

# PIA2601: COMPUTATIONAL LANGUAGE COURSE I

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Computational Language Course I

### Subject Code

PIA - Public and International Affairs

### Course Number

2601

### Academic Unit

Public and International Affairs (PIA)

### College/School

College of Liberal Arts and Social Sciences (CH)

### Course Duration

One Semester

### Credit Units

3

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This introductory course equips future leaders in public sectors with fundamental programming knowledge in Python. As technological advancements shape society, understanding programming is essential for effectively serving the public sector, coordinating with private sectors and tech-partners, and addressing complex societal challenges. PIA2601 covers key foundational skills: basic syntax, conditionals, loops, functions, modules and third-party packages. Designed with tailored teaching language and mode, this course is accessible for those with zero coding/mathematical background, and incorporates innovative educational tools like AI, metaverse and online video for interactive, immersive and flexible learning. Personalized guidance from the lecturer and teaching assistants is provided during workshop sessions for students to practice hands-on programming, bridge theory and practice, and ensure a practical grasp of Python applications. By developing these skills, students enhance their capabilities and adaptability to versatile career opportunities, thus PIA2601 can be expected to contribute to the enhancement of public sector human resources quality.

### Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Understand and gain insight into the fundamental programming concepts in Python	40%		x	x
2	Master fundamental programming skills in Python	30%	x	x	x
3	Apply basic Python skills in public domain cases	20%	x	x	x
4	Improve the logical thinking ability, problem-solving ability, and lifelong learning ability in the process of learning programming	10%	x		

#### A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

#### A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

#### A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### Learning and Teaching Activities (LTAs)

LTAs	Brief Description	CILO No.	Hours/week (if applicable)	
1	Lectures and workshops	Students will learn the basic programming concepts and techniques, and how to apply them in a basic way in the public sector context. In workshops, students do hands-on to apply Python skills under the teaching assistants and lecturer's guidance.	1, 2, 3, 4	3

2	Virtual teaching and learning	Students are encouraged to 1) watch pre-recorded instructional videos by teachers before and after class to deepen their understanding of the concepts; 2) try to use internet resources, AI tools and meta-universe tools in class and after class to promote the learning and application of programming; 3) document and reflect on these processes using innovative means to prepare for sustaining lifelong learning in the information age.	1, 2, 3, 4	
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**Assessment Tasks / Activities (ATs)**

ATs	CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?
1 Performance in lecture and workshops, such as: - Punctuality - Engagement and responsiveness - Hands-on and exercises in class - Quizzes	1, 2, 3, 4	30	-	Yes
2 Assignment: a number of take-home exercises	1, 2, 3, 4	20	In this part, students are allowed to use AI and other online and virtual tools to help them improve the quality of their work, but are required to honestly record the process of using these tools and actively engage in self-reflection, and report these records in writing to the lecturer (this report will also be required to submit as an integral part of the assignment).	Yes

3	Basic knowledge test: In the last week of class, there will be a one-hour closed-book test on the basics of programming	1	30	-	No
4	Mini-Project: Each student will develop a piece of code in Python in the public sector context to show their basic application and problem-solving ability	2, 3, 4	20	In this part, students are allowed to use AI and other online and virtual tools to help them improve the quality of their work, but are required to honestly record the process of using these tools and actively engage in self-reflection, and report these records in writing to the lecturer (this report will also be required to submit as an integral part of the project).	Yes

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Assessment Rubrics (AR)****Assessment Task**

Performance in lecture and workshops

**Criterion**

This assessment evaluates students' punctuality, engagement, responsiveness, participation in hands-on activities and exercises, and performance in quizzes. These aspects are essential for fostering a collaborative learning environment and ensuring active involvement in the course.

**Excellent (A+, A, A-)**

Consistently punctual and actively engages in all class discussions and workshops. Exhibits enthusiasm and a proactive approach in hands-on activities, and consistently excels in quizzes.

**Good (B+, B, B-)**

Maintains good punctuality, participates regularly with a clear interest in the subject. Engages reasonably well in hands-on activities and performs well on quizzes.

**Fair (C+, C, C-)**

Maintains good punctuality, participates regularly with a clear interest in the subject. Engages reasonably well in hands-on activities and performs well on quizzes.

**Marginal (D)**

Frequently late or unengaged, minimal participation in class activities and hands-on exercises. Struggles with quiz content.

