MASAI SCHOOL

Block - 37

CURRICULUM COURSE CATALOG

CODING & DSA & ES

17th June 2024 - 21st July 2024

# 

# PR101

## Programming 101

### 

### Course Details

#### Prerequisite - *Basic Maths, Analytical Skills*

#### Instructor- *Bishal Samanta*

#### Duration - *5 Weeks*

#### Level - *1*

#### Assignment Time - *38 hrs*

### Course Topics:

* Introduction to Python
* Mathematical Operator
* Comparison Operator
* Conditional Statement
* Loops, Strings, Arrays
* StringBuilder, ArrayList
* Key Value Pair
* Multidimensional Arrays
* Bruteforce.

### Tools & Software

#### Replit

### Evaluations

* PR101\_S3\_E1
* PR101\_S4\_E2
* PR101\_S5\_E3
* PR101\_S5\_E4

# DB104

## Databases (SQL and MongoDB)

### 

### Course Details

#### Prerequisite - *PR101*

#### Instructor- *Zakir*

#### Duration - *5 Weeks*

#### Level - *2*

#### Assignment Time - *38 hrs*

### Course Topics:

* SQl
* MongoDB
* Database Design

### Tools & Software

#### MySQL workbench

#### Mongo Shell

### Evaluations

* DB101\_S2\_E1
* DB101\_S3\_E2
* DB101\_S4\_E3
* DB101\_S5\_E4

# WEB214

## Web Development 204

### 

### Course Details

#### Prerequisite - *DB101*

#### Instructor - *Rahul Rajeevan*

#### Duration - *4 Weeks*

#### Level - *3*

#### Assignment Time - *45 hrs*

### Course Topics:

* Advanced HTML
* Advanced CSS
* Figma
* Javascript Basics
* Framework ( Tailwind )
* Software development and testing basics

### Tools & Software

#### VSCode

#### GIT

#### Linters

#### Gen AI - ChatGPT

### Evaluations

* WEB204\_S2\_E1
* WEB204\_S3\_E2
* WEB204\_S4\_E3
* WEB204\_S5\_E4

JS204

## Advanced & Modern Javascript

### 

### Course Details

#### Prerequisite - *WEB204*

#### Instructor - *Ritesh Ranjan*

#### Duration - *4 Weeks*

#### Level - *4*

#### Assignment Time - *38 hrs*

### Course Topics:

* Javascript Introduction, Variables, Mathematical Operators, Conditional Statements
* Loops, Arrays, Strings, Objects, Functions, Common Array methods in depth
* Object creation, Prototypical inheritance
* This keyword, Pagination, Authentication
* CRUD Operations, Import & Export
* Using GENAI to self-learn concepts

### Tools & Software

#### VSCode

#### GIT

### Evaluations

* JS204\_S2\_E1
* JS204\_S3\_E2
* JS204\_S4\_E3
* JS204\_S5\_E4

# RCT114

## React JS

### 

### Course Details

#### Prerequisite - *WEB204, JS204*

#### Instructor- *Aditya*

#### Duration - *4 Weeks*

#### Level - *5*

#### Assignment Time - *70 hrs*

### Course Topics:

* State, Props, Components, Events, Effects, Ref.
* Context API, Routing, Deployment, Axios.
* Chakra UI, Redux.
* Custom Hooks, Optimisation hooks
* Code Formatting with prettier and Husky

### Tools & Software

#### VSCode

#### GIT

#### Node

#### NPM

### Evaluations

* RCT104\_S2\_E1
* RCT104\_S3\_E2
* RCT104\_S4\_E3
* RCT104\_S5\_E4

# NEM104

## Node Services Development

### 

### Course Details

#### Prerequisite - *RCT114*

#### Instructor - *Aashish Kumar*

#### Duration - *4 Weeks*

#### Level - *4*

#### Assignment Time - *38 hrs*

### Course Topics:

* Node,
* Express

### Tools & Software

#### VSCode

#### GIT

#### Node

#### NPM

### Evaluations

* NEM104\_S2\_E1
* NEM104\_S3\_E2
* NEM104\_S4\_E3
* NEM104\_S5\_E4

PBS104

## Introduction to Problem Solving

### 

### Course Details

#### Prerequisite - *None*

#### Instructor- *Venu*

#### Duration - *5 Weeks*

#### Level - *1*

#### Assignment Time - *40 hrs*

### Course Topics:

* Conditionals & Loops
* Arrays, String,
* Key-Value Pairs and Bruteforce.

