Dear Professor Kartik Mohanram:

Student Opinion of Teaching Questionnaire Results

This form contains evaluation results for DIGITAL LOGIC (ECE-0132).

Attached is a report in PDF format containing your Student Opinion of Teaching Survey results from last term. The report is best viewed and/or printed in color.

The evaluation results are broken down into three distinct categories. The first part of the report shows a breakdown of student responses to the quantitative questions. For each item, the number of students (n) who responded, the average or mean (av.) and standard deviation (dev.) are displayed next to a chart or histogram that shows the percentage of the class who responded to each option for that question. The percentages are above the number on the rating scale which increases from left to right, i.e. the number 1 equals the least favorable rating and the number 5 equals the most favorable rating. The sum of percentages will equal 100%. A red mark is displayed on the chart where the average or mean is located. To calculate how many students responded to each option, multiply the number of students who answered the question by the percentage for that option. For example, if 14 students answered the question and 50% responded to option 3 then 7 students marked option 3 for that item (14 x .50 = 7).

The standard deviation is a common measure of dispersion around the mean that may be useful in interpreting the results.

If your school had previously calculated norms, they will be on OMET’s website (omet.pitt.edu).

The second part displays individual comments to each question in the open-ended section of the evaluation. All the responses to the first question will be listed together after the first question and then the responses to the next question will be listed together after the next question, and so on.

The final part gives you a profile of the student responses to the quantitative section of the evaluation. This is a chart listing all of the means for the scaled items with a dashed red line connecting the means.

If the number of respondents for any of the scaled items is fewer than seven, please be cautious in interpreting the quantitative results.

Office of Measurement and Evaluation of Teaching (OMET)
1. SELF RATINGS

1.1) Compared to other courses at the same level, the amount of work I did was:

- Much less
- Much more

n=34  av.=3.71  dev.=0.76

1.2) In this course I have learned:

- Much less
- Much more

n=34  av.=4.26  dev.=1.05

1.3) The grade I expect in this course is:

A 44.1%  n=34
B 44.1%
C 8.8%
D 2.9%
F 0%
Other 0%

2. TEACHING EVALUATION

2.1) The instructor presented the course in an organized manner.

- Hardly at all
- To a very high degree

n=34  av.=4.68  dev.=0.59

2.2) The instructor stimulated my thinking.

- Hardly at all
- To a very high degree

n=34  av.=4.71  dev.=0.52

2.3) The instructor evaluated my work fairly.

- Hardly at all
- To a very high degree

n=34  av.=4.59  dev.=0.59

2.4) The instructor made good use of examples to clarify concepts.

- Hardly at all
- To a very high degree

n=34  av.=4.38  dev.=1.07

2.5) The instructor maintained a good learning environment.

- Hardly at all
- To a very high degree

n=33  av.=4.73  dev.=0.63

2.6) The instructor was accessible to students. (Do not answer if no basis to judge)

- Hardly at all
- To a very high degree

n=28  av.=4.84  dev.=0.73
2.7) Express your judgment of the instructor’s overall teaching effectiveness:

- 0%
- 3.1%
- 6.3%
- 25%
- 65.6%
- Excellent

n = 32
av. = 4.53
dev. = 0.76

2.8) Would you recommend this course to other students?

- Definitely not: 2.9%
- Probably not: 8.8%
- Probably yes: 23.5%
- Definitely yes: 64.7%

n = 34

2.9) Would you recommend this instructor to other students?

- Definitely not: 2.9%
- Probably yes: 17.6%
- Definitely yes: 79.4%

n = 34

3. SWANSON SCHOOL OF ENGINEERING ADDITIONAL ITEMS- select only one answer for each item

3.1) ability to use math concepts to solve engineering problems.

- Not at all: 14.7%
- A great deal: 35.3%

n = 34
av. = 3.47
dev. = 1.46

3.2) ability to use chemistry concepts to solve engineering problems.

- Not at all: 84.8%
- A great deal: 3%

n = 33
av. = 1.3
dev. = 0.88

3.3) ability to use physics concepts to help solve engineering problems.

- Not at all: 55.9%
- A great deal: 8.8%

n = 34
av. = 1.88
dev. = 1.27

3.4) ability to use engineering concepts to help solve problems.

