Module Specification

Research Methodology [TSI]

Version: 2023-24, v2.0, 06 Dec 2023

Contents

Part 1: Information

Module title: Research Methodology [TSI]

Module code: UFCE71-18-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 18

ECTS credit rating: 9

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: Transport and Telecommunication Institute

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module aims to develop a systematic approach to research through the use of information gathering and planning techniques. The module is an essential part of the preparation for the Masters Thesis.

Features: Not applicable

Educational aims: This module aims to give students the skills necessary to carry out scientific work that underlies the production of a Master's thesis. It will help the

student to select a suitable research topic, plan a literature review of scientific publications and apply principles of analysis and evaluation in their research. The student will also learn how to structure a Master's thesis and present their ideas and findings using a suitable academic style.

Outline syllabus: Introduction. The system approach to research and main steps of research. Multidisciplinary in research.

Types of research projects. Research organization in Europe, Latvia and in the Transport and Telecommunication Institute (TSI). The main directions of research in Europe and Latvia.

Scientific and research information. Primary and secondary data sources. Working with literature and international scientific citation systems; citation, indexes; classification of scientific publications.

Ethics of Scientific Research (authorship, plagiarism, conflict of interest, fraud in the experiments, etc.).

Concept of Open Science.

Typical structure of articles and abstracts to scientific reports. Literature review.

Research Design. Formulation of the problem of scientific research. Task Setting. Research Questions and hypothesis.

Selecting a Problem and Reviewing the Literature.

Methods of research: quantitative and qualitative.

Data collection and analysis methods.

Planning of content and development stages of master thesis. Procedures in TSI.

Presentation and defence of scientific ideas. Key sections of oral presentation of the results of scientific research.

Task Setting. Presentation and discussion.

Formalisation of the problem and formulation of the problem of scientific research in their study area.

Planning state-of-the-art research in the selected topic/domain.

Scientific discussion on selected topics of research.

Proving the relevance of the problem.

Research in the chosen field of scientific and practical activities.

Detailed planning of content and stages of the Master thesis.

Part 3: Teaching and learning methods

Teaching and learning methods: Learning and teaching will be provided to students in two forms: lectures and practical classes. During lectures, theoretical aspects of the course will be provided to students by the teaching staff. Lectures will be supported by presentations published and available to the students on e.tsi.lv under the module section. Also, additional materials, like publications on the internet, videos, case-studies etc will be presented in e.tsi.lv.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Develop a comprehensive research proposal, justifying the chosen methodology, and outlining a clear strategy for investigating a research question.

MO2 Critically assess the credibility, relevance, and significance of information sources to support research findings and conclusions.

MO3 Use appropriate research methods such as qualitative and quantitative for a given context to collect data.

MO4 Evaluate and apply ethical principles and compliance requirements throughout the research process, ensuring integrity in data handling, participant privacy, and scholarly conduct.

Hours to be allocated: 180

Contact hours:

Independent study/self-guided study = 168 hours

Face-to-face learning = 72 hours

Total = 240

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/1C142C0B-CA6B-A7E9-97B2-1AE5ABE70F59.html?lang=en-gb&login=1

Part 4: Assessment

Assessment strategy: The module is assessed by Presentation and Portfolio. Each item should be completed individually by the student.

In frame of the presentation each student should deliver his/her vision of the research, highlighting actuality of the research, aim, object and subject of the research, methods which will be utilized during research, expected outcomes etc. In the frame of the portfolio students will be asked to complete the set of exercises targeted to access students ability to apply quantitative and qualitative research methods.

The resit would include remastering/update of presentation and remastering and update of the portfolio.

Assessment tasks:

Presentation (First Sit)
Description: Presentation of planned masters research including relevant context, methodology and key sources (20 mins).
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO4

Portfolio (First Sit)
Description: Portfolio of practical exercises.
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO2, MO3, MO4

Presentation (Resit)
Description: Presentation of planned masters research including relevant context, methodology and key sources (20 mins).
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO4

Portfolio (Resit)
Description: Portfolio of practical exercises.
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science (Data Analytics and Artificial Intelligence) {Double Degree} [TSI] MSc 2023-24