Syllabus and schedule ACE120, 2021 (preliminary as we are following the Covid 19 regulations)

**Methods and enquiry in organizations**

|  |
| --- |
| Academic year 2020/2021 Semester/Q 1 Credit points 7.5 |

**Aim**

This course introduces and trains students to define, plan, perform and present empirical investigations regarding new developments or challenges related to management in the construction sector. Students will learn how to formulate research questions, select appropriate empirical methods, analyse qualitative and quantitative empirical material, present and report data and findings, reflect upon and motivate methodological choices and understand ethical implications of choices and actions.

The theme for the assignment is “new technology in the construction industry”. The students will be asked to study the potential of one specific technology in the particular context of one of the organizations active in the sector.

**Course design and content**

This course provides knowledge and practical training in designing and conducting research studies. It consists of lectures, literature seminars and practical exercises in research strategy and design, quantitative and qualitative research approaches, formulation of research questions, interviewing and observation, as well as in data analysis. It includes the following topics:

* Defining and conducting systematic production of knowledge
* Introduction to theory of science
* Engineering ethics
* Reflective practice
* Communication skills

The course includes lectures, exercises, seminars and quizzes aiming at giving the students general knowledge and training practices to conduct research.

Project groups are formed at the beginning of the course and group supervision will be provided. The compulsory activities will be listed in the course schedule.

The groups will be asked to provide a diary of the project processes with a weekly update of their progression.

**Learning outcome**

*After completion of the course the student should be able to*

* Reflect upon the notion of knowledge in the context of science, engineering and organisations
* Assess the need for scientific information, search for that information and critically evaluate its relevance
* Analyse specific context to define and delimit a research question
* Select appropriate research methods for fulfilling the research project objectives
* Critically evaluate used methods with consideration to both scientific trustworthiness and ethical aspects
* Interpret and assess the quality of the results
* Formulate and organize a discussion
* Evaluate whether research has been carried out in a trustworthy and defensible manner

*Besides, the students should be able to*

* Organise, plan and manage the project work load according to the tasks and the members of the group
* Collaborate professionally according to the project group's needs of structured management and task distribution.
* Perform a clear oral presentation of the project results that is well-suited to its intended audience.
* Assess and give constructive feedback to other projects group's work
* Reflect on and reason about ethical aspects of engineering work, academic research and corporate codes of conduct according to sustainable concerns

**Teachers**

Martine Buser, Associate professor, course examiner

E-mail: buser@chalmers.se

Rickard Andersson, PhD student

E-mail : rickande@chalmers.se

Sven Hultinsgata 8
SE – 412 96 Gothenburg

**Schedule**

**Dates, venues, themes and activities**

|  |  |  |
| --- | --- | --- |
| 1. **Introduction**
 | **Date:**  | Tuesday 31/8 09.00 – 11.45 |
| **Content:** * Course schedule and activities
* The notion of paradigm
 | **Room:** | Online |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture on Knowledge and intro to Project groupwork**
 | **Date:**  | Friday 3/9 09.00 – 11.45 |
| **Content:**  * Knowledge as an example of different paradigms
* Organization of project groups
 | **Room:** | Online |
| Reading:  | Bell et al. (2018): chapter 2 – Philosophical assumptions in business research pages 25-37. |

|  |  |  |
| --- | --- | --- |
| 1. **Workshop on knowledge \***
 | **Date:**  | Tuesday 7/9 08.30 – 11.15 |
| **Content:** * Knowledge session workshops
* Criteria to assess the technology potential
* Distribution of the case studies
 | **Room:** | SB-L516 Half class B onsiteHalf class A online  |
| Tasks:  | Project planningFind information about the organization/technology  |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture collecting empirical material**
 | **Date:**  | Friday 10/9 09.00 – 11.45 |
| **Content:** * Aim of data collection
* Identify types of information
* Quantitative qualitative
 | **Room:** | SB-L516 Half A onsiteHalf B online |
| Reading:  | Silverman D. (2014) Chapter 1: What is qualitative research, in Interpreting qualitative data. Sage  |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture and workshop on interviews \***
 | **Date:**  | Tuesday 14/9 09.00 – 11.45 |
| **Content:** * Intro about interviews
* Interview group work
 | **Room:** | SB-L316Half class B onsiteHalf class A online |
| Reading:  | Bell et al. (2018): chapter 20: Interviewing in qualitative research  |
|  |
| 1. **Lecture on conflict resolution**
 | **Date:**  | Tuesday 14/9 13.15 – 15.45 |
| **Content:** * Lecture
* Group work
 | **Room:** | SB-L516 Half class A onsiteHalf class B online |
| Reading:  |  |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture workshop on observation /focus group \***
 | **Date:**  | Thursday 17/9 09.00 – 11.45 |
| **Content:** * Lecture
* Group work
 | **Room:** | SB-L516Half class B onsiteHalf class A online |
| Reading:  | Bell et al. (2018) chapter 19 : Ethnography and participant observation  |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture literature**
 | **Date:**  | Tuesday 21/9 13.15 – 15.45 |
| **Content:** * What is found in the literature?
* How to organize it
 | **Room:** | SB-L516Half class A onsiteHalf class B online |
| Reading:  | Bell et al. (2018) chapter 5 : Getting started …. |