### Evaluations

* PBS101\_S2\_E1
* PBS101\_S3\_E2
* PBS101\_S4\_E3
* PBS101\_S5\_EU

PBS204

## Data Structures & Algorithms - Candidate Master

### 

### Course Details

#### Prerequisite - *PBS101*

#### Instructor- *Akshay*

#### Duration - *5 Weeks*

#### Level - *2*

#### Assignment Time - *40 hrs*

### Course Topics:

* Time and Space Complexity
* Two Pointer and Sliding Window
* Sortings
* Stack and Queue
* Linked List
* Searching
* Recursion

### Evaluations

* PBS201\_S2\_E1
* PBS201\_S3\_E2
* PBS201\_S4\_E3
* PBS201\_S5\_E4
* PBS201\_S5\_EU

PBS304

## Data Structures & Algorithms - Candidate Master

### 

### Course Details

#### Prerequisite - *PBS201*

#### Instructor- *Venu*

#### Duration - *4 Weeks*

#### Level - *3*

#### Assignment Time - *26 hrs*

### Course Topics:

* Binary Search
* Abstract Binary Search
* Recursion
* Backtracking
* Stacks, Queue
* Linked List
* Greedy

### Evaluations

* PBS302\_S2\_E1
* PBS302\_S3\_E2
* PBS302\_S4\_E3
* PBS302\_S5\_E4
* PBS302\_S5\_EU

PBS404

## Data Structures & Algorithms - Candidate Master

### 

### Course Details

#### Prerequisite - *PBS302*

#### Instructor- *Albin*

#### Duration - *4 Weeks*

#### Level - *4*

#### Assignment Time - *20 hrs*

### Course Topics:

* DP
* Tree
* Graphs

### Evaluations

* PBS402\_S2\_E1
* PBS402\_S3\_E2
* PBS402\_S4\_E3
* PBS402\_S5\_E4
* PBS402\_S5\_EU

PBS504

## Data Structures & Algorithms - Candidate Master

### 

### Course Details

#### Prerequisite - *PBS402*

#### Instructor- *Albin*

#### Duration - *4 Weeks*

#### Level - *5*

#### Assignment Time - *20 hrs*

### Course Topics:

* Complete DSA Revision with PSC and Leetcode / OJ contests

### Evaluations

* PBS502\_S2\_E1
* PBS502\_S3\_E2
* PBS502\_S4\_E3
* PBS502\_S5\_E4
* PBS502\_S5\_EU

PBS604

## Data Structures & Algorithms - Candidate Master

### 

### Course Details

#### Prerequisite - *PBS502*

#### Instructor - *Sayan Mukherjee*

#### Duration - *4 Weeks*

#### Level - *5*

#### Assignment Time - *20 hrs*

### Course Topics:

* Complete DSA Revision through LeetCode contests

### Evaluations

* PBS602\_S2\_E1
* PBS602\_S3\_E2
* PBS602\_S4\_E3
* PBS602\_S5\_E4
* PBS602\_S5\_EU

ES101/ES201/ES301

## Write Right, Work Wonders: Mastering Words and Time for Success

### 

### Course Details

#### Prerequisite - *Positive Mindset & Deliberate Practice + loads of Energy and Enthusiasm*

#### Instructor - *Harshal Sawant*

#### Duration - *4 Weeks*

#### Level - *1, 2, 3*

#### Assignment Time - *To be informed as per the curriculum*

### Course Topics:

* How To Write Emails That Get Noticed?
* Email Techniques To Get A Positive Response
* How To Deliver Messages That Leave An Impression?
* Unleash Your Writing Potential With AI
* How To Manage Time Like Elon Musk?
* Conquer Your Schedule
* Own Your Time
* Secrets To Commanding Your Day

### Evaluations

* The details of the evaluation process will be announced during the sessions.

ES401/ES501

## Career Catalyst: Mastering Presentations, LinkedIn Leverage, and Interview Confidence

### 

### Course Details

#### Prerequisite - *Positive Mindset & Deliberate Practice + loads of Energy and Enthusiasm*

#### Instructor - *G. M. Lochani*

#### Duration - *4 Weeks*

#### Level - *4, 5*

#### Assignment Time - *To be informed as per the curriculum*

### Course Topics:

* How To Grab Recruiters’ Attention On LinkedIn?
* How To Impress The Hiring Managers With Your Emails?
* Crush Stressful Interview Questions With Ease
* How To Build Confidence and Beat Stress In Interviews?
* How To Design Presentations That Grab Attention?
* How Can You Nail Your Project Presentation as a Web Developer?
* Master The Art Of Showcasing Your Projects
* Turn Your Creations Into Captivating Stories

### Evaluations

* The details of the evaluation process will be announced during the sessions.

ES601

## Interview Coaching

### 

### Course Details

#### Prerequisite - *Positive Mindset & Deliberate Practice + loads of Energy and Enthusiasm*

#### Instructor - *G. M. Lochani*

#### Duration - *4 Weeks*

#### Level - *6*

### Course Topics:

* Interview Coaching Overview ( Elements and Checklist): 1 session

### Evaluations

* 1 - 1 ( Interview mocks - assessment and Coaching) - Telephone Screening + Virtual Round (Hukumu)
* Students should clear the Interview Coaching mocks with a score = > 6