Kurukshetra University, Kurukshetra
(Established by the State Legislature Act XII of 1956)
("A+" Grade, NAAC Accredited)
Centre for IT And Automation
Online Summer Internship Program

To prepare students for successful professional careers both in industry, academics and as entrepreneur, and to provide service to the nation as a good human being, Kurukshetra University has initiated a core-industry oriented Summer Internship Program in Collaboration with Code Quotient through which students can be engaged in learning, understanding and apply new ideas.

Kurukshetra University in Collaboration with Code Quotient announces the following three courses for 6 Weeks of Project based Online LIVE Summer Internship Program

1. Data Structure
2. Web Development
3. Cloud Computing

Here are the Highlights of the program

Fee

There will be no FEE for the course, all the courses will be FREE of cost.

Eligibility

These all courses will be open for admission to any student of University/College having the basic Knowledge of computer Programming

Admission

Admission to all these courses will be made strictly through online test and there will be 40 seats in each course

Syllabus for online Test

A basic coding test will be conducted for selecting the students. Students needs to be familiar with basics of coding like conditions, loops, arrays & functions etc.

Note: In view of COVID-19 pandemic, a student desirous of taking admission in the course will appear for online test from home. Link for the online test will be provided to all the students who register for the online summer internship program. Time and other details will be provided to student on the registered mail address.

Duration

All the above courses will be of 35-40 days duration. The exact weekly schedule is available at the end of this document.

How to Apply

All the candidates who desire to take admission will have to apply on the Registration link: http://forms.gle/6H7CU2gMRQNgYozz5

Important Dates & Deadlines

Start of Registration: 13- July-2020

End of Registration: 23- July- 2020

(Registration at: http://forms.gle/6H7CU2gMRQNgYozz5)

Online test date: July 25, 2020
Declaration of Results of online Test: July 27, 2020
Start of Internship: July 29, 2020

Weekly Schedule of the Course

	Data Structures (Mon-Tue)	Web Development (Wed-Thu)	Cloud Computing (Fri-Sat)	Duration (hrs)	Week
	Lecture Details	**Lecture Details**	**Lecture Details**		
1	Problem Solving	HTML - I: Text, List, Table, Media Tags	Linux Fundamentals - 1	4.5 hrs	Week-I
2	Complexity of Programs	HTML - II: Forms, Tables, Frames	Linux Fundamentals - 2		
3	Pointer & Memory Model	CSS - I: Stylesheets, selectors, color, background, box	Basic Fundamentals		
4	Arrays 1	CSS - II: Combinators, pseudo classes, visibility	Basics of Networking	4.5 hrs	
5	Arrays 2	CSS - III: Flexboxes, Media Queries, Responsive Design	Introduction to Cloud Computing		
6	Strings	JS Basics: variables, functions, classes, objects	Introduction to AWS		
7	STL	JS DOM, BOM, events, basic interactions	Identity Access management - Lab - I	4.5 hrs	Week-II
8	Space Time Complexity	Advanced JS: closures, higher order functions	Identity Access management - Lab – II		
9	Recursion 1	Advanced JS: array, string, map, set, iterator operations	AWS Command line – Lab		

10	Recursion 2	Advanced JS: setTimeout, setInterval, callback functions	Using Roles	4.5 hrs	
11	Recursion 3	Advanced JS: Event loop, Promises, async-await	Elastic Compute Cloud		
12	Backtracking	NodeJS: Intro, installation, basic scripting, fs operations	Use EC2 – LAB		
13	Divide and Conquer 1	NodeJS: module, require, NPM, packages	Create an S3 bucket through Console	4.5 hrs	
14	Divide and Conquer 2	ExpressJS: Introduction, basic web server	Create an S3 bucket through AWS CLI		
15	OOP	ExpressJS: Middlewares, routers, REST API	Launch an EC2 instance		
16	Stack	ExpressJS: HBS, Server rendering, form submission	Create new users who can login to AWS console	4.5 hrs	Week-III
17	Queue	ExpressJS: Rest API	Create role for an application to access S3		
18	Linked List 1	AJAX	Create policies for new user to have either admin or limited privileges		
19	Linked List 2	SQL Basics, MySQL, Sequelize	Credential rotation for IAM users	4.5 hrs	Week-IV
20	Binary Tree 1	Sequelize Advanced, Relationships, REST API with DB	Hosting a Static Website on Amazon S3		
21	Binary Tree 2	SQL vs NoSQL, CAP Theorem MongoDB	Versioning in AWS S3		
22	Binary Search Tree 1	Socket.IO, Chat app, Realtime interactions	Upload a file to AWS S3 through a Website	4.5 hrs	
23	Binary Search Tree 2	Socket.IO, Whiteboard	Accessing a static website through Cloud Front		
24	HashMap	Sessions & Cookies	Create an AMI		
25	DP 1	User Management	Create an Elastic IP	4.5 hrs	Week-V
26	DP 2	PassportJS,	Introduction to DevOps		
27	DP 3	3rd party logins	CI/CD – 1		

28	Heap 1	Unit Testing, Coverage, Mocha, Chai	CI/CD – 2		
29	Heap 2	Deploying to Heroku and Digital Ocean	Cloud Migration Strategies	4.5 hrs	
30	Trie	Project - Community App - 1	Cost Metrics		
31	Graph 1	Project - Community App - 2			
32	Graph 2	Project - Community App - 3			Week-VI
33	Project Work - 1	Project - Community App - 4			
34	Project Work – 2				

Note: This is the Tentative Schedule. It may change as per the availability of different resources.