Description of Your Report

Your Course Evaluation Report contains up to four sets of items, represented in up to four sections in your report, described below.

Sets of Items

Institutional Items
These eight items are consistent across the University of Toronto. They are comprised of:

- Five rating-scale items which represent institution-wide teaching and learning priorities.
  - **The institutional composite mean, a mathematical average of these first five items.**
- One rating-scale item on the overall quality of a student's learning experience.
- Two qualitative comment items.

Divisional Items
These items are consistent across your division. They represent division-wide priorities for teaching and learning.

Departmental/Program/Course-Type Items
These items (when applicable) represent further levels of granularity and specificity for teaching and learning priorities within your division (e.g., department, program, course type).

Instructor-Selected Items
These items are optional items which may be selected from the item bank by instructors during the question personalization period.

- **Note that the results from these items are only reported to instructors, as they are primarily intended to function as personal formative feedback.**

Report Sections

The following provide different statistical summaries and representations for your institutional, divisional, and departmental/programmatic items (where appropriate).

Section 1: Course Evaluation Overview
Provides all course evaluation data except instructor-selected items.

Section 2: Response Distributions and Additional Statistics
Provides detailed response distributions.

- The number and relative percentage of respondents providing a given answer is provided, along with a graphical representation.
- This section also reports further statistics for each set of items relative to Section 1.

Section 3: Comparative Data
Provides comparative means for your course as compared to the relevant means across ***all** other evaluated courses at a particular level of comparison (e.g. division, program)* for each set of items.

Section 4: Instructor-Selected Items
Provides data for optional items that instructors can select from the item bank during the question personalization period. This section is formatted identically to Section 2.

Statistical Terms Used in this Report

Mean: The mathematical average. This measure is the most sensitive, and can be greatly affected by extreme and/or divergent scores.

Median: The middle value when all responses are ordered. This measure is less affected by extreme and/or divergent scores.

Mode: The most frequently occurring score.

Standard deviation: A measure of the "spread" of the data.

FI Winter 2022 BI Program

Course Name: Worlds Become Data INF312H1-S-LEC0101 (INPER)	Instructor: Rohan Alexander
Division: FIS	Section: LEC0101
Session: S	Delivery Mode: INPER
Session Codes: F = First/Fall, S = Second/Winter	
	Report Generation Date: April 12, 2022

Raters	Students
Responded	14
Invited	26

Section 1: Course Evaluation Overview

Part A. Core Institutional Items

Scale: 1 - Not At All   2 - Somewhat   3 - Moderately   4 - Mostly   5 - A Great Deal

Question	Summary	
	Mean	Median
I found the course intellectually stimulating.	3.4	3.5
The course provided me with a deeper understanding of the subject matter.	3.3	3.0
The instructor (Rohan Alexander) created an atmosphere that was conducive to my learning.	3.3	3.5
Course projects, assignments, tests, and/or exams improved my understanding of the course material.	3.6	4.0
Course projects, assignments, tests and/or exams provided opportunity for me to demonstrate an understanding of the course material.	3.6	4.0
Institutional Composite Mean	3.4	-

Scale: 1 - Poor   2 - Fair   3 - Good   4 - Very Good   5 - Excellent

Question	Summary	
	Mean	Median
6. Overall, the quality of my learning experience in this course was….	2.7	3.0

7. Please comment on the overall quality of the instruction in this course.

Comments
The quality of instruction was great, being tasked with creating content and teaching everyone a programming language with various backgrounds in coding is quite difficult. It is just difficult in person sometimes when looking at the screen to see the code.
I felt as if I was self–learning everything.
I am interested in the course but I think it could be beneficial to build the foundation first.
The style of the way things were taught were frankly not ideal and conducive to my own learning. For a coding course, there should have been more introductory material given on the first few weeks of classes. The program does not require a programming background, so the expectation that we knew R already was quite an unfair expectation. On the first day, we already went through live coding and workflow components. We were not even given an introduction to the R environment or a chance to download R and RStudio. It was quite frustrating to follow along when the instructor was already live coding, when my softwares were still downloading. Even as someone who has had a bit of an experience with R, I still struggled to understand the initial concepts as the use of libraries and the types of coding arguments used were very different from the old ways R was used. Throughout the rest of the classes, we had to follow the textbook on the website, though no slide decks were given to direct us to the key information on the textbook. I had to follow along the lecture trying to read the chunks of text on the website. It would have been useful if these key details from the textbook were put on slides, so we could follow along. I often became lost and did not know which paragraph in the textbook we were on because there would have been jumps in content. Overall, though the instructor was friendly, supportive, and accommodating with how much time we needed for assessments, I found the quality of instruction to be ineffective to my learning. The course needs to have more introductory material in the beginning. A supplementary workshop outside of the scheduled classes on R basics were given to us later in the semester, and I think this session would have been useful if it were part of the class in the first week. Having presentation slides would also help us follow along if live coding is not happening and we are just learning the theory.
Thank you for instructing us for the whole semester! Actually, I suppose the amount of contents that we covered was much intense when the lecture was conducted online. As time goes by, it became loose and it was kinda hard for me to concentrate in the class more or less. Also, It would be much better if the course material was provided on quercus so that students can take notes down during the class:)
First, I want to start with a disclaimer: starting this semester online had a significant negative impact on my ability to engage with course material, even after we moved back in–person. So, take my thoughts on course engagement with a grain of salt; even the most thoughtfully–organized course would have likely struggled to keep my attention this semester.

