Institutional Reporting and Analysis (IRA)
Single Course Report

This report shows single course assessment questions and responses for courses with five or more enrolled.

### Course Assessment

**Report ID:** CAS010 v2.1.0

**Date:** 3/18/2013 11:03:52 PM

**Course:** COSC 050 Software Design & Implement'n

**Section:** 01

**Term:** 201203 - Spring Term 2012

**Instructor:** Andrew T. Campbell

**Total Enrollment:** 39

**Eligible to Complete Assessment:** 39

**Completed Assessment:** 36

**Did Not Complete Assessment:** 3

### Course Assessment Summary - Single Course

<table>
<thead>
<tr>
<th>Term (required)</th>
<th>Subject (required)</th>
<th>Course (required)</th>
<th>Section (required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>201203 - Spring Term 2012</td>
<td>COSC - Computer Science</td>
<td>050 - Software Design &amp; Implement'n</td>
<td>01</td>
</tr>
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</table>

### Individual Responses Student Background

#### Reasons for taking course (35 Responses)

<table>
<thead>
<tr>
<th>Reason(s) for taking course</th>
<th>Distributive</th>
<th>Major</th>
<th>Minor</th>
<th>Professor</th>
<th>Interest</th>
<th>Masters/PhD</th>
<th>Masters/PhD Requirement</th>
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<tbody>
<tr>
<td>&lt; 20% Attendance in this course</td>
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<td>0%</td>
<td>60-80%</td>
<td>85.7%</td>
<td>0%</td>
<td>0%</td>
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#### Expected Grade (35 Responses)

<table>
<thead>
<tr>
<th>Grade</th>
<th>201203 - Spring Term 2012</th>
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<tbody>
<tr>
<td>A</td>
<td>95.9%</td>
</tr>
<tr>
<td>B</td>
<td>67.1%</td>
</tr>
<tr>
<td>C</td>
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<td>P</td>
<td>0%</td>
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<tr>
<td>HP</td>
<td>0%</td>
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#### Hours/week spent on coursework outside class (35 Responses)

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<th>5-10</th>
<th>10-15</th>
<th>&gt; 15</th>
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<td>0%</td>
<td>1.5</td>
<td>5.10</td>
<td>10.15</td>
<td>15</td>
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</table>

### Individual Responses Course Design and Effectiveness

#### I think the overall quality of the course was (35 Responses)

<table>
<thead>
<tr>
<th>Median</th>
<th>Mean T.T.</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Excellent)</td>
<td>(Very Good)</td>
<td>60%</td>
<td>48.6%</td>
<td>14.3%</td>
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<td>0%</td>
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</tr>
<tr>
<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
<td>97.1%</td>
<td>2.9%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

#### I learned a lot in the course. (35 Responses)

<table>
<thead>
<tr>
<th>Median</th>
<th>Mean T.T.</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>N/A</th>
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</thead>
<tbody>
<tr>
<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
<td>62.9%</td>
<td>37.1%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>2.9%</td>
</tr>
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</table>

#### I put a great deal of effort into the course. (35 Responses)

<table>
<thead>
<tr>
<th>Median</th>
<th>Mean T.T.</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
<td>48.6%</td>
<td>28.6%</td>
<td>14.3%</td>
<td>5.7%</td>
<td>2.9%</td>
<td>2.9%</td>
</tr>
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</table>

#### I was intellectually engaged in the course. (35 Responses)

<table>
<thead>
<tr>
<th>Median</th>
<th>Mean T.T.</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
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<th>Poor</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
<td>85.3%</td>
<td>14.7%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

#### The objectives of the course were clear to me. (35 Responses)

| Comment on the aspects of the course that you think were most effective: (22 Responses) | View Responses |
| Comment on 1-3 aspects of the course that could be improved or enhanced: (24 Responses) | View Responses |
| Comment on the aspects of the course that could be improved or enhanced (24 Responses) | View Responses |

### Individual Responses Faculty (Andrew T. Campbell)

#### I think the overall effectiveness of the teaching was (34 Responses)

<table>
<thead>
<tr>
<th>Median</th>
<th>Mean T.T.</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>N/A</th>
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<tbody>
<tr>
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<td>(Very Good)</td>
<td>55.9%</td>
<td>23.5%</td>
<td>11.8%</td>
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</tr>
<tr>
<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
<td>52.9%</td>
<td>38.2%</td>
<td>5.9%</td>
<td>2.9%</td>
<td>0%</td>
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</table>

