Web Technology

Syllabus Number 3D221
Special Subjects
Elective 2 credit
NAGATA TOMOHIRO

1. Course Description

We will learn the followings:
(1) HTML(Hyper Text Markup Language)
(2) CGI(Common Gateway Interface)
(3) JavaScript
(4) XML(eXtensible Markup Language)
(5) Other basic web-related technology
This course is related to DP4C and DP4M.

2. Course Objectives

The aim of this course is to obtain basic technical skills for creating content on the World Wide Web. The goal of this subject is the followings:
(1) The learners can explain functions of TCP/IP protocols.
(2) The learners can explain how to use HTML tags.
(3) The learners can write basic programs by JavaScript.
(4) The learners can define XML tags.
(5) The learners can write DOM and XSLT programs to use XML.

3. Grading Policy

The learners are assessed by the followings: reports 30%, mini tests 30%, a term-end examination 40%. The learners who get over 60% can get credits. For reexamination, examinees who get over 60% can get credits.
The learners can get feedback from the reports in which professors write comments and explanation for the mini tests and an examination.

4. Textbook and Reference

Textbook
Yutaka Matsusita, Satoshi Ichimura Ryuya Uda and Masahito Itoh, "IT Text Basic Web Technology," Ohmsha, 2017, ISBN978-4-274-21990-0.

5. Requirements(Assignments)

1. Web(1) Origin and components of web, hyper text
Preparation: reading the subsections 1.1 and 1.2 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 1 (1.5 hours)

2. Web(2) The internet and TCP/IP, development of web technology
Preparation: reading the subsections 1.2 and 1.3 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 1 (1.5 hours)

3. HTML(1) HTML tags
Preparation: reading the subsections 2.1～2.4 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 2 (1.5 hours)

4. HTML(2) HTML tags for page layout, fonts, and list
Preparation: reading the subsections 2.5～2.9 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 2 (1.5 hours)

5. HTML(3) CSS(Cascading Style Sheet), HTTP(Hyper Text Transfer Protocol)
Preparation: reading the subsections 2.10～2.12 of the textbook carefully (1.5 hours)
Review: writing HTML programs using HTML tags ans CSS (1.5 hours)

6. CGI(1) What is CGI and SSI
Preparation: reading the section 3 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 3 (1.5 hours)

7. CGI(2) CGI and SSI programming
Preparation: reading the section 3 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 3 (1.5 hours)

8. JavaScript(1) What is JavaScript, basics of JavaScript
Preparation: reading the subsection 4.1 and 4.2 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 4 (1.5 hours)

9. JavaScript(2) JavaScript event-driven programming
Preparation: reading the subsection 4.2 and 4.3 of the textbook carefully (1.5 hours)
Review: writing JavaScript programs using loop, conditional jump and event-driven (1.5 hours)

10. XML(1) What is XML
Preparation: reading the subsection 5.1 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 5 (1.5 hours)

11. XML(2) XSLT(eXtensible Stylesheet Language Transfomations)
Preparation: reading the subsection 5.3 of the textbook carefully (1.5 hours)
Review: writing programs using XML and XSLT (1.5 hours)

12. XML(3) DOM(Document Object Model) programming
Preparation: reading the subsection 5.4 of the textbook carefully (1.5 hours)
Review: writing DOM programs (1.5 hours)

13. XML(4) DTD(Document Type Definition), XML schema
Preparation: reading the subsection 5.5 of the textbook carefully (1.5 hours)
Review: solving the problems in the end of the section 5 (1.5 hours)

14. XML(5) Web Content using XML
Preparation: reading the subjection 5.1 and 5.2 of the textbook carefully (1.5 hours)
Review: making web content using XML (1.5 hours)

15. Summarization and examination
Preparation and review: summarizing this subject (1.5 hours)
Review: reviewing the exam (1.5 hours)

6. Note

The learners review HTML and CSS(Cascading Style Sheet) learning in the subject of Introduction to Information Technology. The learner can use leaning materials uploaded to LMS.

7. Schedule

[1] Web(1) Origin and components of web, hyper text
[2] Web(2) The internet and TCP/IP, development of web technology
[3] HTML(1) HTML tags
[4] HTML(2) HTML tags for page layout, fonts, and list
[5] HTML(3) CSS(Cascading Style Sheet), HTTP(Hyper Text Transfer Protocol)
[6] CGI(1) What is CGI and SSI
[7] CGI(2) CGI and SSI programming
[8] JavaScript(1) What is JavaScript, basics of JavaScript
[9] JavaScript(2) JavaScript event-driven programming
[10] XML(1) What is XML

[11] XML(2) XSLT(eXtensible Stylesheet Language Transfomations)

[12] XML(3) DOM(Document Object Model) programming

[13] XML(4) DTD(Document Type Definition), XML schema
[14] XML(5) Web Content using XML
[15] Summarization and examination