

A comprehensive, periodic evaluation of MAE4000 – Data Science Autumn 2020

As in the last two years, the student group was highly diverse in study background, prior knowledge, and English language competence. In contrast to the last two years, the pandemic circumstances forced a few unplanned changes upon the course's progression. The biggest change was online teaching through Zoom which provided a challenge for interactivity and for the computer practicals. The impact on the social aspect should also not be underestimated as the creation of a peer group within an online environment might not be evident for many students. Not surprisingly, student's experiences were mixed with respect to following the course digitally.

	Strongly agree	Agree	Disagree	Strongly disagree
Following the course digitally worked well for me	2	5	5	2

Course Information

	Strongly agree	Agree	Disagree	Strongly disagree
The information provided on the UIO course page was sufficiently clear	6	3	4	1
The information provided on the CANVAS course page was sufficiently clear	6	5	1	2
I got access to all required materials (e.g., literature, slides, software)	10	4	0	0
I received sufficient information about the written assignment requirements	5	4	2	3

In general, students were satisfied with the information provided on the different platforms, yet there are some dissident voices. No specifics were provided so difficult to say, but this might partially reflect a clash between personal a priori expectations and actual course contents, possibly in relation to limited a priori knowledge of the students with respect to the subject matter. Incidental misunderstanding with respect to the concept of “successful completion of assignments” as qualifying requirement for the exam could also contribute to this matter. The latter can be resolved by even more explicit formal handling of the assignments and to avoid individual mishaps, having each and every student formally acknowledge at the start of the course that the mere handing in of an assignment does not guarantee successful completion.

General

The course continues to be recognized as improving critical thinking and students indicate they have learnt a lot. We were happy to see that the majority of respondents enjoyed the course and would recommend it. *Workload* estimates are in line with the 10ECTS course load, with 1 ECTS standing for approximately 25-30 hours. Given that the course is concentrated in the first half of the semester, this does mean it is relatively intensive on a week basis and not necessarily easy-going. The latter was also recognized by most students as they would not mind more sessions at a slower pace.

- “I loved what I learnt and really gained a lot out of it. This involved a lot of sweating and stress however.”
- I believe what we learned in the course would be useful in the future. The mindset I learned is “satisfying.”

	Strongly agree	Agree	Disagree	Strongly disagree
The connections between the different course modules were clear	6	3	3	2
The lecturer(s) adhered to the time plan	6	7	0	1
The speed at which the course proceeded was exactly right for me	0	3	7	4
The number of sessions was adequate for the content of the course	2	2	4	5
The workload was adequate for me	1	4	5	3
The number of breaks was adequate for me	5	7	1	1

	Strongly agree	Agree	Disagree	Strongly disagree
The content of the course conformed to the previously provided information	3	8	2	1
The course increased my knowledge about the topic	9	3	1	1
The assignments supported my learning progress	6	5	1	2
The course increased my interest in the topic	6	3	4	1
The course improved my critical thinking skills	7	5	1	1
My questions were answered appropriately	6	6	0	2

	Strongly agree	Agree	Disagree	Strongly disagree
I enjoyed participating in this course	5	5	1	3
I would recommend this course	6	4	2	2

The Exam

Due to the extra-ordinary circumstances, we had to shift away from the planned written exam to a portfolio exam. The latter consisted of three components: data-wrangling, data visualization, and a data report. Expectations about what to deliver were clear, except for the third component. This was to some extent also visible in exam performance as in particular the inferential statistics part in the third component was overall not well executed.

Nevertheless, most students seemed convinced that this type of exam would be a better fit to the course than a regular written exam. Hence, we might consider keeping the portfolio exam if we can further clarify expectations and streamline the format. This would also fit some feedback from earlier years where students indicated that they hoped that their acquired competences in coding in R could also be reflected in their overall grade instead of being assessed as binary requirement to qualify for the exam.

	Strongly agree	Agree	Disagree	Strongly disagree
It was sufficiently clear what was expected from me for Component I	6	6	0	1
It was sufficiently clear what was expected from me for Component II	7	4	1	1
It was sufficiently clear what was expected from me for Component III	1	4	1	7
The exam adequately covers the course contents	4	7	1	1
I would prefer a regular written exam instead of a portfolio exam	2	0	2	8
I have a pretty good idea what exam grade I will achieve	1	2	5	5

Observations & Plans

To strengthen the inferential statistic part, course time needs to be redistributed from the more general statistical literacy subsection to the preceding more practical implementation of inferential techniques. When integrating this into the Monte Carlo simulation assignment, this allows for more learning by doing, which should form a stronger base for the intended inferential competences.