INF 312 with Rohan was one of the more interesting courses I have taken in university so far. Despite coming from a programming background, the specific skillset involved in this course (R, etc.) was new to me. I felt that Rohan did an adequate job providing enough initial materials and sample code that I could get started with it, and from there develop my knowledge through experience, or by accessing documentation pages which Rohan had included as useful resources.

That being said, even coming from that programming background, I found the experience of learning and using R, in particular its syntax and idioms, especially frustrating. Indeed, much of my hesitation when approaching my assignments did not revolve around the difficulty of the analytical task at hand, but rather the pain of solving problems in R (as opposed to another language). I would be forced to imagine that other students, especially those who are just developing a conceptual model of programming this year, found the process even more frustrating, compounded with the added complexity of reading stack traces, learning to use Git, etc. After classmates had mentioned their struggles, he arranged for supplementary workshops on these skills.

By the end of the semester, especially coming into the busy March midterm period, class time had largely devolved into a combination of a) R–specific questions and b) discussion of what would be required for upcoming papers. In some cases, the slide/textbook content – which tended to cover more statistical principles – felt like something of an afterthought: I felt like I could use class time to learn and conceptualize R, or learn about the statistics, but not both. Having previously languished in a theory–heavy statistics class before the pandemic, perhaps this model ended up being best for this extremely peculiar semester. It almost seems that, at some point in the semester, Rohan shook off a more formal approach and tried to engage with students in a more direct way, such as the tea–tasting exercise; I greatly preferred the latter.

Note that this grievance about onboarding with R is in line with a more general grievance with the BI's first year, which I argue could serve to offer a more concrete technical background considering the breadth of programming–focused courses. While learning and using R was certainly not undoable, and by the end of the course gave me a marketable skill which I didn't have before, I still can't help but feel I would have engaged more with the course had instruction been offered in, say, Python, where I could start thinking about abstract metaphors instead of the fine details of the language syntax.

The weekly workload of this course was very reasonable. Although the grading scheme (tutorials vs. quizzes, the number of grades being dropped, etc.) took some time to understand, I never felt that I was overloaded with work from this course alone. By and large, the quizzes contained a good balance of direct 'trivia' (say, questions about various R functions) and applied thinking based on that week's lecture topic. I especially appreciated being able to find practically everything course–related on one website, which was well–organized and reflected the course well. The tutorial prompts also seemed interesting, but the type of work required to complete them every week wasn't compatible with my studies this semester.

Finally, Rohan was a very prompt marker once a paper was submitted, outlining feedback through both a detailed rubric and a series of comments left on the submission. The feedback was useful and helped inform improvements for future papers. I found |

Comments

the papers were a reasonable amount of work for a major course project, and gave me a good opportunity to demonstrate what I had learned in my own self–guided exploration of R. However, I feel that I was still lacking some amount of a data visualist's intuition, for what sort of visualizations I might approach with a given type of data.

I think the instruction of the course could be more clear and detailed. Personally, I understand better when professors explain why they are doing specific steps on the way. For example, one of the TA for the R studio workshop explained each and every step and what it does. That really helped me understand what was going on and what to do for my assignment.

However, Rohan was a great professor to talk to and always made the classroom laugh.

The teaching aspect is very lacking. It is not like an introductory course, but more like a course designed for people with some experience

While some of the lectures provided important basics in R, I found that did most of the learning on my own time using google. I believe that this course should have provided more beginner material since the majority of the class was coming in with no prior coding knowledge. It would have been nicer if the course eased the students in with some R and knowledge on data analysis separately before throwing a full paper at them. Additionally, I think it would have been helpful if the course instructor would have gone over the paper instructions and the deliverables in more depth in class and or gone through the examples of some of the previous papers.

Rohan's instructions to the assignments were not very clear at first but he fixed them after we talked about this in class. His lectures were fun and insightful. His book made it easier to follow class contents.

I would like to start off by saying that I am not particularly good with the material that is intended to be learned in this course and so my bias would be coming from that point of view. I was very interested with the course when the term started and thought that this is one of the courses that has very applicable skills we can learn from. I think that the Professor is very passionate about the subject matter and it clearly shows on his syllabus and how extensive his coursework is. I think that for students who do really well in Statistics and have some familiarity with coding would really enjoy and thrive in the course. I think the problem stems from the diversity the cohort has and how I come in with almost no background on the concepts because it has been years since I last learned about it in school. There was a steep learning curve with the platform that we needed to use to that adds to challenge and difficulty. The mixture of having very weak stats and programming background made it easy for me to feel as though I was falling through the cracks. I do think that I learned to make sense of data around me and I am hopeful that I can continue to explore this path with more time and less pressure to meet certain standards in school. I do find the course to be very interesting and wish I could have learned and done better. I particularly like that there was an online learning that was recorded because I found that to be helpful to rewatch again and again when needed. I wish there was some heads up maybe in the fall term of what was to come, maybe a recommendation to start learning basics of R or stats. I also hope there would be been more options to work as a group or individually because although I can see the relevance of working on your own, working in groups can help with adjusting using different strengths people bring to the group. Considering that the course is called worlds become data, I do think that it met that expectation. I did learn a lot and although I do think I am not good at it, I can say that I still came out of it having an understanding of how and what we can do with the data around us.

