

Research Methodology

Credits: 6

Language of Instruction: English

Faculty: Prof. dr. Edwin van Hassel

Program Learning Outcome

- Differentiate between fundamental research methods and comprehend their strengths and weaknesses when applied to real-world problems.
- Understand the system thinking framework, including process and compositional approaches for research design.
- Identify research questions and formulate hypotheses within a system thinking framework.
- Understand the utilization of multi-methodologies to approach complex problems using both quantitative and qualitative methods.
- Develop an appreciation for the importance of integrating science and real-world applications.
- Cultivate a sense of responsibility towards contributing to the development of science and real-world solutions through close partnerships.
- Select real-world problems to address based on relevance and personal interest.
- Organize and manage a comprehensive research process from start to finish.
- Choose and apply the most appropriate research methods for the envisaged study.
- Develop and implement formulations and solutions that provide added value to real-world problems, supported by scientific methods.
- Acquire the ability to effectively and rigorously communicate scientific results to both skilled and non-skilled audiences, ensuring clarity and comprehension.

Course content

Introduction to research in transport economics

1. Course introduction
2. The scientific method
3. Research funding
4. Ethical issues in transportation research

- II. Formulating research questions
 - 1. Defining your research problem
 - 2. How to do a literature review?
- III. Research design
 - 1. Building your research rationale
 - 2. Writing your research proposal
- IV. Data management
 - 1. Data collection and management
 - 2. Drafting a data management plan
 - 3. Data visualisation
- V. Research methods in transportation research
 - 1. Introduction to modelling
 - 2. Four-step model
 - 3. Choice models
 - 4. Regression models
 - 5. Production functions, cost functions and economic efficiency
- VI. Research project management
 - 1. Time management
 - 2. Budgeting
 - 3. Research Risk management
- VII. Dissemination and communication
 - 1. How to get published?
 - 2. Attending academic conferences
 - 3. Dissemination to a wider audience
- VIII. Preparing for the PhD journey
 - 1. Managing your supervisor
 - 2. Building your academic network
 - 3. Career planning for PhD students

Pre-requisites

speaking and writing of:

- English

reading and comprehending of:

- English

Method of Instruction

Lecture	39h of interactive lectures and workshops (26 sessions) 15h of practice sessions during which students prepare a research proposal (10 sessions)
Paper	Individually
Presentation	3h of presentations of research proposals for a mock-up research fund panel

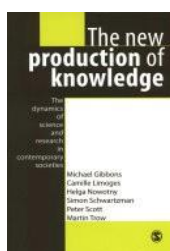
Assessment Method & Criteria

Method	Weighting (%)	Retake (yes/no)
• Written assignment	70	yes
• Presentation	30	yes

Required Study Materials

Slides and course notes shared digitally with students during the course.

Optional Study Materials



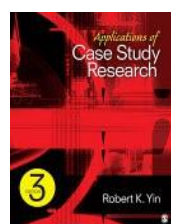
The New Production of Knowledge ISBN:

9781446228722

Authors: Michael Gibbons, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott, Martin Trow

Publisher: SAGE

Publication Date: 1994-07-21



Applications of Case Study Research ISBN: 9781412989169

Authors: Robert K. Yin

Publisher: SAGE

Publications Publication

Date: 2012-01-01



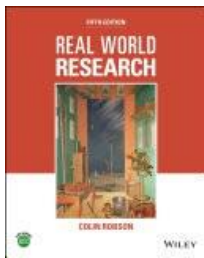
Scientific Method in Practice ISBN:

9780521017084

Authors: Hugh G. Gauch

Publisher: Cambridge University

Press Publication Date: 2003-01-01



Real World

Research ISBN:

9781119523604

Authors: Colin Robson

Publisher: John Wiley &

Sons Publication Date:

2024-04-29

Academic Integrity

This course is subject to the Code of Conduct and the Examination Regulations of Antwerp Management School. The full text of these documents can be found at <https://www.antwerpmanagementschool.be/en/general-conditions/general-education-and-examination-regulation>. Each student is expected to have read, understood, and to have approved these regulations.

In dit opleidingsonderdeel zijn de gedragscode en het examenreglement van Antwerp Management School van toepassing. De volledige tekst van deze documenten is te vinden op <https://www.antwerpmanagementschool.be/nl/algemene-voorwaarden/onderwijs-en-examenreglement>. Elke student wordt geacht dit reglement te hebben gelezen, begrepen en goedgekeurd.