#### The professor set high standards (34 Responses)

<table>
<thead>
<tr>
<th>Median</th>
<th>Mean T.T.</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
<th>N/A</th>
</tr>
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<tbody>
<tr>
<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
<td>61.8%</td>
<td>32.4%</td>
<td>5.9%</td>
<td>0%</td>
<td>0%</td>
<td>2.9%</td>
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</table>

#### The professor explained central concepts clearly (34 Responses)

<table>
<thead>
<tr>
<th>Median</th>
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<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
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<tbody>
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<td>1 (Strongly Agree)</td>
<td>(Strongly Agree)</td>
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<td>32.4%</td>
<td>5.9%</td>
<td>0%</td>
<td>0%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

#### The professor challenged me to think critically about the course material (34 Responses)

<table>
<thead>
<tr>
<th>Median</th>
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<th>Very Good</th>
<th>Good</th>
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<td>32.4%</td>
<td>5.9%</td>
<td>0%</td>
<td>0%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>
The professor was available for consultation outside of class (32 Responses)

- 1 (Strongly Agree) 1.4 (Strongly Agree) 62.5% 34.4% 3.1% 0% 0% 6.3%

Comment on 1-3 things that the professor did well and should continue to do in the future: (21 Responses)

- View Responses

Comment on 1-3 things that the professor should focus on to improve his or her classroom effectiveness: (16 Responses)

- View Responses

Add any specific recommendations on how the professor is assessing the course work and giving feedback to students that you believe would be useful: (10 Responses)

- View Responses

Individual Responses Departmental/Program Questions

The professor makes it possible to ask questions in class. (34 Responses)

- 1 (Strongly Agree) 1.3 (Strongly Agree) 70.6% 29.4% 0% 0% 0% 2.9%

The exams were a fair test of course material. (11 Responses)

- 1 (Strongly Agree) 1.2 (Strongly Agree) 90.9% 0% 9.1% 0% 0% 218.2%

The reading helped me learn the material. (32 Responses)

- 2 (Agree) 2.3 (Agree) 28.1% 31.3% 28.1% 9.4% 3.1% 6.3%

How did you find the pace of the course? (22 Responses)

- View Responses

COURSE ASSESSMENT REPORTS - Non-Faculty Specific Comments

Course: COSC 050 Software Design & Implementation
Term: 201203 - Spring Term 2012
Instructor: Andrew T. Campbell

Question Section Departmental/Program Questions

Question: How did you find the pace of the course?

1. Fast, but necessary.
2. Fast.
3. Good.
4. It was fast - as I expected it to be.
5. It was fast paced, but that was fine given the nature of the course.
6. It was very fast. Though we get two 48-hour extensions, if you use them early on it will put you behind for the rest of the labs during the rest of the term.
7. Obviously very fast and demanding course, but a great course. I have no problem with it, but do make sure you continue to warn students of this for the first few classes.
8. Perfect- it was very challenging at times, but I enjoyed almost all of the time I spent on this class (minus the time I spent searching for errant parenthesis in my code).
9. Quite fast
10. Reasonable
11. SO. SO. SO FAST. I know that's how it has to be, but I'm not gonna say it was slow.
12. The class was paced really fast!! Definitely not a class to take with another demanding class.
13. The course was very challenging and I'm glad that my other classes this term did not require as much work as this class did. The pace was good, and it was very helpful to know at the beginning of the course when the workload was going to get much harder, as it did with the Tiny Search Engine set of labs. Knowing that these would be particularly challenging ahead of time helped me organize my schedule.
14. Too fast
15. Very fast and demanding
16. Very fast and high efficient
17. Very fast, but not unfairly so.
18. Very fast, especially after the first few weeks. Very challenging to undertake.
20. I loved the pace of the course. It was a fantastic course overall.
21. well-paced

Course: COSC 050 Software Design & Implementation
Term: 201203 - Spring Term 2012
Instructor: Andrew T. Campbell

Question Section Course Design and Effectiveness

Question: Comment on the aspects of the course that you think were most effective:

1. Great assignments, good structure
2. I learned the computer language of C and how to build up software.
3. I really liked the TSE and robot lab as the main learning points of the course. It really emphasizes knowledge of unix, sockets, and threads, which I am grateful to have.
4. I thought it was an effective introduction to some lower level concepts
5. Self-teach

https://ira.dartmouth.edu/analytics/ saw.dll?Dashboard&_scid=lHKAECrLLEg
The Tiny Search Engine and the Robot were both very cool. Very practical, learned a lot.

