



Mehran University of Engineering and Technology, Jamshoro
Department of Software Engineering

ORIGINAL SUBMITTED SYLLABUS

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|-------------------------------|---|---------------------------------------------------------------|
| Title of Subject | : | Research Programming & Analyzing Results |
| Code | : | SE840 |
| Discipline | : | Software Engineering |
| Effective | : | 14PhD-IICT Batch and onwards |
| Pre-requisite | : | None |
| Assessment | : | 10% Sessional 30% Mid Semester 60% Final Semester Examination |
| Credit Hours | : | 3 + 0 |
| Minimum Contact Hours: | | 42 |

Specific Objectives of course:

- This course will make students learn to use the Python programming language to solve problems of interest to them. The students are encouraged to come with a goal on their first day: a project they would like to accomplish. The course will certainly help to process and plot research data as well as to efficiently process multi-dimensional container of generic data.

Course outline:

- Fundamental Python language syntax
- Data structures with lists and dictionaries
 - Files and the filesystem
 - Parsing CSV data
 - JSON and YAML
 - Getting data from the internet
- Introducing Matplotlib
 - Matplotlib animations
- Introducing NumPy
- Creating packages

BOOKS RECOMMENDED

- Think Python, by *Allen B. Downey, second edition, O'Reilly* [Latest Edition]
- Learn Python the hard way by *Zed Shaw* [Latest Edition]
- Introduction to Programming Using Python [Latest Edition] by *Y. Daniel Liang, Prentice Hall*

Approval:

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|-------------------|--------------|------------------|
| Board of Studies: | Res.No.02.02 | Dated:23-10-2017 |
| AS&RB: | Res.No.13.5 | Dated:03-04-2018 |
| Academic Council: | Res.No.92.15 | Dated:23-04-2018 |