There were: 41 possible respondents.

<table>
<thead>
<tr>
<th>Question Text</th>
<th>N</th>
<th>RR</th>
<th>Avg</th>
<th>MATH Avg</th>
<th>MATH SP14</th>
<th>Div Avg</th>
<th>Div SP14</th>
<th>Sch Avg</th>
<th>Sch SP14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp Instructor Questions (RASSOUL-AGHA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grp Course Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Objectives clearly stated</td>
<td>32</td>
<td>78%</td>
<td>4.84</td>
<td>5.12</td>
<td>5.10</td>
<td>5.23</td>
<td>5.18</td>
<td>3% (1)</td>
<td>9% (3)</td>
</tr>
<tr>
<td>2 Objectives met</td>
<td>31</td>
<td>76%</td>
<td>5.06</td>
<td>5.06</td>
<td>5.05</td>
<td>5.20</td>
<td>5.10</td>
<td>3% (1)</td>
<td>6% (2)</td>
</tr>
<tr>
<td>3 Content well-organized</td>
<td>31</td>
<td>76%</td>
<td>5.06</td>
<td>4.99</td>
<td>4.97</td>
<td>5.11</td>
<td>5.03</td>
<td>3% (1)</td>
<td>3% (1)</td>
</tr>
<tr>
<td>4 Course materials helpful</td>
<td>31</td>
<td>76%</td>
<td>4.71</td>
<td>4.90</td>
<td>4.91</td>
<td>5.09</td>
<td>5.05</td>
<td>3% (1)</td>
<td>6% (2)</td>
</tr>
<tr>
<td>5 Assignments &amp; exams covered the course</td>
<td>31</td>
<td>76%</td>
<td>4.58</td>
<td>5.05</td>
<td>4.94</td>
<td>5.16</td>
<td>5.09</td>
<td>3% (1)</td>
<td>10% (3)</td>
</tr>
<tr>
<td>6 Learned great deal</td>
<td>32</td>
<td>78%</td>
<td>4.91</td>
<td>4.89</td>
<td>4.91</td>
<td>5.09</td>
<td>5.00</td>
<td>6% (2)</td>
<td>6% (2)</td>
</tr>
<tr>
<td>7 Overall effective course</td>
<td>32</td>
<td>78%</td>
<td>4.91</td>
<td>4.88</td>
<td>4.88</td>
<td>5.09</td>
<td>5.02</td>
<td>6% (2)</td>
<td>3% (1)</td>
</tr>
<tr>
<td>9 Instructor was organized (RASSOUL-AGHA)</td>
<td>32</td>
<td>78%</td>
<td>5.16</td>
<td>5.07</td>
<td>5.06</td>
<td>5.14</td>
<td>5.23</td>
<td>3% (1)</td>
<td>3% (1)</td>
</tr>
<tr>
<td>10 Instructor presented effectively (RASSOUL-AGHA)</td>
<td>32</td>
<td>78%</td>
<td>4.66</td>
<td>4.86</td>
<td>4.89</td>
<td>5.19</td>
<td>5.12</td>
<td>6% (2)</td>
<td>3% (1)</td>
</tr>
<tr>
<td>11 Instructor created respectful environment (RASSOUL-AGHA)</td>
<td>31</td>
<td>76%</td>
<td>5.13</td>
<td>5.17</td>
<td>5.18</td>
<td>5.57</td>
<td>5.34</td>
<td>5.56</td>
<td>3% (1)</td>
</tr>
<tr>
<td>12 Demonstrated thorough knowledge (RASSOUL-AGHA)</td>
<td>32</td>
<td>78%</td>
<td>5.5</td>
<td>5.31</td>
<td>5.29</td>
<td>5.67</td>
<td>5.43</td>
<td>5.61</td>
<td>3% (1)</td>
</tr>
<tr>
<td>13 Instructor encouraged questions/ opinions (RASSOUL-AGHA)</td>
<td>32</td>
<td>78%</td>
<td>4.97</td>
<td>5.15</td>
<td>5.15</td>
<td>5.33</td>
<td>5.34</td>
<td>5.42</td>
<td>3% (1)</td>
</tr>
<tr>
<td>14 Instructor available for student consultation (RASSOUL-AGHA)</td>
<td>32</td>
<td>78%</td>
<td>5.41</td>
<td>5.20</td>
<td>5.14</td>
<td>5.29</td>
<td>5.30</td>
<td>5.40</td>
<td>3% (1)</td>
</tr>
<tr>
<td>15 Overall effective instructor (RASSOUL-AGHA)</td>
<td>32</td>
<td>78%</td>
<td>5.06</td>
<td>4.99</td>
<td>5.00</td>
<td>5.14</td>
<td>5.23</td>
<td>5.22</td>
<td>9% (3)</td>
</tr>
</tbody>
</table>

