



HÖGSKOLAN I GÄVLE

Scientific Methods and Writing in Energy Engineering 3 cr

Vetenskaplig metod och skrivande inom energiteknik 3 hp

Set by Faculty of Engineering and Sustainable Development

Version

Set at

Valid from

5/9/22

HT2023

Level	A1F
Education level	Second cycle
Course identifier	ETA328
Credits	3 cr
Main field of study	Energy Technology
Subject group	Energy Technology
Disciplinary domain	Technology 100.0 %

Learning outcomes After completion of the course the student shall be able to

Knowledge and understanding

1. describe the main research methods in technology and science
2. describe quantitative as well as qualitative data collection methods

Skills and Abilities

3. formulate research problems and questions
4. choose appropriate research method based on particular research questions
5. use scientific databases to find relevant literature
6. refer correctly regarding formalism, plagiarism and ethics
7. write and orally present a research plan in energy systems, and oppose a similar research plan

Judgement and approach

8. identify and critically discuss merits and demerits in scientific publications.

Course content

Research planning
Research methodology

	Literature search		
	Data presentation		
	Scientific writing - language and formalities		
	Reference systems		
	Ethics and plagiarism		
	To relate to environment and sustainable development		
	Research proposal writing		
	Oral presentation and opposition procedures		
Teaching	Seminars, lectures, assignments and writing task		
Prerequisites	Building Energy Systems 7,5 credits and Energy Systems 7,5 credits, or equivalent		
Examination	Seminars and assignments, literature review and research proposal.		
	0010 Seminars and assignments 1 credit, examines learning outcomes 1-4, 7-8, grades Pass, Fail		
	0020 Literature review and research proposal 2 credits, examines learning outcomes 3-8, grades A-F		
Grade	A, B, C, D, E, Fx, F		
Other regulations	Degree criteria for final grade will be handed out by the course responsible or examiner latest at the beginning of the course.		
Sustainable environment	A minor part of the course content deals with sustainable development.		
Module			
	0010 Seminars and assignments	1 cr	Grade: UG
	0020 Literature review and research proposal	2 cr	Grade: AF