The assignments were very challenging but helped me learn a large amount quickly

The assignments.

The emphasis on figuring things out on your own was good. The course was very rewarding because we actually produced working software

The emphasis on self learning was very helpful to learning not only specific programming concepts, but also how to program in general. In the real world, when you have a question, you Google it, and I learned how to do that effectively for this course.

The lab assignments are where all the true learning is done. They force you to actively go out and learn the material.

The lab assignments were generally quite helpful in reinforcing class material, especially the early labs for learning bash scripting and C. The later labs were less focused in this area, but they were also super interesting and felt relevant.

The labs and lectures were great, RIDICULOUSLY hard, and so much work but I really enjoyed them, I can't think of a ten week period in my life when I have learned more.

The labs were great and really helped me to learn the C programming language and

The projects were fantastic in scope and organization. It was great to produce something so significant throughout the course.

The projects were interesting, and I ended up learning a great deal during each one.

Well-structured labs that integrated many elements of the software development process Sections and design review to ensure students were on the right track

Wow. This really was a fantastic class. On nearly every count—effectiveness of teaching, appropriateness of assignments, what we learned—just great. Loved this class. Of course, it dominated my life, but fair enough—I'm here to learn!

course is in itself an organic effective entity

the extensions were life savers!!! I also liked the diversity of topics addressed and the freedom we had when tackling them. More specifically I liked the fact that we had to refactor our codes for previous assignments!

the labs were well chosen.

very practical labs that reinforced a lot of fundamental skills. this was simultaneously the hardest and most rewarding class I have taken at Dartmouth.

Course: COSC 050 Software Design & Implementation
Term: 201203 - Spring Term 2012
Instructor: Andrew T. Campbell

Question Section Course Design and Effectiveness

Question: Comment on 1-3 aspects of the course that could be improved or enhanced:

1 Correlation between lectured material and actual program assignments wasn't that great.
2 I thought the hardest part about the TSE was working with provided code. Although it would greatly increase the challenge, I might suggest rearranging the course so that everything was written from scratch by the student.
3 I would have liked to see an overall design of the TSE at the start, so I wouldn't have had to refactor my functions again with every new component.
4 It is one of the best course I have ever taken.
5 It took me awhile to realize that by the time we covered certain material in class, we probably already needed to know it to be on top of the lab assignments. It would be helpful if the emphasis on self-learning was made more explicit by the instructor at the beginning of the class.
6 It would have been better if the lectures followed the schedule so important information needed to complete the labs could be covered fully in class before students have to get to work. The Garcia tutorial was rushed and not clearly explained. Perhaps the professor instead of the TA could have conducted the lecture on this topic. The Makefile and library making concepts were barely explained. Students were expected to work through these problems without much understanding about the underlying mechanics of these tools. I felt that this was very frustrating and actually made debugging them a lot harder.
7 Lectures were pretty ineffective.
8 More relevant lectures, more interesting lectures
9 Please have everything graded before the query engines so we won't be punished for the same mistakes in indexer twice.
10 Some of the side-concepts such as Makefiles weren't very well explained. It seemed entirely pointless to have us figure out how to use LaTeX for our final reports the day after we completed our final projects. Directions on how to use or convert to LaTeX should at least be included.
11 TA need to be more familiar with the assignment
12 The clarity of the lectures and instructions. Extremely unclear at times. Also requirements were unclear.

The course could have been better organized, and could have given assignments that were more challenging due to the intrinsic difficulty of the problem and not the framework in which they were built.

The course is a MASSIVE time drain – which isn't necessarily bad. The reason why it's frustrating is that most of the time is ineffectively used trying to figure out minute nuances that the professor could have easily explained/warned the students about and thereby helped save hours of mindless google-searching.

The lectures and assignments weren't always timed well together-like we might have to turn in an assignment on the same day that we learned about it in class

The professor was not very organized, many of the webpages were outdated and unorganized, and many times there was a disconnect between what the professor would say and what the TA would say/do (in particular having to do with grading and penalties for turning things in late. The professor said that it wasn't a big deal to turn things in late as long as it was working code whereas the TA would take off huge amounts of points for turning things in late.) Consistency between the TA and professor would have been nice.

