

## Disclaimer

This leaflet represents the intended Research Minor during the first term 2007/2008.

Evaluation of the programme and student's interests make adaptations possible.

Ask a team member for further information.



*the Netherlands, Vlissingen*

# Research Minor

Stepping stone  
towards qualified research

# Research Minor, stepping stone towards qualified research

## Introduction

This minor is designated by the administration of HZ to be called a '+ minor' (say: *plus* minor) in the range of presented HZ minors. This minor is meant to:

- prepare ambitious students for easy enrolment in Master degree programmes<sup>1</sup>;
- train students in all facets of research in order to substantially enhance the quality of their final Bachelors' research and thesis;
- provide instruction in conducting sound research in an institutional or corporate setting, a situation many will experience later in their professional careers.

More generally, students in this minor programme will be intensely trained in skills that are important in their professional lives as well in their personal lives, such as critical thinking, structured writing, project planning and objective analysis.

## Applied Statistics and Research

The content ranges from statistical skills and theories to research design and development of research instruments. All these aspects will come together in two practical assignments in which you work with external partners on real projects (see descriptions on the following pages). The following completed (2,5 EC) courses are recommended as entrance level: Basic statistics (CU03078, CU3739) and Research methods (CU03081, CU03740).

## Teachers

Your teachers and coaches in this minor program have extensive experience in research, both in an academic setting and in a professional setting. The team unites strengths from several disciplines: sociology, business studies, statistics, psychology, physics and English. We are very enthusiastic about the Research minor we are presenting here and look forward to be working with you. It is of course an ambitious programme that needs ambitious students to participate. If in doubt whether our minor is the right choice for you, feel free to come and have a talk with one of us.

## Staff representing the minor team:

Kees Bal (statistics and methodology), [kees.bal@hz.nl](mailto:kees.bal@hz.nl)

Rowena Kiely (English language skills), [rkiely@hz.nl](mailto:rkiely@hz.nl)

Rob Korevaar (Statistics), [rob.korevaar@hz.nl](mailto:rob.korevaar@hz.nl)

Willem van Moll (methodology), [wmoll@hz.nl](mailto:wmoll@hz.nl)

Marjolein van Noort (methodology), [marjolein.van.noort@hz.nl](mailto:marjolein.van.noort@hz.nl)

Jan Prins (team coach, statistics and methodology), [jprins@hz.nl](mailto:jprins@hz.nl)

---

<sup>1</sup> Many Dutch Bachelors offered by universities (in the Netherlands they use the word 'university' solely for scientific institutes, and not for professional institutes like the HZ) spend about 30 EC in their programmes on methods and statistics. Their Master courses take this research knowledge for granted when enrolling students.

## Research Minor - 6 courses and 2 assignments:

Method Oriented Research Assignment	
Supporting education – six 2,5 EC courses	study load: 210 hours
tools:	skills:
1. Extended Statistics 1	4. Introduction SPSS
2. Extended Statistics 2	5. Extended SPSS
3. Extended Research Methods	6. Publication
study load: 420 hours	study load: 210 hours
Data Oriented Research Assignment	

time frame - 14 weeks

### 6 COURSES:

#### Extended Research Methods (2,5 EC)

In the Course Extended Research Methods there will be a focus on several areas of quantitative as well as qualitative research.

In the part related to quantitative research there we will focus on designing a questionnaire, an experiment and a survey. In the part related to qualitative research the focus will be on the advantages and disadvantages of observation, content analysis and case study as ways of collecting data. In both quantitative and qualitative research literature review is prominent. This will be trained using specific assignments.

The information supplied will be useful for, and act as a basis for, the two pieces of research that have to be carried out in this minor.

**Content:** a mix of research tools or methods in Capita Selecta in the form of workshops. Elaboration of research examples in which students achieve general skills.

Possible subjects:

- types of research, deduction/induction
- theory / empirical work
- observation
- case study
- grounded theory with questionnaire application
- survey
- experiment

**Test:** a final assignment (report) , individual verbal explanation

### Publication (2,5 EC)

This course challenges you to develop your writing skills on the level of writing that is expected of students taking a master course. The final result of the course is writing an argumentative essay, a technique that is applied in the minor later on.

**Content:**

Techniques for writing. A research related article or essay; a summary of a research report.

**Test:** written assignments (article or essay, summary) following APA criteria.

### Introduction SPSS (2,5 EC)

One of the goals of this course is the computer-aided questionnaire, one of the most used elements in a quantitative research. Therefore we need to have skills and knowledge about automated processing of statistical data as well as setting up a questionnaire. Nowadays technology cannot be evaded and helps us to work efficiently and make statistical theory illustrative. As a student you will gain a huge advantage by participating in many projects.

**Content:**

- Descriptive statistics
- Selection and Transformation Procedures
- Confidence intervals
- Chi-square tests
- Data Entry
- T-test
- Questionnaire related SPSS tools (data entry)

**Test:** assignment discussed with tutor during last class

### Extended SPSS (2,5 EC)

A follow-up of the introduction course that will enable you to apply complex statistical inferences. Especially in combination with the two Extended Statistics courses this tool is essential to make progress and understand the theoretical framework. The goals supported are both a demonstration of theory and the more advanced data-analysis - a must if you are or become involved in explanatory research.

