## Course evaluation template

After the course has ended, the course leader must fill in this template. The program director and education management will use your reflections to make adaptations to the program and/or the next time the course is given. The reflections will also be posted on the program web for students to read.

| Course <br> code | Course title <br> Biostatistics 1 | Credits <br> 4FH083 |
| :--- | :--- | :--- |
| Semester <br> HT23 | Period <br> $20231106-20231208$ |  |


| Course leader <br> Nicola Orsini | Examiner <br> Nicola Orsini |
| :--- | :--- |
| Other participating teachers | Other participating teachers |
| Hugo Sjöqvist |  |
| Charilaos Chourpiliadis |  |
| Robert Thiesmeier |  |


| Number of registered students <br> $\mathbf{3 9}$ | Number who have not completed <br> the course ${ }^{1}$ <br> $\mathbf{2 ~ m i s s e d ~ t h e ~ f i n a l ~ e x a m ~}$ | Number passed after regular <br> session $^{2}$ <br> $\mathbf{3 1}$ |
| :--- | :--- | :--- |
| Methods for student influence other than course survey ${ }^{3}$ |  |  |
| Mid-course survey and via interaction with two class representatives |  |  |

${ }^{1}$ At the time of completed grading and mandatory assignments/revisions.
${ }^{2}$ After first summative examination.
${ }^{3}$ State: how the students were given the opportunity to participate in the preparation and decisions at course level, how
the students were given the opportunity to provide feedback on the course and how this forms the basis of the analysis
and proposals below, response frequency (for example, concluding survey $70 \%$ response frequency, post-it notes -
improvement suggestions after the second course week $90 \%$ response frequency, course council $85 \%$ attendance).

## Conclusions from the previous course evaluation

Possible suggestions for improvement are

- Start with a synthetic presentation of the main points of the day
- Brief recap of the morning lecture before introducing the afternoon lab
- Increase from 2 to 4 dedicated Stata sessions to practice more on Stata
- Move the demonstration of Stata knowledge through an home assignment at the end of the course
- Dedicate Thursday entirely to group work (design, simulate, analysis, interpretation, presentation)


## Description of conducted changes since previous course occasion

- Cutting from 24 hours to 15 hours per week of contact with students
- From 3 hours lecture to 2 hours lecture in the morning
- From 3 hours lab to 1 hour of Q\&A on-line
- 4 graded weekly quizzes
- Thursday afternoon dedicated to learning in groups


## Summary of the students' response to the course valuation

A total of 24 out of 39 students (62\%) filled in the evaluation form. The typical median score obtained on all questions was ranging from 3 to 4 in a scale from 1 to 5 . Had the course not reached the learning outcomes in a positive environment, it would be quite difficult to get such numerical responses.

## The course leader's reflections on the implementation and results of the course

A survey on the very first day of the course (November 6, 2023) indicated that about $60 \%$ of the students see themselves as doctoral students after the master program. The median prior confidence in statistics was 3 points on a range from 1 (strongly disagree) to 5 (strongly agree) points (See histogram below).


Majority of the students have used a statistical software in their previous statistical courses (mainly SPSS, R, Stata). Students were interested in applying statistics to a variety of fields as shown in the cloud below.


A key feature of this international class of students is the large heterogeneity in background, interests, prior knowledge, and learning styles.

Students indicated that working in groups has been helpful in sharing of knowledge and peer learning.

The assessment of learning outcomes is done with group reviews; weekly graded quizzes; mid-course home assignment; and written final exam.

Weekly practice and graded quizzes were prepared for the students. The graded quizzes (to be done on Canvas within a limited amount of time) consisted of 8 questions (True/False) covering the main concepts of the week, each worth certain point. The logic underlying the graded quiz is that had the students not achieved the learning outcomes would be very difficult to get a total large score, or anything beyond random guessing.

At the second roll call (November 27), after 21 days, a quick mid-course feedback was done. In a possible range between 1 and 10 points, the average satisfaction with the course was 6.7 points. The distribution of responses is shifted to the right.


About 73\% felt engaged and connected with peers and instructors. Nevertheless, students indicated areas for improvements, particularly the connection between lectures and labs.

Among the open suggestions provided by some students at the end of the course, some topics can be improved in terms of structure, clarity, and examples. Fundamentals of the statistical software Stata were introduced in the first week but it has be difficult for someone who is not familiar in writing scripts.

## Course leader's conclusions and suggestions for improvement

The total scores obtained during the course (group review, 4 graded quizzes, DICE group activity, and software assignment) and with the final pen-and-paper exam were strongly and positively correlated. Grading was blinded. The observed distribution of the total score, ranging from 0 to 100 points, shown below would be difficult to achieve without a course that help students in reaching the learning outcomes. About one-third of the students crossed the $91^{\text {st }}$ percentile leading to a pass with distinction while only a few students below the passing $65^{\text {th }}$ percentile.


As course director, I am satisfied with the progression of the students during the course considering the several changes we implemented this year. Of course, there is room for improvement in the following areas:

1. On-line feedback on individual exercises (mon-tue-wed) should be replaced with exercises in small groups meeting face-to-face with a teaching assistant available during that time
2. Lecture time should include key learning points and key examples
3. Introduction to the use of the statistical software should be longer
4. The graded quizzes (True/False) should be phrased in a way that is unequivocal and not to be done on Thursday afternoon

## Other comments