The timing of the lectures is awful - you hear about what you need to know to complete the assignment the day it's due. Be more up front that you have to teach yourself the entire thing. Unit testing is stupid if you don't do it as you go.

There is too, much. work. I'm an avid hiker, but I only went on one hike this past term because I knew that I would have to be in Sudikoff all weekend every weekend. Each lab took me (on average) 25-30 hours to complete.

There was a lot crammed into this class in a short time, and more than any course I've taken at Dartmouth, getting stuck on even one problem could derail the entire term.

There were a lot of times I felt we were trying to cram too much into the course. I don't really see that changing any time soon, as I'm sure a million people have made that complaint as well, but I really do think this would be better if we got rid of some of the random things like memory leaks and unit testing, which are useful and important later in life, but frankly we can't cover everything at once, and maybe we should stop trying.

Two major improvements: 1) the course pages need to be redesigned/clarified. I know this is now part of the CS23 myths, but they're terrible. It's not just spelling mistakes—the biggest problem is on the lab/project pages. They're really cluttered and you have to sift through paragraphs and paragraphs of stuff to find all of the requirements. The pages should be redesigned to have the following clearly-written sections: 1) requirements: a bullet list of the requirements of this lab, exactly what you're looking for 2) introduction: like a publication abstract for the lab 3) background: the rest. your paragraphs of explanation about how stuff works, what to look for, tips, etc. The problem now is that all of this information is all jumbled!!! If you have to use bolded words-like you do--IT'S
BECAUSE YOUR ORGANIZATION AND STRUCTURE ARE TERRIBLE. 2) due dates should be rethought a bit. there is little reason the labs couldn’t be moved earlier a few days and those days used to extend the time especially for the query engine. 3) the query engine needs more time. I know it's the least "new code" of the three TSE labs, but it really took the most time because there's so damned much else to do–make the library, fix memory leaks, make testing script, etc. etc. that are very easy and don't individually take a lot of time but really add up.

We should learn what we need to know before we have to do an assignment having an extension could be extremely useful and would help reduce the stress level involved with the query engine labs. I would have like to see an assignment where we would have to optimize a code we wrote for a previous assignment (because I feel it would also be a great learning experience to have to review a previous code and enhance it (similar to the review process in writing a paper)) more time for labs, or at least don’t make them due on Mondays. This class consumed every weekend I had this term. I also feel like the project was sort of just an add on and not particularly relevant; although very interesting and cool, I don’t think we would be missing much by using that time as extra for labs.

**Course:** COSC 050 Software Design & Implementation
**Term:** 2012-2013 - Spring Term 2012
**Instructor:** Andrew T. Campbell

**Question Section** Course Design and Effectiveness

**Question:** How did you contribute to your own learning experience?

1. As I've already mentioned, a lot of the course material we had to learn on our own through using internet resources and the course book.
2. Class lectures/notes + GOOGLE
3. Did a fuck ton of work.
4. Did extra credit and work
5. Did the assignments!
6. I attended sections, looked up programming resources on the internet when unclear and put in many hours to make sure my lab projects met all expectations
7. I put in extensive work.
8. I read the book and attended office hours.
9. I spent lots of time on the programming labs.
10. I spent many many hours working on the lab assignments, to the point where I was basically working a full time job coding for the class (over 40 hours a week for a number of the labs).
11. I wrote a lot of code.
12. Lots and lots and LOTS of outside the classroom work. Almost every day in the lab for a few hours at a time.
13. Studied a lot independently.
14. Tens of hours each week coding. This class sucked out my soul.
15. Went to most classes, read through all assignments.
16. Coding day and night
17. Went to lab hours

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**COURSE ASSESSMENT REPORTS - My Specific Faculty Comments**

**Course:** COSC 050 Software Design & Implementation
**Term:** 2012-2013 - Spring Term 2012
**Instructor:** Andrew T. Campbell

