### Course Related Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Number of Responses</th>
<th>Response Rate</th>
<th>Course Mean</th>
<th>Dept. Mean</th>
<th>Univ. Mean</th>
<th>Course Median</th>
<th>Dept. Median</th>
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</tr>
</thead>
<tbody>
<tr>
<td>The syllabus helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>3.7</td>
<td>4.0</td>
<td>4.1</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The textbook(s) helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>3.2</td>
<td>3.8</td>
<td>3.8</td>
<td>3.5</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The materials posted online, including Blackboard, helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>4.6</td>
<td>4.1</td>
<td>4.3</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The out-of-class assignments and fieldwork helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>4.6</td>
<td>4.3</td>
<td>4.2</td>
<td>5.0</td>
<td>5.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The lectures helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>3.8</td>
<td>4.0</td>
<td>4.2</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The in-class discussions and activities helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>3.7</td>
<td>4.0</td>
<td>4.2</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The classroom technology helped me to learn.</td>
<td>27</td>
<td>31%</td>
<td>3.7</td>
<td>4.0</td>
<td>4.1</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The required textbook(s) were important for my success in this course.</td>
<td>27</td>
<td>31%</td>
<td>3.6</td>
<td>3.6</td>
<td>3.7</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>I would recommend that the instructor continue requiring the textbook(s).</td>
<td>27</td>
<td>31%</td>
<td>4.1</td>
<td>3.8</td>
<td>3.7</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>The required digital and/or other supplemental materials were important for my success in this course.</td>
<td>27</td>
<td>31%</td>
<td>4.3</td>
<td>4.1</td>
<td>4.1</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>I would recommend the instructor continue requiring the digital and/or supplemental materials.</td>
<td>27</td>
<td>31%</td>
<td>4.5</td>
<td>4.1</td>
<td>4.1</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>I found this course intellectually challenging.</td>
<td>27</td>
<td>31%</td>
<td>4.8</td>
<td>4.1</td>
<td>4.1</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
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Note: 5:Strongly Agree; 4:Agree; 3:Neutral; 2:Disagree; 1:Strongly Disagree; -1:Not applicable;

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<tr>
<td>I learned a lot in this course.</td>
<td>27</td>
<td>31%</td>
<td>4.5</td>
<td>4.2</td>
<td>4.3</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>I learned to apply course concepts and principles.</td>
<td>27</td>
<td>31%</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>I developed additional skills in expressing myself orally and in writing.</td>
<td>27</td>
<td>31%</td>
<td>4.3</td>
<td>3.9</td>
<td>4.0</td>
<td>4.5</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>I learned to analyze and evaluate ideas, arguments, and points of view.</td>
<td>27</td>
<td>31%</td>
<td>4.4</td>
<td>4.0</td>
<td>4.1</td>
<td>5.0</td>
<td>4.0</td>
<td>4.0</td>
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</table>

Note: 5:Strongly Agree; 4:Agree; 3:Neutral; 2:Disagree; 1:Strongly Disagree; -1:Not applicable;

### Instructor Related Questions: Neal Young
The instructor possessed the basic communication skills necessary to teach the course.

27 | 31% | 4.4 | 4.4 | 4.5 | 5.0 | 5.0 | 5.0

The instructor clearly communicated ideas and information.

27 | 31% | 4.1 | 4.3 | 4.3 | 4.0 | 5.0 | 5.0

The instructor clearly stated the objectives of the course.

27 | 31% | 4.6 | 4.4 | 4.4 | 5.0 | 5.0 | 5.0

The instructor covered what was stated in the course objectives and syllabus.

27 | 31% | 4.5 | 4.4 | 4.5 | 5.0 | 5.0 | 5.0

The instructor came to class prepared to teach.

27 | 31% | 4.6 | 4.4 | 4.5 | 5.0 | 5.0 | 5.0

The instructor used class time effectively.

27 | 31% | 4.5 | 4.2 | 4.3 | 5.0 | 5.0 | 5.0

The instructor provided sufficient feedback.

27 | 31% | 4.3 | 4.1 | 4.2 | 4.5 | 4.0 | 5.0

The instructor fairly evaluated my performance.

27 | 31% | 4.3 | 4.3 | 4.4 | 4.0 | 5.0 | 5.0

The instructor is someone I would recommend to other students.

27 | 31% | 4.2 | 4.2 | 4.3 | 5.0 | 5.0 | 5.0

The instructor treated students with respect.