- Not at all: 2.9%
- A great deal: 44.1%

n = 34
av. = 4.12
dev. = 1.01

3.5) ability to design an experiment to obtain measurements or gain additional knowledge about a process.

- Not at all: 38.2%
- A great deal: 17.6%

n = 34
av. = 2.88
dev. = 1.57

3.6) ability to analyze and interpret engineering data.

- Not at all: 5.9%
- A great deal: 35.3%

n = 34
av. = 3.91
dev. = 1.14

3.7) ability to design a device or process to meet a stated need.

- Not at all: 6.1%
- A great deal: 66.7%

n = 33
av. = 4.24
dev. = 1.28
ability to function effectively in different team roles.

ability to formulate and solve engineering problems.

ability to use laboratory procedures and equipment.

ability to use software packages to solve engineering problems.

ability to use CAD software.

knowledge of professional and ethical responsibility.

ability to write reports effectively.

ability to make effective oral presentations.

knowledge about the potential risks (to the public) and impacts that an engineering solution or design may have.

ability to apply knowledge about current issues (economic/environmental/political/societal/etc.) to engineering-related problems.

appreciation of the need to engage in life-long learning.

4. TEACHING COMMENTS

4.1) What were the instructor’s major strengths?

- very knowledgeable and welcomes questions
- EVERYTHINY. best teacher ever
- Engaging the class and conveying the information in a manner that is easy to follow manner.
- Explained concepts really well. He was very passionate about the material and seemed to enjoy teaching the class. He is very fair in grading and tests are well constructed and test our knowledge effectively.
- Explained topics well, good notes
- Explanation of topics.
- Extremely knowledgeable about the material. Did a superb job in tying very confusing material to real life situations. Overall a great professor.
- Great examples. Very thorough explanations.
- He cared for the students' learning and provided many opportunities for students to stretch their brains
- He gave a lot of good background information on the history of computer hardware, which I found very interesting and informative.
- He is very effective at explaining concepts through examples and lecture.
- He is very enthusiastic about the course material. I really enjoyed his tangents about where our current topic is used in industry or its history. The lecture flew by because the course material was made interesting and thought provoking. He is by far my best professor I have had in my college career.
- He relates material very nicely to more understandable content. Also, he give students a glimpse into what the industry is currently at as far as the technology related to what we are learning.
- I really liked how you presented the material and then followed it up by using examples to clarify the material.
- Overall he is simply a great teacher, does a great job with the work he is given.
- Professor Mohanram has well organized and structured lectures. His challenging assignments and exam made sure you understood the material. His personal experience in the field made his lectures interesting and thought provoking. All in all Professor Mohanram was an excellent professor and will definitely be taking his course next semester.
- Professor Mohanram is a great instructor. He presents material in a way that is very easy to understandable, stimulated our thinking, and was always very helpful. I learned a lot from this course and always felt challenged. I am very happy I took this course with him.
- Real-world relation to our topics
- The instructor was very organized and easy to follow. He made a great effort to teach everything effectively.
- Very energetic, and motivated/interested in the material. Tells great stories about the computer/electrical engineering industries that recharge the students' energy. Very organized, fair exams, very knowledgeable in course material and electrical/computer engineering overall.
- Very good explanations. Made sure everyone was on board before going on to the next topics. Kept everything interesting. Gave real world examples to give us a feel for what we could be doing if we pursue a career in this field. One of the few teachers at Pitt who cares about his students.
- Very interesting in teaching and fair in grading.
- Very knowledgeable and came prepared everyday
- Very passionate and knowledgeable
- We were taught by 5 different people, and only Kartik explained digital logic so well. Class was fun and interesting and he'd always explain the material until we understood it.
- explaining concepts very clearly, organized teaching style (notes on board before class, makes lecture flow well)
- knowledgeable
  applied what we were doing to the real world even though it was a little too hard for me to conceive with the current knowledge of the subject

42) What were the instructor's major weaknesses?
- none
- He did tend to talk pretty fast during class.
- He sometimes spends too much time on topics that are less significant to the course like pla's.
His tests are not good evaluations for students' levels of comprehension of the course material.

N/A

Need more real examples rather than just the basic skeleton of how to solve things

No comments here.