Rohan was overall a good prof that very obviously cared about his students and role as an instructor. There was some disconnect because sometimes he would stray from the syllabus and take on more a "flipped classroom" scenario where we would show up to lecture and he would ask us if we had any questions instead of having a more "standard" lecture where he had slides or code pre–prepared, but we wouldn't have come prepared with general questions, or if we did have questions, they were often more specific and may not have been applicable to the full class. This sometimes made the lectures feel unorganized or that they had a lack of flow but my understanding is that is more the way they do things in Australia so it might have just been me not being used to a certain style of teaching. I think Rohan being so open–ended and relaxed when it came to his lecture–style was a double–edged sword because it was sometimes interesting to hear about his perspective relating to current events or watch him live–code but students needed him to be more assertive when it came to delivering a lecture – we needed more sequential, predictable learning outcomes from each lecture especially since R was new to a lot of us. He sometimes had a tendency to assume we had a certain amount of stats knowledge already, which was challenging. A little "placement" task at the beginning of the term could have provided more of a picture for him of how much the class knows vs. needs to be taught. He is clearly a very gifted stats guy but I think a lot of his genius flew over our heads – he live–coded fast but I think he's so used to using R that he didn't realize how fast he was going so it was appreciated he recorded everything because I couldn't keep up with him. A challenge with tutorial is since the tutorial assignments were optional, many students didn't do them and since tutorial was a place where Rohan had hoped to discuss tutorial, we often didn't talk about the tutorial and ended class early. I think tutorial could have been a place for us to practice our skills more – e.g., doing the tutorial together or being assigned a mini–project that is doable in an hour. Then maybe students would feel less like they didn't know how to use R, because they would be practicing it on a more regular basis in a collaborative environment. I appreciated his attempts to be interactive, using our names and trying to get to know about us through his coding examples (e.g., testing our names to see their popularity in an example about graphing YoY data). I think our class really struggled but looking back, would probably be surprised by how much we've learned as far as how to do the basics in R.

The professor was very enthusiastic about the course content and during instruction. I appreciated that the instructor showed genuine interest in our papers and our ideas.
One issue I had with the course is how fast–paced the instructor went during lecture. Often if I mispeleld a certain line of code I

Comments
would be left very behind by the time I fixed it and wouldn't be able to catch up.
It would have been helpful if the instructor explained in more detail what certain functions and code does while he was writing them so I have a better idea of what he was doing.

8. Please comment on any assistance that was available to support your learning in this course.

Comments
The teacher proved to be very patient and understanding with everything that had been going on he was always open to hearing the students out and providing feedback when he can.
more foundation lesson
Despite the difference in style, the professor was very much available for support in learning. Later on in the semester, he encouraged our attendance to basic R workshops being conducted outside of lectures. The textbook was also free access which was very accommodating. The grading scheme was very useful because we had the flexibility of choosing quizzes vs tutorials and choosing whichever one suited our learning style and our schedule best. I also really liked that we were presented 4 opportunities to submit a paper and had the flexibility to have our best 2 graded. In terms of course assessment, I think they were representative of the content we learned, and challenged us to produce data visualizations that most of us had not produced before. They were definitely challenging, especially the first assignment, as the quizzes (which I chose to do) did not really have coding components so we could not apply the skills needed in terms of the topics we discussed weekly, so the first assignment requiring coding took a lot of self–learning just to familiarize myself with the environment.
None!
I cannot speak sufficiently high praises of Rohan's accommodation this semester. From the very first papers and quizzes, he was extremely forgiving with missed deadlines, to the extent that he was surprised more students didn't submit Paper 2 (despite many students only submitting Paper 1 after the prior's due date) by simply taking more time. Similarly, during particularly rough stretches of the semester, a Quercus email from Rohan saying that that week's quiz/tutorial would be given full marks was a sigh of relief. He seemed to understand that the circumstances had made being a student far more exhausting than usual, and demonstrated enough flexibility to ensure that his course did not become an insurmountable obstacle or source of stress.
The TAs from the workshop
Making the course less difficult, and making the paper less difficult, will at least provide a buffer for inexperienced students
He responded to my emails very quickly and he's very understanding. I would suggest either the faculty the the course instructor to provide a small math revision session for people without strong math background in order for them to learn better in this course. For me, I'm not a good writer but I met with writing advisors for my papers.
The Professor was able to set up a review session with two MI students to help with the gap in knowledge but I wish this would've been something available to us from the start of the class. The Professor also recommended a student that we can reach out to when help is needed although it is a challenge because MI students are also busy and sometimes may not have the time to assist. The Professor is able to work with adjusting deadlines for the class too that helps a lot with trying to produce the work needed.
Rohan is a compassionate and understanding prof. He is excellent at asking for course feedback, did so throughout the course, and regularly checked in with us about our workload and adjusted his teaching and assignment schedule accordingly. When he realized we were really struggling with using R, he provided two workshops with Masters students to help us. While I wish that these workshops had been provided sooner in the semester, the fact that he followed through and connected us with some help is appreciated. I also appreciate that his textbook was free, and open–source. He also provided examples of previous students' work on assignments. While I wish that the papers had been written specifically by BI students (some of them were masters–level), it was helpful to see strong assignment examples. I think the most challenging thing for Rohan was figuring out the best ways to help us succeed in connecting data and storytelling. Many of us didn't have a background in stats so being able to identify stories from data was a challenge in itself, along with the steep learning curve of R. His grading scheme was a blessing and a curse – while I liked having the quiz vs tutorial option, the lack of incentive to do more than the bare minimum made it so I probably had a lot less practice using R than if I had had to do all of the tutorials – at the same time, I think it would have been extremely demanding to have to complete the tutorials every week outside of class time. I appreciate that he only took a collection of the best marks so we were able to redeem ourselves and get to know his grading scheme. At first, he didn't provide a rubric but it is appreciated he apologized when we all received bad marks because he hadn't specified what he was looking for and from then on provided very thorough rubrics. It was extremely appreciated he recorded all lectures, especially the ones where there was live coding.
The professor was very responsive to emails and was available for office hours both by appointment and after class.

