Training Course on Coding Basics for Librarians

Professional Development Training Course Outline

Category	Library Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's rapidly evolving digital landscape, the role of librarians is expanding beyond traditional information management. **Coding literacy** has emerged as a crucial skill, enabling librarians to enhance their services, streamline workflows, and better serve their communities. Training Course on Coding Basics for Librarians is designed to equip information professionals with foundational **programming skills** and a practical understanding of how code can be applied within library settings. By mastering basic concepts in languages like **Python** and **JavaScript**, librarians can unlock new possibilities in areas such as **data analysis**, **web development**, **automation of repetitive tasks**, and the creation of innovative **digital resources**. This course emphasizes hands-on learning and real-world applications, ensuring that participants gain tangible skills that can be immediately implemented in their daily work.

This comprehensive training program addresses the increasing demand for **digital skills** within the library and information science field. It provides a supportive and accessible learning environment for individuals with little to no prior coding experience. Through a structured curriculum, participants will develop a strong foundation in **computational thinking**, learn to write and debug basic code, and explore the vast potential of coding for library innovation. The course focuses on practical application, utilizing **library-specific case studies** to illustrate how coding can solve real-world challenges and enhance user engagement. By the end of this training, librarians will be empowered to leverage **technology** more effectively, contribute to the development of **digital library services**, and remain at the forefront of information access and dissemination.

Programme Curriculum

Training Course on Coding Basics for Librarians

Introduction

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Course Duration

5 days

Course Objectives

1. Understand the fundamental concepts of **programming languages** relevant to library applications.
2. Develop basic proficiency in **Python programming** for data manipulation and automation.
3. Learn the essentials of **JavaScript** for interactive web content and user interface enhancements.
4. Grasp the principles of **computational thinking** and problem-solving through code.
5. Acquire skills in **data analysis** and visualization using Python libraries.
6. Understand the basics of **web development** (HTML, CSS, JavaScript) for library websites.
7. Learn to automate repetitive library tasks using **scripting**.
8. Explore the use of **APIs** to integrate different library systems and data sources.
9. Develop the ability to create simple **digital tools** and resources for library users.
10. Understand the principles of **version control** using Git for collaborative coding projects.
11. Gain awareness of **cybersecurity basics** relevant to web applications and data handling.
12. Learn to troubleshoot and debug basic **code errors** effectively.
13. Foster a mindset of continuous learning and exploration in the field of **library technology**.

Organizational Benefits

- Automation of repetitive tasks frees up staff time for more complex and user-focused activities.
- Development of innovative digital tools and resources enhances user engagement and satisfaction.
- Ability to analyze library data provides valuable insights for service improvement and resource allocation.
- Empowered staff can contribute to the development of new and creative solutions to library challenges.
- Understanding APIs facilitates seamless integration between different library systems.

- Enhanced web development skills lead to more engaging and user-friendly library websites.
- Equipping librarians with essential digital skills ensures the library's relevance in the evolving information landscape.
- Automation and efficient workflows can lead to reduced operational costs.

Target Audience

1. Entry-level librarians seeking to acquire foundational technical skills.
2. Experienced librarians looking to enhance their digital literacy.
3. Library administrators and managers interested in fostering innovation within their teams.
4. Information professionals working in academic, public, and special libraries.
5. Archivists and museum professionals seeking to apply coding skills to their work.
6. Library and information science students preparing for the modern information environment.
7. Individuals in related roles such as information architects and digital asset managers.
8. Anyone interested in leveraging coding to improve library services and workflows.

Course Outline

Module 1: Introduction to Coding and Computational Thinking

- What is code and why is it relevant for librarians?
- Understanding fundamental programming concepts (variables, data types, operators).
- Introduction to computational thinking: problem-solving through algorithms.
- Setting up a basic coding environment (e.g., Python interpreter).
- **Case Study:** Analyzing a library's circulation data to identify popular genres using basic scripting.

Module 2: Python Fundamentals for Library Applications

- Working with strings and text data in Python.
- Understanding data structures: lists, tuples, dictionaries, and sets.
- Controlling program flow: conditional statements (if/else) and loops (for/while).
- Writing and using simple functions to automate tasks.
- **Case Study:** Developing a script to automatically generate overdue book reminders.

Module 3: Data Analysis and Visualization with Python

- Introduction to the Pandas library for data manipulation and analysis.
- Cleaning, filtering, and transforming library datasets.
- Basic statistical analysis of library data (e.g., usage patterns).
- Creating simple data visualizations using Matplotlib and Seaborn.
- **Case Study:** Analyzing website traffic data to understand user engagement with online resources.

Module 4: Introduction to Web Development (HTML, CSS)

- Understanding the structure of web pages with HTML.
- Styling web content with CSS for visual appeal and layout.
- Introduction to responsive web design principles.
- Creating a basic webpage for library announcements or resources.
- **Case Study:** Designing a user-friendly interface for a digital library collection.

Module 5: JavaScript Basics for Interactive Library Websites

- Introduction to JavaScript syntax and fundamental concepts.
- Adding interactivity to HTML elements (e.g., button clicks, form validation).
- Manipulating the Document Object Model (DOM).
- Basic event handling in JavaScript.
- **Case Study:** Implementing a dynamic search filter for a library catalog.

Module 6: Automating Library Tasks with Scripting

- Identifying repetitive tasks suitable for automation.
- Writing scripts to handle file management and data processing.
- Automating social media posts or website updates.
- Introduction to task scheduling.
- **Case Study:** Developing a script to automatically generate reports on new acquisitions.

Module 7: Introduction to APIs and Library System Integration

- Understanding what APIs are and how they work.
- Exploring common library APIs (e.g., for catalog data, digital repositories).
- Making basic API requests using Python.
- Understanding data formats like JSON and XML.
- **Case Study:** Integrating a library's catalog with a third-party discovery service using its API.

Module 8: Version Control and Collaborative Coding with Git

- Understanding the principles of version control.
- Introduction to Git and basic Git commands (add, commit, push, pull).
- Working with remote repositories (e.g., GitHub).
- Collaborating on coding projects using Git branches and pull requests.
- **Case Study:** Managing changes and contributions to a shared script for library data management.

Training Methodology

This course will employ a blended learning approach, combining:

- **Interactive lectures:** To introduce core concepts and provide context.
- **Hands-on coding exercises:** To reinforce learning through practical application.
- **Real-world case studies:** To illustrate the relevance of coding in library settings.
- **Group projects:** To foster collaboration and problem-solving skills.
- **Online resources and tutorials:** For self-paced learning and further exploration.
- **Q&A sessions and discussions:** To address individual queries and encourage peer learning.
- **Practical assignments:** To assess understanding and application of learned skills.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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