None

None. (4 Counts)

Sometimes a disconnect from the class's understanding of material and his presentation, very rare though

Sometimes could have gone a bit quicker in lecture.

The homework's were a little ambiguous compared to the examples demonstrated in class, but this issue is reconciled by the fact that the professor and TA are not too strict on grading the homework assignments.

There sometimes a slight disconnect with the notes and Professor Mohanram's teaching since he was using Professor Jacob's notes. I wonder if there would have been a slightly better flow if Professor Mohanram wrote his own notes for the course. But this is a minor detail. I am still very pleased with this class.

Very limited office hours that are T and Thurs 1-2 which is when another major required course is (COE 401) so I could never go. Left for two weeks and tested over material he never went over. Test were more in depth than class room material is some cases and didn't feel it was a fair representation.

Went a little fast at times, but not impossible to keep up with.

difficult to take notes

not very good examples

lectures are "action-packed," can be hard to keep up (otherwise appreciated, love learning a lot)

none

none.

none.

nothing

5. COURSE COMMENTS

5.1) What aspects of this course were most beneficial to you?

all

All of it.

Attending lectures.

Everything.

Homework

Homework and tests were just the right difficulty.

I am sure what we learned will come in handy someday in the future.

Learning about transistors and how a computer or a cpu can use transistors to effectively process data

Lecture

Made me figure out everything. Very challenging but incredibly rewarding

N/A

Quizzes. The book was well written.
The homework assignments.

The homework assignments.

The homework really solidified my understanding of the material.

The lectures.

The material was really useful and I felt I was learning important engineering concepts. It provided me with a broad knowledge of digital logic. The homework really exemplified how I can use the concepts I learned in class to real solve problems.

Top to bottom a great class. Definitely industrial insight as well as applicable concepts will be the things I take from this class.

everything

homeworks, recitations

it taught me the fundamentals of digital logic

52) What suggestions do you have to improve the course?

For many of the homeworks I was stuck on a couple things. We didn't really get any concrete examples that related to the homework which has been unlike any other class I have ever had. So sometimes this was beneficial to me because I had to make the connection myself, and other times it was agonizing because we had no way of making the connection. But if the lectures were slightly more directed toward the homework it would've helped a lot and I don't think I would have struggled for so long on all of the homeworks. And it was very hard to get a feel for what was going to be on any of the tests. It was very ambiguous and broad and so I wasn't too sure on what to study.

I really just didn't like this course--I enjoyed having Kartik though.

Introduce some assignments or extra credit using VHDL or another hardware description language.

It's probably in a later course, but a VHDL or verilog assignment would be interesting

Make more homework assignments with less work in each. Essentially spread the work out a bit more.

More examples in class of possible problems that we might see.

N/A (2 Counts)

No comment here either.

None

None. Perfect!

Nothing.

Nothing...it was excellent.

Shorten the homework assignments.

Some smaller assignments that help get the concepts down.

The course is fairly well conducted already and I don't think any major changes are necessary. Maybe more office hours from the professor or TA because the class material can be challenging sometimes.

Weekly homework assignments would increase understanding and keep the students' skills from getting rusty.

go over more examples for each concept (problems that could show up on quiz or exam)

none

none.
Profile

1. SELF RATINGS

1.1) Compared to other courses at the same level, the amount of work I did was:
   - Much less
   - Much more
   n=34  av.=3.71  md=4.00  dev.=0.76

1.2) In this course I have learned:
   - Much less
   - Much more
   n=34  av.=4.26  md=5.00  dev.=1.05

2. TEACHING EVALUATION

2.1) The instructor presented the course in an organized manner.
   - Hardly at all
   - To a very high degree
   n=34  av.=4.68  md=5.00  dev.=0.59

2.2) The instructor stimulated my thinking.
   - Hardly at all
   - To a very high degree
   n=34  av.=4.71  md=5.00  dev.=0.52

2.3) The instructor evaluated my work fairly.
   - Hardly at all
   - To a very high degree
   n=33  av.=4.59  md=5.00  dev.=0.89

2.4) The instructor made good use of examples to clarify concepts.
   - Hardly at all
   - To a very high degree
   n=34  av.=4.38  md=5.00  dev.=1.07

