Presidential Initiative for Artificial Intelligence and Computing (PIAIC)

https://www.piaic.org

Cloud Native Specialist Program

Course Syllabus

Quarter II: Mobile-Web-101 Mobile Web Development

Second Quarter Fall-2019 (12 Weeks)

Teaching Team: Rehan Uddin, Hira Khan, Mohammed Tuaha Ahmed, Taha Shahid, Moshin Khalid, Daniyal Nagori, Yusuf Qutubudin, Abdullah Mustaqeem, Ameen Alam, Batool Abbas, Faiza Aziz Khan, Faraz Jahangir, Irfan Ali, Misbah Aslam, Muhammad Hanzala, Muhammad Osama, Najam Shehzad, Osama Khan, and Zarak Mughal

Class Duration: 4 hours

Class Sections:

Sir Adamjee Institute of Management Sciences
Saturday, 2:00 pm to 6:00 pm

Saylani Welfare Gulshan Campus
Sunday, 1:15 to 5:15 pm

Sindh Boy Scouts Association
Sunday, 5:30 pm to 9:30 pm

Course Description: The course is designed for the absolute beginners in mobile web development and builds a solid foundation in HTML5, CSS3, and JavaScript. The first module focuses on the fundamentals of composing professional mobile websites. The next module builds a solid foundation in programming using JavaScript. Assuming no prior programming experience on the part of the student this module starts by focusing on the fundamentals of composing code with JavaScript. Introduction to both client and server-based JavaScript is covered. You'll learn about the syntax and structure of the language including operators and expressions, control structures, methods, and arrays. At the end of the course, an introduction to NGINX for developers will be given, we will also learn how to deploy your website on Kubernetes using NGINX. In this course, we will also learn Git, the distributed version control system. We will also review Git-based GitHub and BitBucket services.

Please bring a LAPTOP with you for the Classes (Required, but not mandatory)

Preparation for Microsoft's Programming in HTML5 with JavaScript and CSS3 exam:
Microsoft Exam 70-480 Programming in HTML5 with JavaScript and CSS3

Textbooks:
1. HTML and CSS: Design and Build Websites by Jon Duckett
2. A Smarter Way to Learn JavaScript by Mark Myers

PIAIC Announcements Facebook Group: https://www.facebook.com/groups/piaic/

Course Facebook Group: https://www.facebook.com/groups/mobilecloudapps/

Portal for online and onsite students:
https://portal.piaic.org/

Grading:
Students will be graded based on Percentile
https://en.wikipedia.org/wiki/Percentile
https://en.wikipedia.org/wiki/Percentile_rank

A-Grade: 78 - 99 Percentile
B-Grade: 41 - 77 Percentile
C-Grade: 23 - 40 Percentile
D-Grade: 1 - 22 Percentile
F-Grade: Anyone who doesn't appear in two or more exams

Note: Anyone who receives an F-grade will be removed from the program. Students who receive a D-Grade will be put on probation, and be required to earn a grade of C or above in the next quarter, to remain in the program. Anyone absent from an exam will be deemed to have received a score of zero.

Course Outline:

1. **Fundamentals of Version Control with Git**

   ==(Videos and reading material available on Student Portal to prepare for Git Quiz, Git will not be covered in class to save class time)==
   Chapters 1, 2, 3, and 4 Learn Version Control with Git: A step-by-step course for the complete beginner by Tobias Günther

   We will also covers these readings:
   https://help.github.com/articles/markdown-basics/
   http://stackoverflow.com/questions/5009600/difference-between-fork-and-branch-on-github
   http://stackoverflow.com/questions/3329943/git-branch-fork-fetch-merge-rebase-and-clone-what-are-the-differences
   https://git-scm.com/book/en/v2/Git-Branching-Rebasing
   http://git-scm.com/book/en/v2/Git-Branching-Remote-Branches#Tracking-Branches

   For practice: https://try.github.io/levels/1/challenges/1

   Homework:
   https://www.datacamp.com/courses/introduction-to-git-for-data-science

   Git Quiz in Week 2
   Total Questions: 60, Total Time: 75 minutes

2. **HTML (Week 1, 2 and 3)**

   HTML Structure and Text
   Chapters 1, and 2, HTML and CSS by Jon Duckett

Lists, Links and Images
Chapters 3, 4 and 5

Tables
Chapter 6

Forms
Chapter 7

Extra Markup
Chapter 8

HTML Quiz in Week 4
Total Questions: 50, Total Time: 75 min

3. **CSS (Week 4, 5 and 6)**

    Introducing CSS
    Chapter 10

    Color and Text
    Chapters 11 and 12

    Boxes
    Chapter 13

    Lists, Tables, & Forms
    Chapter 14

    CSS Quiz in Week 7
    Total Questions: 55, Total Time: 75 min

4. **JavaScript Part 1 (Week 7, 8, 9, 10, 11, and 12)**

    Alerts, Variables, Expressions
    Chapters 1 – 7, A Smarter Way to Learn JavaScript by Mark Myers

    Concatenating text strings and Prompts
    Chapters 8 and 9

    If statements
    Chapters 10 – 14

    Arrays
    Chapters 15 – 17

    For loops
    Chapters 18 – 20

    Strings
    Chapters 21 – 25

    Numbers
    Chapters 26 – 30

    Data and time
    Chapters 31 – 34

Functions
Chapters 35 – 38

Switch, while and do while statements
Chapters 39 – 42

JavaScript Quiz 1 in Week 12
Total Questions: 43, Total Time: 65 minutes

This will be the end of Quarter 2 and the remaining part of Javascript fundamentals along with advance Javascript will be continued in quarter 3.

Best of luck!