



# UiO : Institutt for spesialpedagogikk

## Det utdanningsvitenskapelige fakultet

### Sensorveiledning

|                              |                              |
|------------------------------|------------------------------|
| <b>Emnekode</b>              | RSNE4013                     |
| <b>Emnenavn</b>              | Basic concepts in statistics |
| <b>Studiepoeng</b>           | 5                            |
| <b>Studieprogram</b>         | Master i spesialpedagogikk   |
| <b>Semester og studieår</b>  | Fall 2024                    |
| <b>Eksamensform</b>          | Written exam in statistics   |
| <b>Karakterskala</b>         | Pass/Fail                    |
| <b>Emneansvarlig</b>         | Lisa-Christine Girard        |
| <b>Ansvarlig for eksamen</b> | Lisa-Christine Girard        |
| <b>Eksamensdato</b>          | 19. November 2024            |

There are two parts to the exam: Part A involves running analyses on a dataset. Part B involves reporting an analysis from a published article.

Part A is weighed 50% in the total grade. Part B is weighed 50% in the total grade. **Both parts A and B must receive passing grades to pass the exam.**

#### Part A

There are 4 variables in the dataset. Students are expected to report appropriate descriptives for each and then test three pairs of variables using appropriate inferential statistics. They are also expected to produce relevant graphs and provide appropriate justification and interpretation.

#### Grading

##### Instances of a passing grade:

Scenario 1: Complete correct procedure, appropriate graphs, correct numbers and correct conclusions, reported in APA format, very few very minor mistakes (e.g., one element forgotten, incorrect rounding). Minor mistakes in APA formatting (e.g., italics fonts for symbols, spaces around signs, wrong number of decimal places etc.) are not taken into account.

Scenario 2: Complete correct procedure, conclusions, and reports but more than a few very minor mistakes, e.g., an occasional (not systematic) suboptimal phrasing of hypothesis or conclusion, major omissions or mistakes in APA reporting, or a less relevant graph.

Scenario 3: Correct procedure with some systematic deviations, e.g., systematic suboptimal (but not incorrect) choice of graph, test, descriptive statistic; or somewhat incomplete (but correct) phrasing of the null hypothesis or conclusion; or one of the four analyses having one or more mistakes that are not minor but do not indicate complete lack of understanding, for example one analysis missing one assumption test or one misstated null hypothesis or one wrong conclusion based on the findings.

Scenario 4: Occasional more serious mistakes or systematic mistakes or omissions indicative of incomplete knowledge or lack of understanding, e.g., two analyses with missing one assumption checks or incorrect application of the assumption checks or misstated null hypotheses or poorly phrased conclusions. Or two analyses with partially incorrect numerical output.

Scenario 5: Many mistakes across the board but evidence of awareness of the general procedure, that is, choosing analysis based on variable type and assumption checks. But, at least two largely correct analyses (even with some missing, inappropriate/suboptimal, or not entirely accurate elements).

#### **A failing grade:**

Fail: Three or more completely incorrect analyses (i.e., incorrect numerical outputs, beyond last digit rounding); AND/OR three or more completely incorrect conclusions (i.e., wrong decision with respect to the null hypothesis or wrong final statement about the variables); AND/OR three or more incorrect assumption checks (i.e., wrong test or wrong conclusion based on the correct test.); AND/OR No checking of assumptions in more than one analysis.

Important to note: If there are any additional steps or analyses (i.e., more than required by the exam) that are correct, they are ignored. If they are simply incorrect OR if they are not only incorrect but indicate some serious misunderstanding, they can knock the grade down to a failing grade if it then meets the criteria of three or more incorrect analyses/conclusions/incorrect assumption checks.

#### **Part B**

There is an article that contains some analyses (one in English, one in Norwegian – they only need to pick one). Graders should skim the article to get a sense of what is going on. Students are directed to one reported analysis (a single result) and should show an understanding of what it is and what it means. We do not expect students to discuss the topic of the article, just the role of the chosen analysis in it.

#### **Grading**

##### **Instances of a passing grade:**

Scenario 1: Perfect understanding of the nature and meaning of the analysis in its context, with relevant commentary and interpretation.

Scenario 2: Good understanding of the nature and meaning of the analysis. Correct description of the variables and the conclusion. Minor omissions only (e.g., units of measurement; or further interpretation in context; or appreciation of weaknesses).

Scenario 3: Generally correct answer regarding what type of analysis it is, which variables are involved, and what it shows (statistically significant relationship or not). Answer may be somewhat incomplete (e.g., not specifying one element in the type of analysis or not specifying measuring scales or what is the dependent/independent variable or what the interpretation of the finding is).

Scenario 4: At least one important mistake or serious omission but most elements basically correct (if not necessarily complete).

Scenario 5: Very rudimentary answer, but not entirely incorrect. There should be some relevant information showing some basic understanding (e.g., is it a kind of correlation? a kind of t test? etc.) and some not incorrect content (e.g., the names of the variables). The basic conclusion (is it statistically significant or not?) should be correct (but misstated, poorly phrased, or misinterpreted).

**A failing grade:**

Fail: Serious lack of understanding, for example wrong type of analysis reported, or a descriptive analysis chosen, or not understanding what the variables are, or completely irrelevant conclusion.