

# Web Basic Technology

Syllabus Number

4F101

Special Subjects

Elective 2 credit

ARAI, Masayuki

## 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 DP2.

## 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 must submit two reports. After two reports are accepted, the learners can take an exam and are evaluated by the exam. The learners can get feedback from the reports in which professors write comments.

## 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 then confirm the keywords(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 then confirm the keywords(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 then confirm the keywords(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 then confirm the keywords(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 then confirm the keywords(1.5 hours)

Review: writing HTML programs using HTML tags and CSS (1.5 hours)

6. CGI(1) What is CGI and SSI

Preparation: reading the section 3 of the textbook carefully then confirm the keywords(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 then confirm the keywords(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 then confirm the keywords(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 then confirm the keywords(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 then confirm the keywords(1.5 hours)

Review: solving the problems in the end of the section 5 (1.5 hours)

11. XML(2) XHTML(Extensible Hyper Text Markup Language)

Preparation: reading the subsection 5.2 of the textbook carefully then confirm the keywords(1.5 hours)

Review: solving the problems in the end of the section 5 (1.5 hours)

12. XML(3) XSLT(eXtensible Stylesheet Language Transformations)

Preparation: reading the subsection 5.3 of the textbook carefully then confirm the keywords(1.5 hours)

Review: writing programs using XML and XSLT (1.5 hours)

13. XML(4) DOM(Document Object Model) programming

Preparation: reading the subsection 5.4 of the textbook carefully then confirm the keywords(1.5 hours)

Review: writing DOM programs (1.5 hours)

14. XML(5) DTD(Document Type Definition), XML schema

Preparation: reading the subsection 5.5 of the textbook carefully then confirm the keywords(1.5 hours)

Review: solving the problems in the end of the section 5 (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.

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) XHTML(Extensible Hyper Text Markup Language)
- [12] XML(3) XSLT(eXtensible Stylesheet Language Transformations)
- [13] XML(4) DOM(Document Object Model) programming
- [14] XML(5) DTD(Document Type Definition), XML schema
- [15] Summarization and examination