

INF1511

Visual Programming I

MODULE OVERVIEW



Define tomorrow.

What is programming?

- Problem solving.
- A problem.
- A system. Input, process and output.
- Apply Programming principles! ***
- Use a Programming language Python

Overview of INF1511 2024

- **Eight** (8) module units.
- Logistics of the module.
- **Formative** self-assessment – Each unit MCQ **Theory**
- **Formative** practical-assessment – Each unit **practical** worksheets as discussed during a unit discussion session. See Unit Folder.
- **Formative** assignment assessment – Each unit practical assignments. ONE attempt.
- **Summative** assessment – MCQ Timed Online based on practical examples. 5 Theory + 10 Practical MCQ

The Module Focus of INF1511

- This module focus is the exploration of the **programming principles** using the **Python** programming language.
- The learning environment is ANACONDA using Jupyter Notebook (Unit 1).
- The theoretical and practical approach to teaching and learning.

The 8 Module Units

Environment operation: Describe the programming concepts for computing including performing arithmetic operations.	❏
Decisions: Implement decision using the if-else statement and typical programming structures.	❏
Looping: Implement iteration using loops (FOR and WHILE), and typical programming structures.	❏
Strings: Implement sequences using lists, strings, tuples and array structures and programming methods.	❏
Functions procedures: Apply the writing and calling of general sub-procedures and function procedures.	❏
Classes: Implement the use of classes and operators and the required programming methods.	❏
File handling: Implement file handling and the relevant exception handling and the required programming methods.	❏
GUI: Compile a GUI application using implement basic widgets and the required programming methods for a visual programming application.	❏

The Module Logistics

- Unit starts with a specified **MONDAY** discussion on MS Teams.
- Recording will be available on unit folder.
- Presentation of learning objectives.
- Practical are available as Jupyter notebook and PDF documents.
- Unit **self-assessment** theory MCQ available (randomly selected questions from pool).
- Unit practical exercises and then assignment part (based on practical exercises)

Formative Practical Assessment

- MCQ based on Practical Exercises
- Assignment 1 - Unit 1
- Assignment 2 - Unit 2
- Assignment 3 - Unit 3
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- Assignment 8 - Unit 8

Summative Assessment EXAM Oct/Nov

- 30 MCQ random selected questions.
- Selected from 16 question pools (8 units – each a theory and a practical POOL)
- Linear, myExams, 1 hour.
- With IRIS proctoring.
- 3 questions per unit (theory, practical & application).
- 6 ad hoc related questions.

Assessment Plan – NO EXTENSIONS

Assessment Plan

ASSESSMENT INFORMATION

Click on edit next to the assessment number to edit assessment details.

Formative Assessments										
General					Year Mark					
Ass. Nr.	Format	Unique Nr.	Due Date	Opening Date	Type	Opt.	Normal weight	Repeat weight	Aegrotat weight	Remove?
1 Edit	Quiz	536161	20240517 09:00	20240318 08:00	Individual	M	10	10	10	<input type="checkbox"/>
2 Edit	Quiz	536173	20240923 09:00	20240408 08:00	Individual	M	15	15	15	<input type="checkbox"/>
3 Edit	Quiz	536319	20240923 09:00	20240429 08:00	Individual	M	15	15	15	<input type="checkbox"/>
4 Edit	Quiz	743913	20240923 09:00	20240520 08:00	Individual	M	10	10	10	<input type="checkbox"/>
5 Edit	Quiz	743971	20240923 09:00	20240610 08:00	Individual	M	10	10	10	<input type="checkbox"/>
6 Edit	Quiz	744040	20240923 09:00	20240708 08:00	Individual	M	10	10	10	<input type="checkbox"/>
7 Edit	Quiz	744320	20240923 09:00	20240729 08:00	Individual	M	10	10	10	<input type="checkbox"/>
8 Edit	Quiz	807325	20240923 09:00	20240819 08:00	Individual	M	20	20	20	<input type="checkbox"/>

Additional Resources

- Free e-resources and additional textbooks.
- Online discussions selected Tuesdays.
- E-tutors for groups of students.
- Practical examples for self-assessment.

ANACONDA Jupyter Notebook

Anaconda Navigator

File Help

 ANACONDA NAVIGATOR

[Sign in to Anaconda.org](#)

Home

Environments

Learning

Community

Documentation

Developer Blog



Applications on

base (root)

Channels

Refresh



console_shortcut

0.1.1

Console shortcut creator for Windows (using menuinst)

Launch



JupyterLab

1.1.4

An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture.

Launch



Notebook

6.0.1

Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.

Launch



powershell_shortcut

0.0.1

Launch



Qt Console

4.5.5

PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more.

Launch



Spyder

3.3.6

Scientific Python Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features

Launch



Glueviz

0.15.2

Multidimensional data visualization across files. Explore relationships within and among related datasets.

Install



Orange 3

3.23.1

Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows with a large toolbox.

Install



RStudio

1.1.456

A set of integrated tools designed to help you be more productive with R. Includes R essentials and notebooks.

Install



VS Code

1.53.2

Streamlined code editor with support for development operations like debugging, task running and version control.

Install

Launching notebook



Thank you

Define tomorrow.

UNISA | 
college of
science, engineering
and technology