

Low-Code/No-Code Development

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

| Course title and Code | Credits | Credit distribution of the course | | | Eligibility Criteria | Prerequisite of the Course (if any) |
|------------------------------|---------|-----------------------------------|----------|--------------------|----------------------|-------------------------------------|
| | | Lecture | Tutorial | Practical/Practice | | |
| Low-Code/No-Code Development | 2 | 0 | 0 | 2 | Class XII | NA |

Learning Objectives

The learning objectives of this course are as follows:

- To understand the fundamental of low-code/no-code platforms
- Can develop Web & Mobile Apps using modern drag-and-drop platforms like Bubble.io, Adalo, Webflow, etc.
- Can automate workflows and integrate third-party services like Firebase Authentication, Airtable, OpenAI API, Stripe, Twilio, Google Maps API, etc.

Learning Outcomes

The learning outcomes of this course are as follows:

- Students can build various Web & Mobile applications with very less or no programming knowledge.
- Students can work with modern drag-and-drop tools like Bubble.io, Adalo, and Webflow.
- Students can deploy low-code/no-code applications on cloud platforms.

Main Course Structure

Unit 1: Introduction to Low-Code/No-Code Development (8 Hours)

- Overview of Low-Code and No-Code platforms.
- Understanding when to use Low-Code/No-Code solutions.
- Introduction to platforms like Bubble.io, Webflow, and Adalo, etc.

Unit 2: Building Web and Mobile Apps with Drag-and-Drop Tools (12 Hours)

- UI/UX Design principles for no-code platforms.
- Developing interactive web pages with Webflow and Bubble.
- Creating mobile apps using Adalo and Glide.

Unit 3: Automating Business Workflows (12 Hours)

- Introduction to workflow automation tools.

- Using Zapier and Make (Integromat) to connect services.
- Automating processes with Google Apps Script and n8n.

Unit 4: Integrating APIs and External Services (12 Hours)

- Connecting external APIs without coding.
- Using OpenAI API for AI-based features.
- Payment gateway integration using Stripe or Razorpay.

Unit 5: Deploying and Managing No-Code Applications (16 Hours)

- Hosting and publishing applications on various platforms.
- Security considerations in no-code applications.
- Scaling low-code solutions for enterprise needs.

Practical List:

1. **Building a Basic Web Page:** Create a simple landing page using Webflow.
2. **Developing a Mobile App:** Build a to-do list or note-taking app using Adalo or Glide.
3. **Automating Workflows:** Automate email responses using Zapier and Google Sheets.
4. **Connecting a Database:** Use Airtable as a backend for a no-code web app.
5. **Integrating AI in a No-Code App:** Use OpenAI API to add chatbot functionality to a Bubble app.
6. **E-commerce Payment Integration:** Implement Stripe or Razorpay in a no-code online store.
7. **Deploying a No-Code App:** Publish a no-code app on Firebase or a custom domain.

Project Guidelines

Students will develop a **fully functional no-code/low-code application** of their choice, following structured milestones. Example projects include:

- **Business Website or Portfolio Site** (Webflow/Bubble)
- **Task Management or To-Do App** (Adalo/Glide)
- **AI-Powered Chatbot for Customer Support** (Bubble + OpenAI API)
- **E-Commerce App with Payment Gateway** (Adalo + Stripe)
- **Automated Email Responder or CRM System** (Zapier + Google Sheets)
- **Job Listing or Hiring Platform** (Airtable + Webflow)
- **Inventory Management Dashboard** (Airtable + Make)
- **AI-Powered Image Recognition App** (Bubble + Google Vision API)

1. Teaching Methodology/Activities in the classroom

Teach students to utilize various drag-and-drop tools for developing various no-code applications via hands-on sessions and group project.

2. Assessment Pattern for each Unit/practical. Component of Attendance in the Assessment of 1 credit theory course

| S.No. | Component | Marks |
|-------|--|-------|
| 1 | Evaluation using practical list given in syllabus | 30 |
| 2 | Evaluation of quizzes conducted during semester | 20 |
| 3. | Project to be developed during semester | |
| A | Milestone 1: Designing the App Layout and Wireframe | 5 |
| B | Milestone 2: Implementing Functionalities with No-Code Tools | 10 |
| C | Milestone 3: Integrating Third-Party Services & Automations | 10 |
| D | Milestone 4: Deployment & Final Presentation | 5 |
| Total | | 80 |

3. Mapping with the next suggestive course
- AI-Powered Web Applications (Proposed)
4. Prospective Job Roles after a particular course
- No-Code Developer
 - Automation Specialist
 - Product Manager
5. Essential Reading
- Adkin, D. (2022). *The No-Code Playbook: Build Scalable Software Without Coding*. Adalo.
 - Bubble manual and documentation. Retrieved from <https://manual.bubble.io>
 - Webflow university documentation. Retrieved from <https://university.webflow.com>
 - Zapier help & documentation. Retrieved from <https://zapier.com/help>
6. Suggestive Reading
- Ries, E. (2011). *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. Crown Business.
 - Integromat user guide and API documentation. Retrieved from <https://www.make.com/en/help>
 - OpenAI API documentation. Retrieved from <https://platform.openai.com/docs>
 - Stripe developer documentation. Retrieved from <https://stripe.com/docs>
 - Google Apps Script developer guide. Retrieved from <https://developers.google.com/apps-script>