to get marks with him cause its very difficult to please him.
- It was good
- Amazing experience. Other than making the classes interesting and helpful to learn the concepts, he gave individual attention and made sure everyone's on the same page in the course. Very understanding, gave constructive feedback, made recommendations for resources to ease the learning process. Was always available to assist.
- An Excellent experience taking this course with Sir Waqar. Loved him a lot and how he always worked for our betterment for example the inclusion of in-class quizzes, giving feedback on them was a very hard job to do and he did exactly that to help us improve in this course
- Ans: It was good
- The instructor's way of teaching whether it be online or in person really made the course interesting for me. Light humor integrated with teaching made his classes so fun.

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### Additional comments:

- The canvas website could have been more organized. It would have also been better if there was a separate canvas page for different sections.
- Youtube videos provided for last few topics (Halls theorem, four colour theorem, travelling salesman problem) not sufficient to understand the topic. Those topics are not in the book or in the slides either.
- Has to be the most stimulating course I have taken at Habib so far. Actually made me think and reason.

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### Student Self Evaluation Section:

