OOP SKILLS AND PDP
Ruben Marques

Professional Skills Matrix

Skills	Module start	Module end
Time management	4.7	5
Critical thinking and analysis	4	4.7
Problem-solving	4.5	5
Communication and Literacy skills	4.7	5
IT and Digital	4	4.6
Numeracy	3.5	4
Critical Reflection	4	4.5

Professional Development Plan

Training	Provider	Link to course	Development objectives	Status	Timeline
CS50's Introduction to Programming with Python (CS50 Python)	Harvard University	https://cs50.harvard.edu/python/	1. Acquire foundational programming skills through an introductory course focusing on Python, including reading, writing, testing, and debugging code effectively. 2. Cater to individuals with varying levels of programming experience to foster learning specifically in Python. 3. Master core programming concepts such as functions, arguments, return values, variables, types, conditionals, Boolean expressions, and loops. 4. Develop proficiency in handling exceptions, debugging code, writing unit tests, utilizing thirdparty libraries, validating data with regular expressions, and manipulating files. 5. Gain practical experience in modeling real-world entities using classes, objects, methods, and properties. 6. Emphasize hands-on practice through exercises inspired by real-world programming challenges to reinforce learning. 7. Provide flexibility in coding environments, enabling participants to utilize a web browser or individual PC/Mac for coding purposes.	Completed	Dec 2024 - Apr 2025
100 Days of Code: The Complete Python Pro Bootcamp by Dr. Angela Yu	Udemy	https://www.udemy.com/course/100-days-of-code/	1. Explore a diverse range of tools and technologies within the Python ecosystem, including Python 3, PyCharm, Jupyter Notebook, Python Scripting, Web Development, Data Science, GUI Desktop App Development, Version Control, Backend Web Development, and deployment strategies. 2. Develop competence in key Python libraries and frameworks such as Pandas, NumPy, Matplotlib, Flask, REST APIs, SQL databases, authentication mechanisms, and web design principles, fostering a well-rounded skill set as a Python developer.	Ongoing	Jun 2025 - Now
CS50's Introduction to Computer Science (CS50x)	Harvard University	https://cs50.harvard.edu/x/	1. Develop problem-solving skills with an emphasis on correctness, design, and coding style, encompassing both code-based and non-code-based solutions. 2. Delve into computational thinking, abstraction, algorithms, data structures, and broader computer science concepts to enhance overall understanding. 3. Work on problem sets inspired by various disciplines to foster creativity and interdisciplinary learning. 4. Learn fundamental programming principles that transcend specific languages, enabling the ability to adapt and learn new languages independently. 5. Begin with the foundational language C to grasp core concepts such as functions, variables, conditionals, loops, and gain insights into computer architecture and memory management. 6. Progress to Python, building on the understanding gained from C, and later explore SQL for database management, along with HTML, CSS, and JavaScript for web and mobile app development. 7. Conclude the course with a final project that integrates learned skills and knowledge into a practical application, showcasing proficiency in programming and problem-solving.	Ongoing	Apr 2025 - Now
CS50's Introduction to Databases with SQL (CS50 SQL)	Harvard University	https://cs50.harvard.edu/sql	1. Utilizing SQL as the primary language to build foundational knowledge on data management. 2. Master the essential operations of creating, reading, updating, and deleting data within relational databases, structured in rows and columns. 3. Develop skills in modeling real-world entities and establishing relationships among them through tables equipped with appropriate data types, triggers, and constraints. 5. Learn techniques for normalizing data to enhance efficiency, eliminate redundancies, and minimize the risk of errors in database operations. 6. Acquire proficiency in joining tables using primary and foreign keys, facilitating efficient data retrieval and manipulation. 7. Explore advanced concepts such as using views to automate searches and indexes to optimize search performance. 8. Understand the integration of SQL with other programming languages like Python and Java to enhance versatility and interconnectedness in data management. 9. Begin with SQLite for portability and progress towards PostgreSQL and MySQL to delve into scalable database solutions, ensuring adaptability across different environments. Engage in assignments inspired by real-world datasets to apply learned concepts in practical	Ongoing	Feb 2025 - Now