Section 2: Response Distributions and Additional Statistics

This section provides detailed response distributions.

Mean: The mathematical average. This measure is the most sensitive, and can be greatly affected by extreme and/or divergent scores.
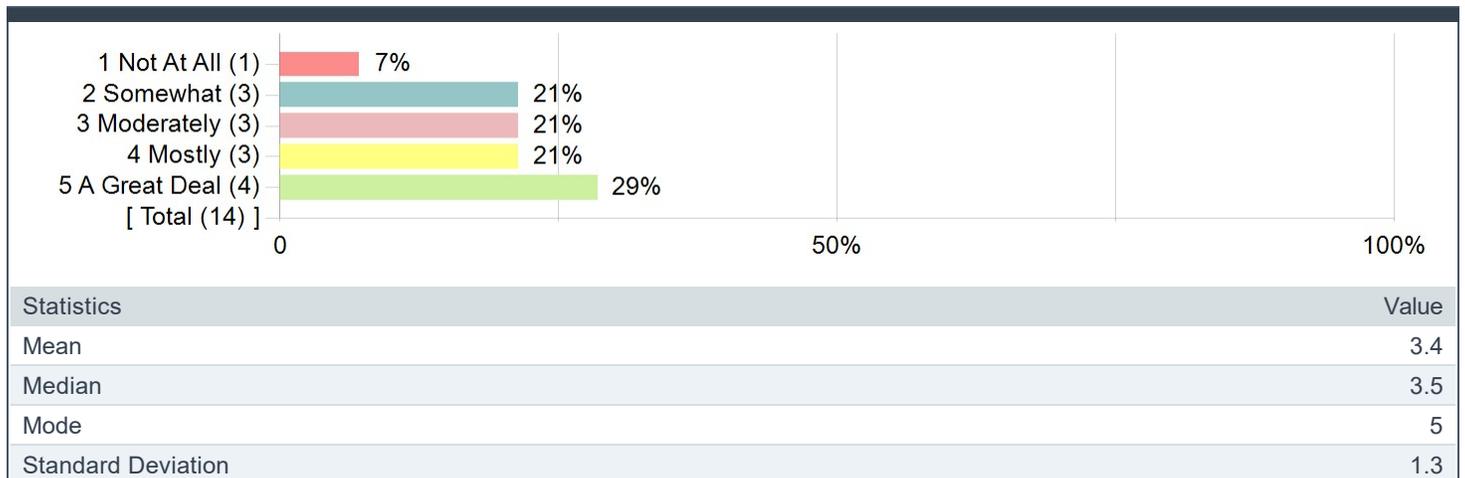
Median: The middle value when all responses are ordered. This measure is less affected by extreme and/or divergent scores.
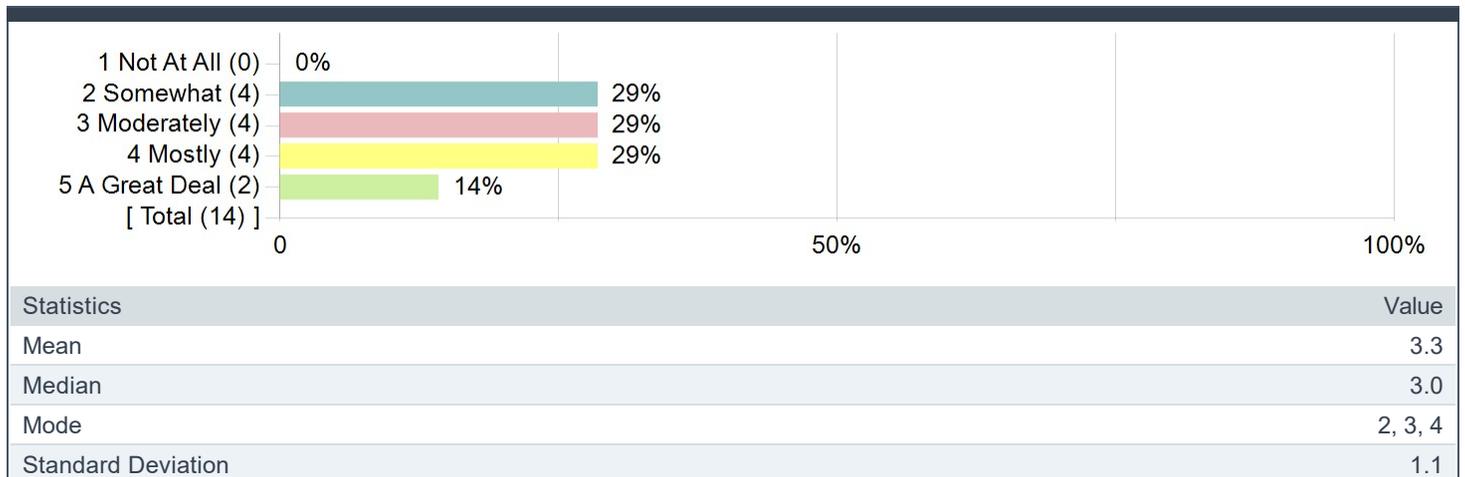
Mode: The most frequently occurring score.