|  |  |  |
| --- | --- | --- |
| 1. **Literature seminar**
 | **Date:**  | Friday 24/9 08.00 – 11.45 |
| **Content:** * Types of questions 08.00-09.00
* Group work 09.00-11.45
 | **Room:** | Online SB-L516 open |
| Reading:  | Two academic papers  |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture making sense of the empirical material**
 | **Date:**  | Tuesday 28/09 09.00 – 11.45 |
| **Content:** * How to analyze the empirical material
 | **Room:** | SB-L516Half class B onsiteHalf class A online |
| Reading:  | Bell et al. (2018) chapter 24: Qualitative data analysis  |

|  |  |  |
| --- | --- | --- |
| 1. **Lecture and exercise problem formulation**
 | **Date:**  | Friday 1/10 09.00 – 11.45 |
| **Content:** * how to select and define a problem
* how to formulate research questions
 | **Room:** | SB-L516Half class A onsiteHalf class B online |
| Reading | Bell et al. (2018) chapter 4: Planning a research project and developing research questions |
|  |  |
|  |  |  |
| 1. **Ethic session (MB)**
 | **Date:**  | Tuesday 5/10 09.00 – 11.45 |
| * What is ethic
* Ethic in research
* Ethics and engineering
 | **Room:** | SB-L516Half class B onsiteHalf class A online |
| Reading: 6: Ethics in business research |  |  |

|  |  |  |
| --- | --- | --- |
| 1. **Supervision**
 | **Date:**  | 11-15/10 |
| **Content:** 30 min per group, the groups sessions will be uploaded on Canvas | **Room:** | On site/online |
|  |
| 1. **Wrapping up**
 | **Date:**  | Friday 15/10 09.00 – 11.45 |
| **Content: quizz***
 | **Room:** | SB-L516Half class A onsiteHalf class B online |
| Reading:  |  |

|  |  |  |
| --- | --- | --- |
| 1. **Presentation of groupwork\* 1st round (MB RA)**
 | **Date:**  | Thursday 21/10 09.00 – 17.00 |
|  | **Room:** | SB-M022  |

|  |  |  |
| --- | --- | --- |
| 1. **Presentation of groupwork\* 2nd round (MB RA)**
 | **Date:**  | Friday 22/10 08.00 – 17.00 |
|  | **Room:** | SB-M022 |

**Course support**

**Literature**

Bell E., Bryman A. and Harley B. (2015) Business research methods. OUP, Oxford.

Other material such as scientific papers, book chapters and videos will be provided on Canvas.

**Course assessment**

The examiner will meet four students’ representatives at three occasions during the course. A standardized course evaluation will be carried out in the ending of the course.

**Expectations and examination**

You are expected to have read the assigned literature before the beginning of each lecture. This will provide you with the necessary terminology and preconception to enable further collective exploration in class.

Participation in mandatory course activities (or a relevant compensation assignment in agreement with the examiner) is a prerequisite for passing the course.

Each group has to attend all the sessions of the course

Exercises done in class will be part of the dairy

Active project group work, including the completed project diary, presentation material and the oral presentation constitute the group component of the final grade for 90%.

The project topic is to  assess the potential of a given technology for a organisation. The students will be distributed in groups of  4-5 members, randomly chosen and have 7 weeks or 600 hours to come up with a credible result.

To do so the students are expected to

* Plan and organize the project
* Manage the workload, the tasks and the team
* Possible interviews with companies weeks 39-40
* Presentation of the results to the class  on the 21-22 October (one out of the dates only for each group)
* Attend the course and participate to the workshops
* Document the group’s work in a diary

A individual assessment of the project process constitutes the final 10%.

**Grading**

The grading builds on:

* The fulfilling of the project diary, including the group’s assignments related to workshops, for 50% of the grade
* The slides and oral presentation of the case study for 40%
* The individual assessment for 10%
* Non-participation to the group work leads to a fail!

The course is graded 5, 4, 3 or fail.