27 | 31% | 4.6 | 4.5 | 4.6 | 5.0 | 5.0 | 5.0

The instructor acknowledged and took effective action when students did not understand the material.

27 | 31% | 4.4 | 4.3 | 4.3 | 5.0 | 5.0 | 5.0

The instructor was available to assist students outside of class.

27 | 31% | 4.4 | 4.3 | 4.4 | 5.0 | 5.0 | 5.0

The instructor displayed enthusiasm for the course.

27 | 31% | 4.6 | 4.4 | 4.5 | 5.0 | 5.0 | 5.0

Note: 5: Strongly Agree; 4: Agree; 3: Neutral; 2: Disagree; 1: Strongly Disagree; -1: Not applicable;

What is your overall rating of this instructor’s teaching effectiveness?

27 | 31% | 4.3 | 4.3 | 4.4 | 5.0 | 5.0 | 5.0

Note: 5: Almost Always Effective; 4: Usually Effective; 3: Sometimes Effective; 2: Rarely Effective; 1: Never Effective;

Course Related Questions (15 comments)

Q: Please comment on the strength and/or weakness of the required textbook/course materials.

1 No required textbook, but Lecture Notes were very useful, a little complicated but nonetheless very useful for learning.

2 There needs to be a simpler way of teaching this course. Most of the assignments and concepts in lecture, textbook, and online materials use way too many symbols and do not convey expectations in a way that is easily understandable. It would be much better if this course was actually taught with a programming language like Java or Python instead of meaningless and convoluted LaTeX pseudocode.

3 Although Professor Young's lecture notes can be long and tedious to read, they really give me ideas what his lectures are about and they are easy to understand. His lecture notes really help, and his lectures are mostly based on his notes.

4 Learning relied heavily on lecture notes posted on Blackboard.

5 No textbook, but the posted lecture notes are an invaluable resource for giving precise explanations of the algorithms and techniques touched on during the lectures.

6 I thought that the lecture notes were really helpful and very important to the success in this class.

7 Lecture-heavy course, sometimes the it's hard to correlate the lecture content with the online lecture notes when trying to review for homework assignments or tests

8 I feel like the lecture notes posted online were still too advance to understand. As someone who also attended lecture every week, a lot of the language used were still too hard for me to comprehend

9 Homeworks were helpful for learning algorithms. Lectures were a little dry and I couldn't really hear him
The textbook was provided, and was very helpful in my personal learning process. I did not pay enough attention in class and was still able to do well, and actually understand most concepts, by using the textbook.

Lecture notes are very useful for both homework assignments and exams, as well as to review and understand concepts.

The lecture notes (used instead of a textbook) were written specifically for this class; and are easy to read, informative, and complement homework assignments well.

Most of the information in this class came from Neal Young's lecture notes, posted on Blackboard. These notes were detailed and formalized definitions he explained in class. Lectures were devoted to explaining algorithms and giving us an understanding and intuition for how they worked, while homeworks gave us a chance to work with them ourselves.

The lecture notes and homework were vital to doing well. I wish there were more practice exercises for some of the concepts though.

Learning Related Questions (14 comments)

Q: Please comment on the strengths of this course and/or ways to improve this course.

1 Course is interesting, very difficult, I thought it would be useful to address homework concerns in class, and especially weigh homework more, as I spent so many hours per week on a homework assignment that was only worth 2 points on my grade.

2 As mentioned in the previous question, this course is very difficult because of the way assignments and materials are structured. Algorithms & Data makes a poor attempt at explaining programming concepts in English where in reality poor pseudocode attempts are not needed for those who are actually good at programming. Having one weekly assignment is very harsh and difficult and success in the course really comes down to time management and not on actually understanding the material.

3 This class is very intellectually challenging, but it is also important for coding. It's worth it.

4 Very rigorous and well taught introduction to mathematical reasoning about algorithms. I think there could have been more emphasis on writing our own proofs, as opposed to going off of a template.

5 This class is more theory than application. Did like when there were HackerRanks included because we could apply our knowledge.

6 Very intellectually challenging course, hard to know what kind of responses the homework assignments are looking for

7 I feel like when introducing concepts, it would be beneficial to start out using layman's terms so that it is easier to understand and to apply to the homework. Even at the end of the semester, I do not know what I really learned

8 I learned a lot in this course but lectures could be significantly improved

9 I found it effective at teaching what I needed to get out of the course. I have a better grasp of algorithms and thinking in a way that improves my understanding of algorithms.

