Specialization	Course Name with Code	Module	End Date for Completion	Course contents
FUNDAMENTALS OF COMPUTING	**Introduction to Interactive Programming in Python (CRA 4063)** Mapped to **An Introduction to Interactive Programming in Python(1 and 2)**	**I**	March 10,2023	• Basic elements of python programming - Statements, expressions, variables • Explore python as a calculator • Basic constructs of python programming - Functions, logic, conditionals • Event-driven programming • Local/global variables
		II	April 08,2023	• Buttons and Input Fields • Canvas, drawing, timers • Lists, keyboard input • The basics of modeling motion • Mouse input, list methods, dictionaries • Classes and object-oriented programming
		III	May 06,2023	• Tiled Images • Visualizing Objects • Basic game physics • Sprites • Sets and Animation
	Mathematical Problem Solving using Python (CRA 4064) Mapped to **Principles of Computing (1)**	**I**	March 10,2023	• Introduction, Required python knowledge, • Coding Style and Standards in python • Python Modules • Importing Custom modules in Python • CodeSkulptor • Python Development Environments • Importance of Testing, Building Tests for Python Programs • Plotting and grids
		II	April 08,2023	• Importance and basics of Probability • Expected value • Monte Carlo methods (Tic-Tac-Toe, Nim) • Randomness • Objects and references • Importance of Combinatorics, Enumeration, Permutations and combinations • Combinatorics and Password Breaking and debugging • Analyzing a Simple Dice Game

		III	May 06,2023	• Importance of Counting, sum • Functions: Finding the max • Higher-order functions • Plotting Statement Counts