Month 1 IT Roadmap: Python + Foundations

This document provides a structured day-by-day schedule for Month 1 of the 6-Month IT Roadmap. It covers Python basics, foundational IT labs, and entry-level certifications (CompTIA ITF+, Microsoft AZ-900, Google ACE).

# Week 1: Setup & Python Basics

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| Day | Python (2 hrs) | Labs / IT Prep (3–5 hrs) | Deliverables / Notes |
| Mon | Install Python, run 'Hello World', basic variables | Install VirtualBox/VMware, create Linux & Windows VMs | VMs running, Python installed |
| Tue | Strings, numbers, basic math operations | Set up Git & GitHub account, link repo to local machine | GitHub repo initialized |
| Wed | Input/Output (input(), print()), simple calculator | Explore OS basics: directories, files, CLI commands | Simple Python calculator committed |
| Thu | Type conversions, comments, simple debugging | AWS Free Tier signup, explore dashboard | AWS account active, free tier resources ready |
| Fri | Mini project: 'Daily Task Logger' using variables + input | Lab report: summarize OS & VM setup | First Python mini-project complete |

# Week 2: CompTIA ITF+ + Mini CLI Scripts

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| Day | Python (2 hrs) | Labs / Cert Prep (3–5 hrs) | Deliverables / Notes |
| Mon | if/else statements, nested conditions | Study ITF+ OS concepts | Practice exercises: basic OS operations |
| Tue | Loops: for, while | Lab: Windows/Linux CLI commands (dir/ls, mkdir, cd, touch) | CLI commands executed, screenshot |
| Wed | Functions: define & call, parameters | Lab: create users, set permissions in Linux VM | Functions script for user operations |
| Thu | Mini project: File renaming script | ITF+ practice questions | Python script to batch rename files |
| Fri | Review & integrate scripts | Mock ITF+ test, lab documentation | Lab report, ready for ITF+ exam |

# Week 3: Microsoft AZ-900 + Control Flow

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| Day | Python (2 hrs) | Labs / Cert Prep (3–5 hrs) | Deliverables / Notes |
| Mon | Functions with return values | Explore Azure portal, create free Azure account | Azure account ready |
| Tue | Control flow: if/elif/else, nested loops | Deploy Azure VM | Azure VM running |
| Wed | Python mini script: automate VM greeting message | Study AZ-900 fundamentals: storage, networking, compute | Python script running on VM |
| Thu | Python practice: small calculator / automation | AZ-900 practice questions | Scripts & notes updated |
| Fri | Integrate Python script with Azure VM tasks | Mock AZ-900 test | Lab report + Python scripts |

# Week 4: Google ACE + Lists & Dictionaries

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| Day | Python (2 hrs) | Labs / Cert Prep (3–5 hrs) | Deliverables / Notes |
| Mon | Lists: create, access, iterate | Create GCP project & enable Cloud Storage | GCP project ready |
| Tue | Dictionaries: key/value, iterate, nested | Launch GCP VM | VM running in GCP |
| Wed | Mini project: Inventory tracker (lists/dicts) | Practice GCP CLI commands (gsutil) | Python tracker working with cloud resources |
| Thu | Python scripts: automate storage creation & file upload | Google ACE practice labs | Scripts integrated with cloud operations |
| Fri | Review: Python + Cloud | ACE mock exam & lab report | Lab report + Python mini project |

# Month 1 Summary

- Python: 2 hrs/day, 10 hrs/week → basics, control flow, functions, lists/dicts, mini projects  
- Labs: 1–2 per week → OS setup, VM setup, cloud VM deploy, CLI commands  
- Cert Prep: ITF+, AZ-900, ACE → theory + practice questions  
- Deliverables: Python mini-projects, lab reports, VMs deployed, GitHub repo initialized  
- Total Cert Cost: ITF+ ($134/$30), AZ-900 ($99/$20), ACE ($125/$20)