# Module: Research Methods 381

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| **Module name:** | Research Methods 381 |
| **Code:** | RSH381 |
| **NQF level:** | 7 |
| **Type:** | Core – Bachelor of Computing (all streams) |
| **Contact Time:** | 30 hours |
| **Structured time:** | 6 hours |
| **Self-directed time:** | 34 hours |
| **Notional hours:** | 70 hours |
| **Credits:** | 7 |
| **Prerequisites:** | STA281 |

## Purpose

The module aims at helping students to appreciate the diversity, roles and limitations of various research paradigms, research designs and research instruments. Understand the stages of the research process and gain related skills involving inferential statistics, data collection and analysis.

## Outcomes

Upon successful completion this module, the student will be able to demonstrate:

- Integrated knowledge of research, reasons for conducting research and understanding of limitations research in computing.
- An understanding of knowledge as contested and the ability to evaluate types of knowledge and explanation related to literature review.
- The ability to identify, analyse, evaluate and critically reflect on choice and application of research paradigms and designs.
- Identify and justify various ethical considerations, reliability and validity issues related to research in computing.
- To select and communicate ideas and opinions relating to sampling, data collection, data analysis and ways of representing data.
- Develop and communicate ideas and or opinions through the research study using well-formed arguments and appropriate academic sentiments.
- An understanding of key terms and procedures used in conducting hypothesis testing.

## Assessment

- Continuous evaluation of theoretical work through two written assignments, a formative and summative test.
- Final assessment through a written examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.
- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

# Teaching and Learning

## Learning materials

Presentation notes and hand-outs.

### *Additional Reference Material:*

- 🕮 Olivier, M. S. (2013) *Information technology Research, 3rd Edition.* Van Schaik. [ISBN 978-0-627-027581]

## Learning activities

The teaching approach consist of a combination of lectures on definitions, theoretical concepts, research onion, methodologies, techniques and tools. Students must complete two assignments, formative tests and an examination.

## Notional learning hours

List the learning activities in hours

| Activity | Units | Contact Time | Structured Time | Self-Directed Time |
|---|---|---|---|---|
| Lecture | | 27.0 | | 13.0 |
| Formative feedback | | 3.0 | | |
| Project | | | | |
| Assignment | 2 | | | 6.0 |
| Test | 2 | | 4.0 | 8.0 |
| Exam | 1 | | 2.0 | 7.0 |
| | | **30.0** | **6.0** | **34.0** |

## Syllabus

- Introduction to research methods
- Literature review
- Ethical considerations in research
- Research paradigms
- Research designs
- data collection instruments
- populations and samples
- reliability and validity issues in research
- Data analysis procedures
- Inferential statistics (hypothesis testing)
- Ways of representing data
- Research proposal
- Research report