Standard deviation: A measure of the "spread" of the data.
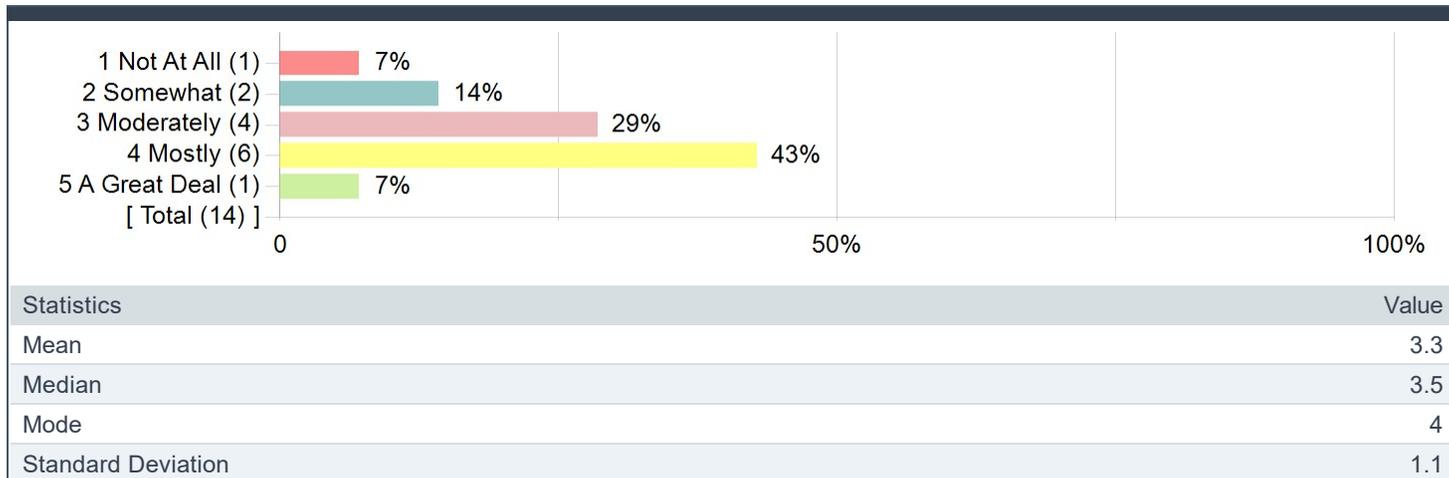
Part A: Core Institutional Items

1. I found the course intellectually stimulating.

1 Not At All (1)	7%
2 Somewhat (3)	21%
3 Moderately (3)	21%
4 Mostly (3)	21%
5 A Great Deal (4)	29%
[Total (14)]	

Statistics	Value
Mean	3.4
Median	3.5
Mode	5
Standard Deviation	1.3

2. The course provided me with a deeper understanding of the subject matter.

1 Not At All (0)	0%
2 Somewhat (4)	29%
3 Moderately (4)	29%
4 Mostly (4)	29%
5 A Great Deal (2)	14%
[Total (14)]	

Statistics	Value
Mean	3.3
Median	3.0
Mode	2, 3, 4
Standard Deviation	1.1

3. The instructor (Rohan Alexander) created a course atmosphere that was conducive to my learning.

1 Not At All (1)		7%
2 Somewhat (2)		14%
3 Moderately (4)		29%
4 Mostly (6)		43%
5 A Great Deal (1)		7%
[Total (14)]		

Statistics	Value
Mean	3.3
Median	3.5
Mode	4
Standard Deviation	1.1

4. Course projects, assignments, tests and/or exams improved my understanding of the course material.

1 Not At All (0)		0%
2 Somewhat (3)		21%
3 Moderately (3)		21%
4 Mostly (5)		36%
5 A Great Deal (3)		21%
[Total (14)]		

Statistics	Value
Mean	3.6
Median	4.0
Mode	4
Standard Deviation	1.1

5. Course projects, assignments, tests and/or exams provided opportunity for me to demonstrate an understanding of the course material.

1 Not At All (0)		0%
2 Somewhat (3)		21%
3 Moderately (2)		14%
4 Mostly (6)		43%
5 A Great Deal (3)		21%
[Total (14)]		

Statistics	Value
Mean	3.6
Median	4.0
Mode	4
Standard Deviation	1.1

6. Overall, the quality of my learning experience in this course was....

Response	Percentage
1 Poor (2)	14%
2 Fair (3)	21%
3 Good (6)	43%
4 Very Good (3)	21%
5 Excellent (0)	0%
[Total (14)]	