**Failure (F)**

Rarely attends on time or engages in class, negligible involvement in exercises and hands-on activities, and consistently poor quiz results.

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**Assessment Task**

Assignment

**Criterion**

This assessment consists of take-home exercises designed to reinforce Python programming skills and apply course concepts independently. Students are encouraged to use AI and other online tools to enhance their code quality and problem-solving techniques, but must document and reflect on their use, submitting a written report as part of the assignment.

**Excellent (A+, A, A-)**

Thoroughly completes all programming exercises with high accuracy and creativity, demonstrating exceptional understanding of Python syntax and logic. Effectively utilizes AI tools, accompanied by a comprehensive and honest reflection report detailing coding processes and insights.

**Good (B+, B, B-)**

Completes programming assignments accurately with some creativity, showing strong command of Python concepts and well-applied solutions using AI tools. The reflection report is well-organized and informative.

**Fair (C+, C, C-)**

Completes most programming tasks with basic accuracy and minimal application of AI tools. Demonstrates a fair understanding of Python principles with some errors, and provides a basic reflection report.

**Marginal (D)**

Programming exercises are incomplete with frequent errors in code syntax or logic, showing limited application of AI tools. The reflection report demonstrates minimal understanding.

**Failure (F)**

Fails to complete programming assignments adequately, lacking use of Python or AI tools, with no meaningful reflection in the report, indicating an inadequate grasp of the material.

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**Assessment Task**

Basic Knowledge Test

**Criterion**

This closed-book test evaluates students on their understanding of fundamental programming concepts taught during the course. It assesses their ability to recall and utilize of the basic knowledge under time constraints.

**Excellent (A+, A, A-)**

Demonstrates an outstanding grasp of all basic programming concepts with accurate and comprehensive answers.

**Good (B+, B, B-)**

Shows a solid understanding of programming basics with mostly correct answers and minor errors.

**Fair (C+, C, C-)**

Displays a basic comprehension of fundamental concepts, with several errors present.

**Marginal (D)**

Shows limited understanding of course material with numerous errors.

**Failure (F)**

Demonstrates little to no understanding of fundamental programming concepts, with pervasive inaccuracies.

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**Assessment Task**

Mini-Project

**Criterion**

Each student creates a piece of code to address a straightforward public sector challenge, demonstrating individual application of basic programming skills. The use of AI and online tools is encouraged, and students must document and reflect on this process in a report submitted with the project.

**Excellent (A+, A, A-)**

Develops a clear and effective piece of code that individually addresses a simple public sector problem, showcasing competent use of basic Python concepts and thoughtful integration of AI tools. The reflection report is comprehensive and provides insights into the development process, with attention to public sector relevance.

**Good (B+, B, B-)**

Produces a functional piece of code using basic Python skills to tackle an elementary public sector issue. Displays a good understanding and individual application of AI tools. The reflection report is well-organized and contextualizes the project within public administration.

**Fair (C+, C, C-)**

Completes a basic piece of code that functions with some errors, showing satisfactory use of Python and minimal AI tools. The reflection report indicates a basic individual understanding of the public sector context.

**Marginal (D)**

The code is incomplete or has frequent errors with limited individual application of Python and AI tools. The reflection report is lacking depth and does not adequately connect the project to public sector challenges.

**Failure (F)**

The code is non-functional, with inadequate use of Python and failure to address a public sector issue. The reflection report is missing or fails to provide insights into the use of AI tools or public sector connection.

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## Part III Other Information

**Keyword Syllabus**

**1) Basic Syntax:**

Variables, Data Types, Operators, Expressions, Commenting and Documentation.

**2) Conditionals and Loops:**

if, elif, else, for, while.

**3) Functions:**

Defining and Calling, function parameters, return values, and scope.

**4) Modules and Libraries:**

Import and use existing libraries to extend the functionality.

## Reading List

### Compulsory Readings

Title	
1	Ernesti, J., & Kaiser, P. (2022). Python 3: The Comprehensive Guide. Rheinwerk Publishing/SAP Press.

### Additional Readings

Title	
1	Ramalho, L. (2022). Fluent Python. O' Reilly Media, Incorporated.
2	VanderPlas, J. (2023). Python Data Science Handbook. (2nd ed.). O' Reilly Media, Incorporated.