**Question:** Comment on 1-3 things that the professor did well and should continue to do in the future:

1. Be very friendly and open for help.
2. Engaging lectures for the first half of the term.
3. Engaging, Brought real-world industry experience to the course
4. Everything! Great teaching !!!
5. Focused on the skill sets he wanted us to take out of the class. As such, you knew the essence and purpose of everything he taught you.
6. Great lecturer! And although terrible those jokes really added a nice touch to the class.
7. Great lecturer, Professor Campbell clearly knows what he's doing and he gets where his students are coming from. I felt like he really understood how we all were learning and lectured as such.
8. He took the time to make sure we really got the principles, but let us teach ourselves the nitty gritty. I also really liked the outside readings, which put what we're doing in perspective.
9. He was a very inspiring lecturer.
10. His lectures were humorous, informative, and engaging.
11. Jokes, Lectures, Office Hours
12. Many of the assignments were good
13. More lame jokes please!
14. Professor Campbell was incredibly helpful outside of class when I had issues with an assignment. Also the lectures were very informative and engaging.
15. Small, group based code/design review was very useful in making sure the groups were on track for the project. The professor was very understanding, accommodating and approachable
16. The class was very well organized and Professor Campbell did a great job of keeping class interesting.
17. Very funny and personable.
18. Very helpful in office hours. Genuinely cared about his students.
19. Very open -- makes himself extremely approachable.
20. Well designed course contents, helpful office hour and suggestions.
21. jokes, blog readings

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https://ira.dartmouth.edu/analytics/saw.dll?Dashboard&scid=LHKAECkILEg
Question: Comment on 1-3 things that the professor should focus on to improve his or her classroom effectiveness:

1. Be around the lab to answer questions. Update the lecture notes, it's frustrating that you joke about the 'typos' - if we're spending 40 hours a week on the class, you can spend 2 hours to update the lecture notes. LET THE CLASS OUT ON TIME. It's disrespectful to both students and other faculty members to let the class out late, thus making students late for their other classes. Start the class on time, and let it out on time. If students are late, it's their fault - don't in turn make them late for other classes. Very offensive that the class was let out very frequently between 5 and 10 minutes late.

2. Generally great. Kind of same with the redoing pages I discussed above--the notes and your lecture tend to jump around a lot. Order your thoughts.

3. Get more organized before class and organize the online materials.

4. Increase clarity.

5. Lectures are kind of boring, but I'm not sure how much the professor can do about that. I think the nature of the material lends itself to boredom. It's much more interesting working through the code yourself.

6. More direct involvement with students.

7. N/A

8. None.


10. Once the search engine started, things went down hill. Lectures became less interesting and relevant (as Campbell would basically just read code off from his lecture notes). The robotics project was even worse - Campbell canceled class for the last two weeks and just made the TA (who doesn't speak English very clearly) do all the tutorial sessions. In addition to making it extremely difficult to learn anything from the tutorials (because of the language barrier), it created a gap between professor and student that isn't supposed to exist at Dartmouth. What happened to professors being excited to teach students? This kind of behaviour should stop - it's Campbell's class, he should teach the whole thing.

11. Please stop trying to cram everything into this course. PLEASE.

12. Sections more accessible.

13. Some topics were covered repeatedly / sometimes lectures were redundant.

14. The lecture notes were sometimes a little helter-skelter, otherwise very useful.

15. The lectured material didn't help that much with the programming assignments. I had to figure out most of it myself. Maybe give more c program examples especially in the beginning when we are just learning the language.

16. The professor should try to digress less and stick to the lecture schedule. The professor should spend more time elaborating on topics like the Makefile instead of rushing for too much breadth.

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**Course:** COSC 050 Software Design & Implement'n

**Term:** 201203 - Spring Term 2012

**Instructor:** Andrew T. Campbell

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Question: Add any specific recommendations on how the professor is assessing the course work and giving feedback to students that you believe would be useful:

1. It is frustrating that the TA graded ALL of the work - especially since the communication between the professor and the TA about things like late penalties seemed to be lacking.

2. It's good to know that you need to learn the material ahead of class time and always start the labs the day they are assigned.

3. N/A

4. Nil

5. None

6. Prof. Campbell didn't really assess our work, it was the TA, who I'm assuming we will assess in some other form. I will say I don't think it was fair to students or TA to have one person grading all 50 students' work. It made the TA stressed and unforgiving which made an already stressful class worse.

7. Really incredible that he always met every single student at their individual needs, even though it was a big class. He found time for everyone, that was amazing.

8. Seems fine to me.

9. Start things right when you get them, even the first few labs. Though the early labs may seem easy, if you happen to get a bug that takes a long time to solve then it will eat up your time.

10. The grading was fair.