**Instructor**

**Question: Comments on course effectiveness**

The exams were way to hard compared to the homework and in class work. It feels like he want you to fail the tests.

I would love it if we had turned in homework regularly. I could just try and be responsible but it's always easier to do homework when it needs to be turned in. I like that the lectures included some analysis.

The homework and book did not prepare you for the tests. Lectures were helpful but moved VERY fast.

Some problems did not have solutions which was problematic as the best way to learn the material and prepare for exams were the homework problems. This was only a minor inconvenience and overall the course was effective.

Get rid of Ash's book, or at least type up the answers for his solutions. They were very vague, and sometimes they didn't match up the questions that were being asked on our homework.

I think the course could be organized a little better, sometimes it is hard to follow what is happening.

This course was very rigorous in terms of amount of material covered. I'd suggest indicating this in the course description so students are forewarned. Double integrals are a MUST, as a pre-req.

Material is organized well and it is taught very well

Rename the damn thing. Intro in the title usually means simple. This however, required a ton of previous knowledge in mathematics.

A syllabus would be very helpful.

It was a little obnoxious having to refer to another author's website and book for some of the weekly assignments and solutions, especially considering slight differences in notation that made it difficult for someone learning much of the notation for the first time anyway. Other than than the supplied course notes were very thorough, applicable, and easy to follow.
I thought it was great. Office hours were very helpful. Would like to see more fully explained solutions if the homework is not turned in.

Very difficult and rewarding class. Emphasis on the difficulty.

The tests did seem fair, but some of the homework problems seemed very hard and unusual relative to the material in the class.

The notes were helpful to follow along in lecture, but not helpful if you were trying to go back and relearn the material or clarify something. The lack of solutions was frustrating. Having to go to the Ash book which used completely different notation was very frustrating at times. Changing the syllabus to include quizzes was another frustrating change that occurred.

Wish we had more time for quizzes/midterms!

This course was not quite what was expected, but not necessarily in a bad way. I have two criticism about the course materials and design: 1) while I do definitely appreciate them, I think they still need some improvement. For one, I feel that sometimes the chapters don't quite tie into each other outside of the larger topical blocks. I don't have a good suggestion for how to improve that myself to be honest, but sometimes it just felt the lectures were more pieces rather than a unified whole. Regarding solutions, I really liked the solutions written up by Dr. Firas. However, especially towards some later chapters, he frequently just writes see Ash, exercise X. While Ash does provide solutions, I find them inferior to the ones provided by Dr. Firas, who makes an effort to point out why we do one thing or another; this is completely absent from Ash, who tends to just provide the solution without comment. I'd love to see Dr. Firas add comments on those exercises over time. 2) I did not like the way the weekly quiz was set up. I'd rather either not have had the quiz or had homework collected. I feel the particular class strategy was a poor compromise. In general, the quizzes had a deep impact on the grade, since we were graded on a scale of 0-3. So any mistakes lead to a max of 66% on the quizz, which is unnecessarily punitive I feel. Additionally, the quizzes were very short but often also complex. It fostered an attitude where one attempted to just memorize the solutions. This obviously is not very useful. It also leads to bad quiz results in some cases; I know of at least two of the easier quizzes where I just gave up early because I couldn't recall the solution; but thinking about it after, it would have been possible to think through the solution and get at least the 66%. In general, I'd either stick with collecting homework or not doing homework at all and simply counting the exams alone. While I would agree that this is in general a student responsibility, here's just one more thought: The course after about half wound up being significantly more calculus heavy than anticipated. While Dr. Firas did point this out on his course page (kudos), it wasn't really apparent in the early course material. What might be nice would be to include a link or two on the course page to a calculus review or cheat sheet on integrals of the type encountered in this course.