10 More practice and review before the final would be helpful.

11 I learned but a lot of things are not obvious enough that it's easier just to have someone who did it explain it. This makes it more memorizing and not actually problem solving.

12 The course is perfect as is.

13 This class taught me how to think, write about, analyze, and work with algorithms and proofs. We rarely had to write our own proofs from scratch, and always had some content to use for reference.

14 More exercises included in the lecture notes would've been more useful. Also better review sessions than just reviewing the homeworks.

Instructor Related Questions: Neal Young (19 comments)

Q: Describe instructor's strengths, areas for improvement, and any additional comments.

1 Neal Young, though enthusiastic for the course, taught a rather dry version of the course that was more material-heavy than other sections, making life for students unreasonably difficult

2 Neal Young was a very interesting professor, and I think I learned a lot by listening to him. One problem I had was that the lectures were really hard to hear him, I'd suggest getting a microphone. It's really tough to keep students engaged during an hour 40 minute lecture while being barely able to hear the professor. Because of this the lectures did drag on quite a bit, and it became hard to follow at some points, and kind of boring, but when I was devoting full attention I did learn alot.

3 Professor Young is one of best and the nicest professors I have had. He is so funny and so active on piazza. He reacts to students'
memes and make jokes on piazza. He cares about students so much and really wants students to succeed. His exams are not bad since they are based on homework though the final is a little harder than usual. TAKE ALGO WTH PROFESSOR YOUNG!!!

4 It can be a little bit difficult to hear and understand in lecture at times.

5 The most helpful, caring, and respectful professor I've ever had. Always available on Piazza (he actually listens to students and actively makes changes to class policy to better suit us), always gives constructive feedback, always explains concepts clearly and precisely. Reasonable grader and always open to regrade requests. He really cares that you learn, and it reflects in his lectures and interactions with students both in person and on Piazza.

6 Professor Neal is very fair, and is one of the few teachers who actually adjusts the course according to student feedback.

7 Neil please just speak a little louder or wear a microphone. Otherwise awesome.

8 Neal is great. He answered each and every student's questions with a level of thoroughness unmatched by any professor I've ever had.

9 Instructor was kind of quiet when lecturing and not as engaging, and notes on the board were in small, hard-to-read handwriting, but would clarify when asked. Very knowledgeable about course content and takes students' concerns into consideration.

10 He is a very soft speaker so it is hard to hear him sometimes. Also, as I said before, sometimes how he spoke about concepts felt too advanced

11 I loved how he led discussion posts on piazza and took students feedback to heart. I wish the TAs were better and that the grading of homework was more accurate because some of the TAs are awful and I learned which office hours to avoid

12 He is such a nice guy, was passionate about helping students and it showed.

13 Spoke a bit quietly but otherwise he was a good teacher

14 No office hours listed on website, which was frustrating if you had questions that were not properly addressed by the TAs. For the second midterm and the final exam, we were told we would be receiving practice materials to help us review by specific days. The second midterm practice materials were given two days before the exam, while no practice material was given for the final, after being told we would receive it over the weekend, then the day before the exam, then potentially the morning of the exam, before finally being told we wouldn't be receiving anything.

15 He works too hard and needs a break.

16 Prof. Young is the most dedicated professor I've ever seen. He personally answers every question posted on Piazza, the class forum for all three sections of the class. He's also the sole professor for all three sections since Prof. Lieberherr became unable to finish the semester. He comes to every class prepared with an entire lecture's worth of topics, and explains everything in depth.

17 Neal Young is an algorithms guy, I think they're just his 'thing'. He clearly has a lot of knowledge on the subject, and he always takes the time to go back over things students ask him about. The material is hard, but Neal Young does a good job of explaining everything as best he can.

18 Young is incredibly smart and knows algorithms, it's just this course is neither the easiest nor is it the most engaging.

19 Professor Young might just be one of the smartest Professors at Northeastern, but his teaching style seems more tailored to teaching people that are just as smart as he is rather than students who are seeing these topics for the first time. He walks through steps very quickly, and if you miss the slightest thing he says, you won't be able to understand anything else for the remainder of that topic. I did well in the class purely by self-teaching myself each topic by speaking with students who previously took the class or by watching youtube videos on the topic. Professor Young is a funny and extremely intelligent professor, but following along with him during lectures was nearly possible during my experience in the class.