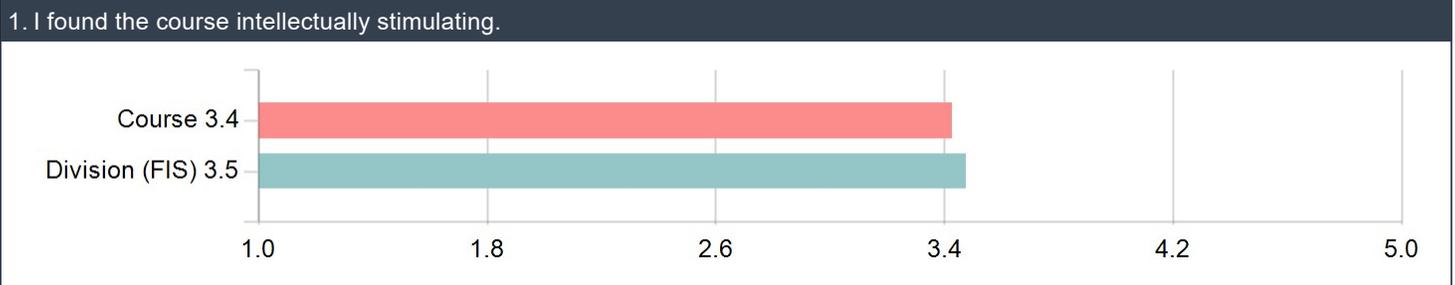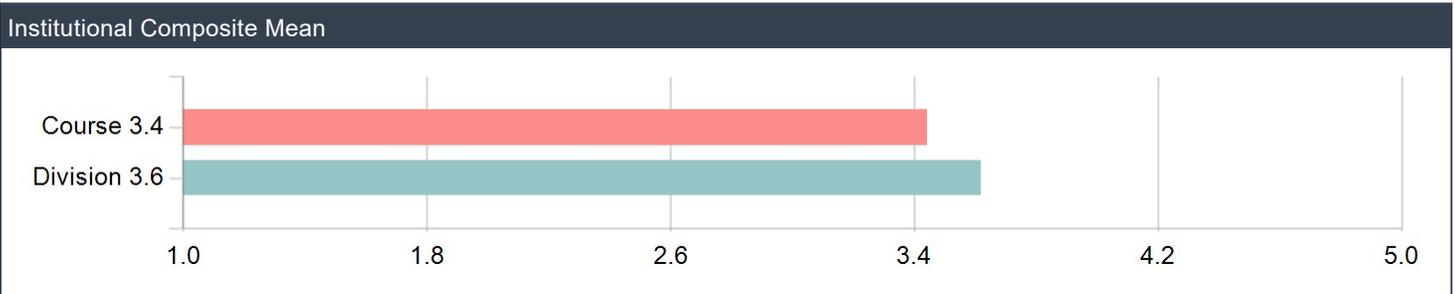| Statistics	Value
Mean	2.7
Median	3.0
Mode	3
Standard Deviation	1.0