The quizzes were effective in providing weekly checkpoints. There was very little preparation for the tests, however. Much of the tests were based on the homework, but there was always a large portion of the test that was not from the homework or notes, and was nearly impossible to prepare for. More help in preparing for the tests, or simply testing on what was in the homework would be very appreciated.

The materials are very helpful. The design of the course that we have every week quiz is effective for my learning.

Question: Comments, suggestions on instructor performance

RASSOUL-AGHA
This is a tough course, but Firas was more than willing to meet and help me figure out problems. He follows the book to a T, so if I had to miss a class, I knew exactly what I was missing. He was very organized.

RASSOUL-AGHA
The instructor definitely knew the material and could provide further depth and context if needed. However, the extra help was often needed as regular class sessions were sometimes confusing.

RASSOUL-AGHA
Would not accept any fault in bad grades. He could do no wrong only we (the students) were to blame. Curve the grades!!

RASSOUL-AGHA
Firas is very approachable for office hours, which is nice because sometimes professors scare me. I never think there are enough pictures, so I say draw more! It's especially helpful in this class.

RASSOUL-AGHA
Sometimes he moves a little fast, which makes the material hard to follow, but he will slow down if asked and has a really concrete understanding of the material presented.

RASSOUL-AGHA
Very kind and very helpful

RASSOUL-AGHA
Firas knows his stuff well. It felt like he had a super busy schedule after the class but still he did manage to find time to answer questions so I admire him for that. He is not an easy A instructor but I sure learned a lot in this class, and the effort I put was worth it.

RASSOUL-AGHA
Energetic, helpful

RASSOUL-AGHA
He knew the material and I enjoyed his teaching for the most part, but sometimes it was not presented as clearly as it could have been.

RASSOUL-AGHA
It was perfect. Wish I had thought to email my questions in earlier in the semester

RASSOUL-AGHA
Loved Firas. Great professor, really bright and enthusiastic. Merciless.

RASSOUL-AGHA
I found the lectures effective and he was helpful when I consulted with him when I was stuck on homework problems.

RASSOUL-AGHA
Firas was very helpful in office hours and explained things in depth with time. Very passionate and interested in the subject. I would have appreciated if the instructor would have taken some of the examples a bit more in depth and explained in which situations they would be used a little bit more. Working out some of the trickier calculus rather than skipping steps would have been helpful.

RASSOUL-AGHA
I think one issue that I felt in class was related to the way the lecture notes were structured; since they were structured to be 1 chapter - 1 class lecture, there was a lot of pressure to finish each period, with some overlap, but not always, and some overtime, etc. This got a bit confusing and sometimes seemed oddly forced. I think it might have been useful to be more flexible with the timeschedule, to allow for speeding up on some of the easier material in order to spend more time on the more complex materials. In addition, it would be nice to have more examples in class of interesting problems in the form of applications. I feel a large part of this course was just very theoretic, with too few applications (and those typically from gambling). While there's nothing wrong with that per se, I would've liked to see some more real problem set ups, and talked about how the material from class could help solve some of these. Not even necessarily *solving* them, but at least setting up some such problems, and working out what we can apply. A couple of fun bio-related problems for example can be seen here at Rosalind (http://rosalind.info/problems/topics/probability/). I liked the Independent Allele problem as a nice application of binomials.

RASSOUL-AGHA
The way Professor gave this class is quite efficient, and he always tried to demonstrate a question in a easy way that students can understand. Also, the instructor provided some related materials online, which can help me to study more as I like.