**Content:**

- Binomial tests
- linear regression techniques (multi level regression analysis)
- one-way anova, two-way anova
- non parametrical tests
- bivariate methods

**Test:** evaluation of practice assignments

## Extended statistics 1 (2,5 EC)

As a follow-up to basic statistics this course is a next step to understanding and applying statistical techniques. If you would like to know if properties of examined objects are correlated and how, (a next step to your Chi-square analysis) you should not hesitate to take this course. To be able to process data the SPSS courses are recommended together with this course.

### **Content:**

- Testing hypotheses, errors of the second kind
- Linear regression analysis, trend analysis
- Analysis of Variance: one-way anova, two-way anova

**Test:** Written test

## Extended statistics 2 (2,5 EC)

Similar to the previous extended statistics 1 course. In this case you need to combine extended SPSS with this course. This is perfect for the overview of all kinds of data-analysis. Chosen outside the minor it is our highest level in statistics.

### **Content:**

- Non parametrical tests:
- Binomial test
  - Wilcoxon for independent samples
  - Wilcoxon for paired samples
  - rank correlation Spearman
  - Kruskal-Wallis H-test for a randomised sample design
  - Multiple regression and the construction of a model
  - Trend analysis

**Test:** Written test

**2 ASSIGNMENTS**

## Method oriented research assignment (7,5 EC)

This practical assignment focuses on the research methods used in real-life research with our (external) partner. You will learn which choices are important and/or necessary in properly constructing a piece of research. This will enable you to have an argued opinion on all 'research' you will be confronted with later in your career (or in the newspaper...).

### **Learning outcomes:**

- formulate a research question related to a specific research method
- perform a critical literature review and write a literature review
- critically analyze the research method under study and make solid and feasible suggestions for improvement
- prepare additional research: data gathering through questionnaires, observation, interviews (& executing this research time permitting)
- present findings to an audience of peers and professionals

**Deliverables:** mix of proposal, mini-assignments, presentation, report, excursion, peer reviews

**Test:** assessment of deliverables

## Data oriented research assignment (7,5 EC)

In this part of the minor we are using data of our (external) partner as a basis for investigating interesting and relevant research questions. A substantial part involves data analysis with SPSS. The end result will reveal new insights into the chosen research topic.

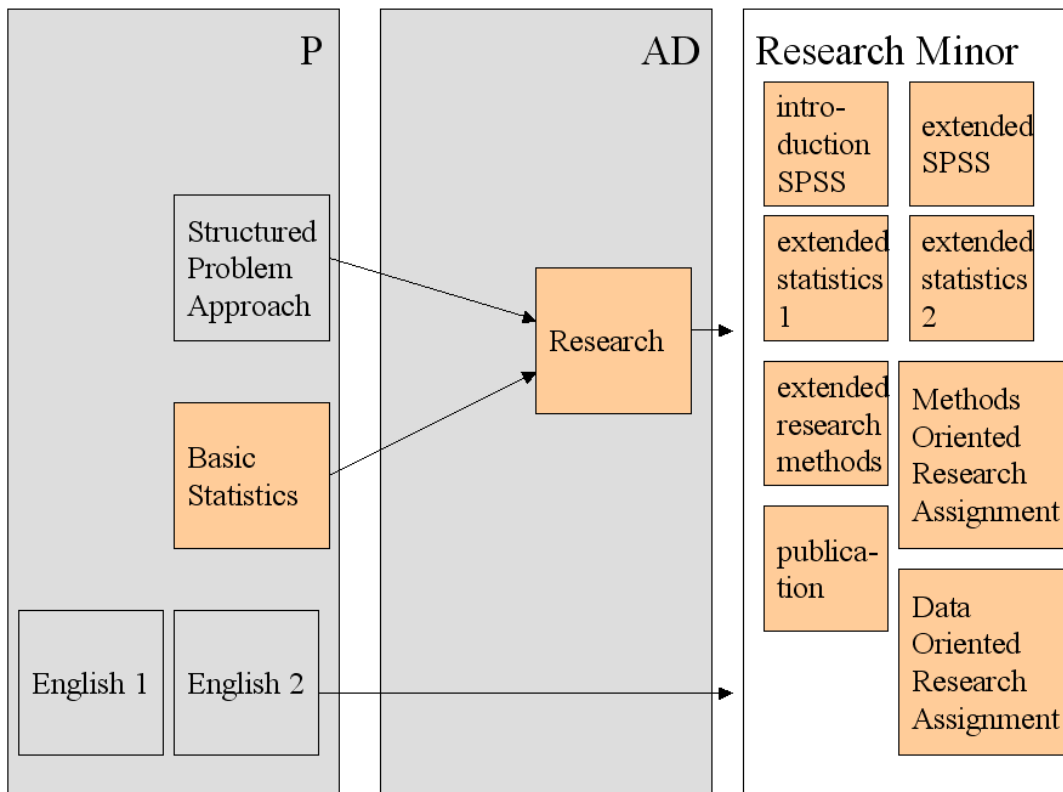
### Learning outcomes:

- formulate a research question that finds a basis in theory
- handle a large database and use SPSS for analysis
- critically reflect research methods and results and make suggestions for improvement
- write different chapters of a research report and integrate these into a coherent report

Deliverables: mix of proposal, assignments, presentation, article, report

Test: assessment of deliverables

### learning-teaching trajectories of Research Minor



**More information?**

Please contact mr. Kees Bal, email: [kees.bal@hz.nl](mailto:kees.bal@hz.nl)