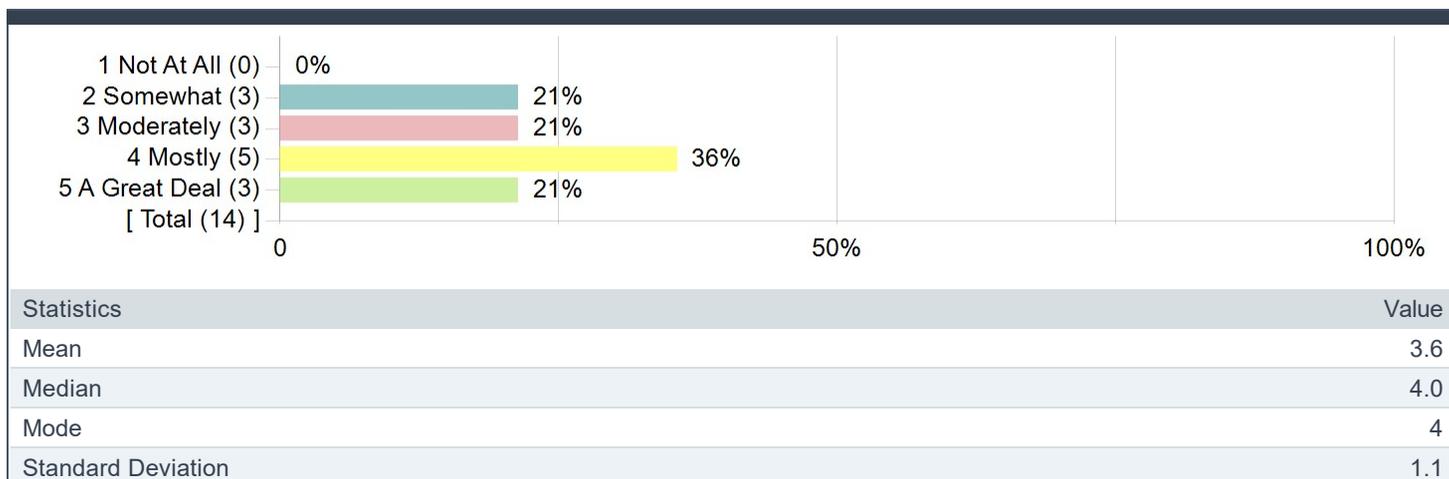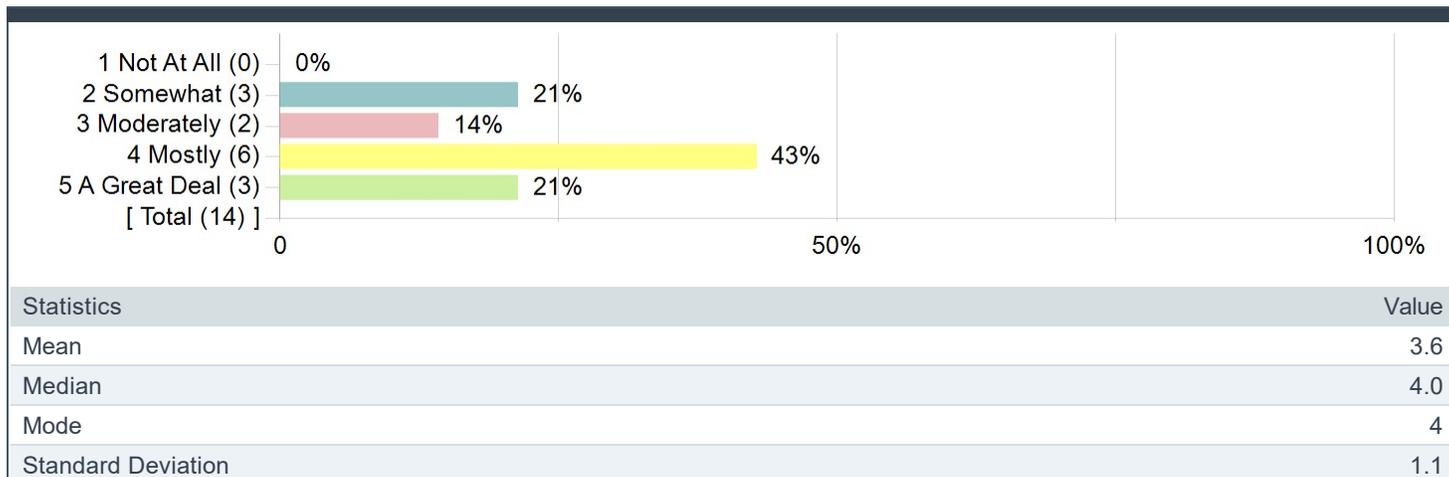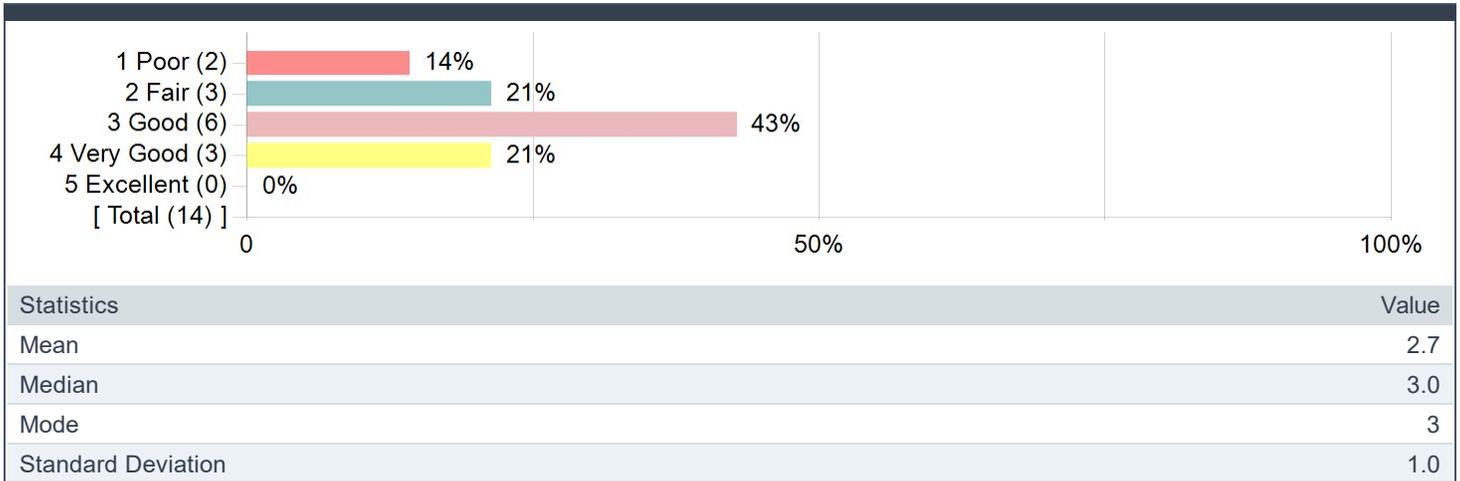
Section 3. Comparative Data