2.5) The instructor maintained a good learning environment.
   - Hardly at all
   - To a very high degree
   n=33  av.=4.73  md=5.00  dev.=0.63

2.6) The instructor was accessible to students. (Do not answer if no basis to judge)
   - Hardly at all
   - To a very high degree
   n=28  av.=4.64  md=5.00  dev.=0.73

2.7) Express your judgment of the instructor's overall teaching effectiveness:
   - Ineffective
   - Excellent
   n=32  av.=4.53  md=5.00  dev.=0.76

3. SWANSON SCHOOL OF ENGINEERING ADDITIONAL ITEMS- select only one answer for each item

3.1) ability to use math concepts to solve engineering problems.
   - Not at all
   - A great deal
   n=34  av.=3.47  md=4.00  dev.=1.46

3.2) ability to use chemistry concepts to solve engineering problems.
   - Not at all
   - A great deal
   n=33  av.=1.30  md=1.00  dev.=0.88

3.3) ability to use physics concepts to help solve engineering problems.
   - Not at all
   - A great deal
   n=34  av.=1.88  md=1.00  dev.=1.27

3.4) ability to use engineering concepts to help solve problems.
   - Not at all
   - A great deal
   n=34  av.=4.12  md=4.00  dev.=1.01

3.5) ability to design an experiment to obtain measurements or gain additional knowledge about a process.
   - Not at all
   - A great deal
   n=34  av.=2.68  md=3.00  dev.=1.57

3.6) ability to analyze and interpret engineering data.
   - Not at all
   - A great deal
   n=34  av.=3.91  md=4.00  dev.=1.14

3.7) ability to design a device or process to meet a stated need.
   - Not at all
   - A great deal
   n=33  av.=4.24  md=5.00  dev.=1.28

3.8) ability to function effectively in different team roles.
   - Not at all
   - A great deal
   n=34  av.=2.06  md=1.50  dev.=1.35
<table>
<thead>
<tr>
<th>Statement</th>
<th>Rating</th>
<th>n</th>
<th>mean</th>
<th>median</th>
<th>standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9) ability to formulate and solve engineering problems.</td>
<td>Not at all</td>
<td>34</td>
<td>3.74</td>
<td>4.00</td>
<td>1.40</td>
</tr>
<tr>
<td>3.10) ability to use laboratory procedures and equipment.</td>
<td>Not at all</td>
<td>34</td>
<td>1.53</td>
<td>1.00</td>
<td>1.05</td>
</tr>
<tr>
<td>3.11) ability to use software packages to solve engineering problems.</td>
<td>Not at all</td>
<td>34</td>
<td>1.71</td>
<td>1.00</td>
<td>1.27</td>
</tr>
<tr>
<td>3.12) ability to use CAD software.</td>
<td>Not at all</td>
<td>34</td>
<td>1.35</td>
<td>1.00</td>
<td>1.07</td>
</tr>
<tr>
<td>3.13) knowledge of professional and ethical responsibility.</td>
<td>Not at all</td>
<td>34</td>
<td>2.59</td>
<td>2.00</td>
<td>1.56</td>
</tr>
<tr>
<td>3.14) ability to write reports effectively.</td>
<td>Not at all</td>
<td>33</td>
<td>1.50</td>
<td>1.00</td>
<td>1.24</td>
</tr>
<tr>
<td>3.15) ability to make effective oral presentations.</td>
<td>Not at all</td>
<td>33</td>
<td>1.42</td>
<td>1.00</td>
<td>1.12</td>
</tr>
<tr>
<td>3.16) knowledge about the potential risks (to the public) and impacts that an engineering solution or design may have.</td>
<td>Not at all</td>
<td>34</td>
<td>2.79</td>
<td>3.00</td>
<td>1.59</td>
</tr>
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<td>3.17) ability to apply knowledge about current issues (economic/environmental/political/societal/etc.) to engineering-related problems.</td>
<td>Not at all</td>
<td>33</td>
<td>2.70</td>
<td>3.00</td>
<td>1.45</td>
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<td>3.18) appreciation of the need to engage in life-long learning.</td>
<td>Not at all</td>
<td>33</td>
<td>3.45</td>
<td>4.00</td>
<td>1.42</td>
</tr>
</tbody>
</table>