This section provides overall means for given comparators (e.g., division, department) alongside the mean values for a given course. Note that the comparators are calculated by pooling together all individual student survey responses (e.g., student responses for all of the courses in a department are pooled together and the departmental mean responses calculated from that). The provided comparators are thus a measure of the 'average' student experience for a unit or division; they are not a measure of the 'average' course in a unit or division. This calculation has the effect of giving large courses more 'weight' in the calculation of the comparator means. The effect of this on the calculated comparator varies depending on the relative proportion of large or small courses within a unit or division. As such, the departmental and divisional comparative mean values provided on course evaluations should not be regarded as an absolute and definitive benchmark.

*For example, if a department offered only two courses, one with 1000 students who all answered 3.5 and the other with 10 students who all answered 4.5 (so that the means would be 3.5 and 4.5 respectively), then the departmental mean provided on the course evaluations would be 3.51 since the calculation would be [(3.5x1000)+(4.5x10)]/1010]=3.51 **and not** (3.5+4.5)/2=4.*

Part A. Core Institutional Items

Scale: 1 - Not At All   2 - Somewhat   3 - Moderately   4 - Mostly   5 - A Great Deal

Institutional Composite Mean

Course 3.4
Division 3.6

1. I found the course intellectually stimulating.

Course 3.4
Division (FIS) 3.5

2. The course provided me with a deeper understanding of the subject matter.

Course 3.3
Division (FIS) 3.6

3. The instructor (Rohan Alexander) created an atmosphere that was conducive to my learning.

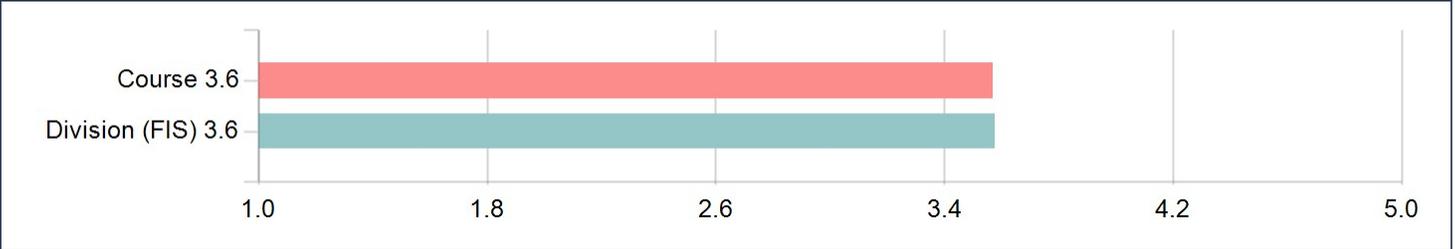|	1.0	1.8	2.6	3.4	4.2	5.0
Course	3.3					
Division (FIS)	3.8					
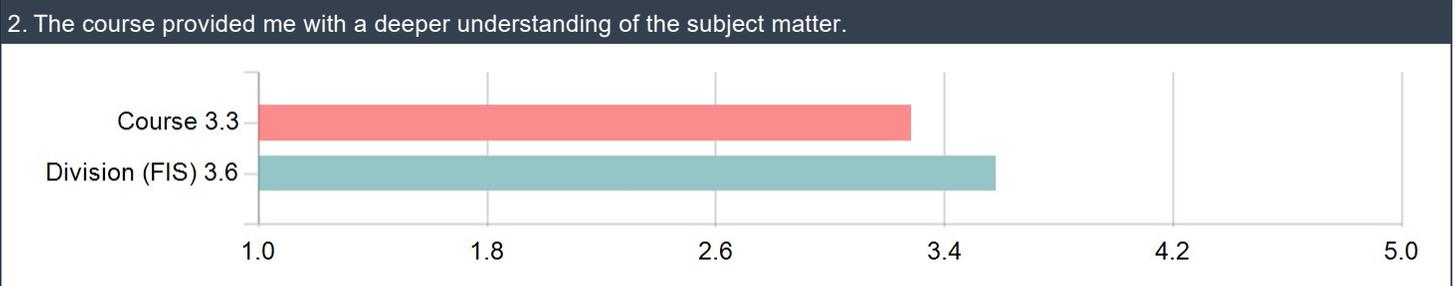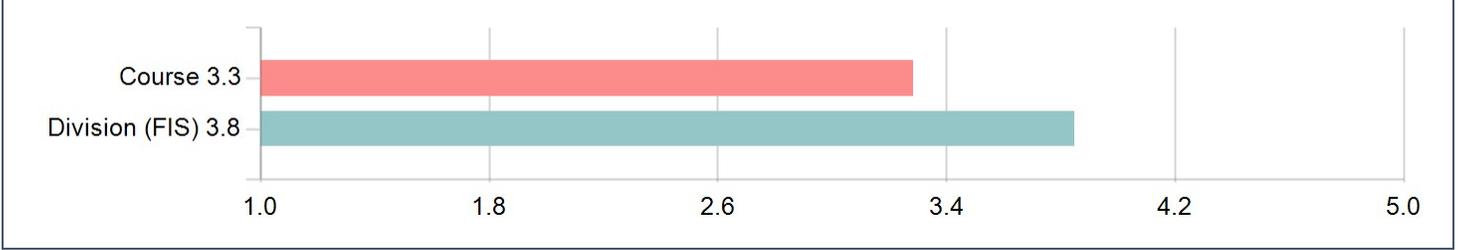
Part A. Core Institutional Items
Scale: 1 - Not At All   2 - Somewhat   3 - Moderately   4 - Mostly   5 - A Great Deal
(continued)

4. Course projects, assignments, tests, and/or exams improved my understanding of the course material.

Course 3.6
Division (FIS) 3.6

1.0   1.8   2.6   3.4   4.2   5.0

5. Course projects, assignments, tests and/or exams provided opportunity for me to demonstrate an understanding of the course material.

Course 3.6
Division (FIS) 3.6

1.0   1.8   2.6   3.4   4.2   5.0
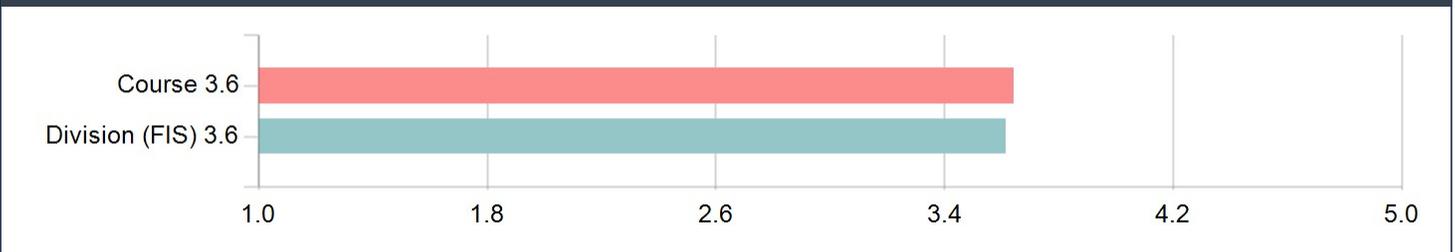
Scale: 1 - Poor   2 - Fair   3 - Good   4 - Very Good   5 - Excellent

6. Overall, the quality of my learning experience in this course was:

Course 2.7
Division (FIS) 3.4

1.0   1.8   2.6   3.4   4.2   5.0