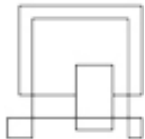


VIA University College



Web Development 1

Introduction to HTML

Agenda

- Introduction to lecturer
- Introduction to course
- Introduction to HTML

Who am I?

- Michael Viuff (mivi@via.dk)
- Graduated MSc from Aarhus University (2015)
- My goal with this course: To help you 😊

Teaching Style

- I am here to help
- Can only help if you are here
- Don't be afraid to ask!
- Turn frustration into curiosity (it WILL get frustrating!)
- If class starts at 08:20, please be here at 08:20
 - I won't lock the door though (yet)
- Don't disturb classmates

Course Description

Knowledge

Efter at have gennemført kurset, vil den studerende have opnået viden til at kunne:

- Beskrive de forskellige filformater der bruges i webudvikling samt deres formål
- Reproducere hjemmeside layouts ved brug af HTML5 og CSS3 ud fra billeder/screenshots af andre hjemmesider
- Ud vælge passende attributter for HTML5 elementer
- Forklare forskellen mellem responsive og ikke-responsive hjemmesider
- Teste HTML5 filer for fejl ved brug af W3C valideringsværktøjer
- Gøre rede for forskellen mellem JavaScript og Java programmeringssproget.

Course Description

Skills

Efter at have gennemført kurset, vil den studerende have opnået færdigheder til at kunne:

- Lave hjemmesider ved brug af Hyper Text Markup Language (HTML5)
- Bruge simple såvel som avancerede CSS3 selectors og properties, til at styre layout af hjemmesider
- Anvende Bootstrap grid frameworket til at lave responsive hjemmesider
- Anvende Bootstrap klasser til at styre layout af responsive hjemmesider
- Implementere JavaScript funktioner til at tilføje funktionalitet på hjemmesider
- Bruge XMLHttpRequest til at læse indholdet af en ekstern fil, og integrere indholdet på en hjemmeside
- Udvalgte HTML elementer, og anvende jQuery animationer på elementerne, for at gøre hjemmesider interaktive.

Course Description

Competences

Efter at have gennemført kurset, vil den studerende have opnået kompetencer til at kunne:

- Designe og implementere platformsuafhængige hjemmesider

Course Description

Resources

- **[Duckett, 2011]** : HTML & CSS Design and build Websities, Jon Duckett, First Edition
ISBN: 978-1-118-00818-8
- **[LaGrone, 2013]** : HTML5 and CSS3 Responsive Web Design Cookbook
ISBN: 978-1-84969-544-2
- **[Duckett, 2014]** : Javascript & jQuery, Jon Duckett, First Edition
ISBN: 978-1-118-53164-8

<https://www.w3schools.com/>

<http://getbootstrap.com/>

<http://jquery.com/>

Course Description

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Course Description

Examination

Eksamensforudsætning:

Fremmødekrav ($\geq 75\%$)

3 kursusopgaver afleveret inden deadline og godkendt

Hvis eksamensforudsætning ikke er opfyldt, skal den studerende gennemføre en skriftlig opgave i WISEflow for at blive indstillet til reeksamen.

Denne opgave planlægges efter den ordinære eksamen.

Eksamensform:

Digital skriftlig eksamen, 2 timer, 2 dele:

Del 1: Multiple choice spørgsmål, 30 minutter, vægter 25%

Del 2: Short answer spørgsmål (forklar og skriv kode), 90 minutter, vægter 75%

Intern bedømmelse

Tilladte hjælpemidler:

Del 1: Ingen hjælpemidler tilladt

Del 2: Alle hjælpemidler tilladt - inkl. internetadgang

Enhver form for kommunikation mellem studerende eller mellem studerende og en eksternt part er forbudt og vil blive betragtet som en overtrædelse af eksamensreglerne. Det er heller ikke tilladt at bruge AI værktøjer, som f.eks. ChatGPT eller lignende AI og Machine Learning værktøjer og chatbots.

Reeksamen:

Gennemføres som den ordinære eksamen, men kan dog besluttes gennemført som mundtlig eksamen.

Course Description

Examination

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Reeksamen:

Gennemføres som den ordinære eksamen, men kan dog besluttes gennemført som mundtlig eksamen.

Assignments

- Three assignments
 1. HTML5 & CSS3 based Website
 2. Make a responsive website for SEP1 (suitable for mobile devices)
 3. Using jQuery and JavaScript
- All must be handed in on time to attend the exam
- Assignment 2 is a part of SEP1

Expected Workload

- The course counts 5 ETCS point
- One ETCS point = 27.5 hours work => total 137 hours
- We are in the class 4 lessons per week distributed over 12 weeks (48 hours in total)
- For preparation/homework: $137 - 48 = 89$ hours!

Conclusion:

Preparation/homework: 7.4 hours per week!

Software development is learned by doing!

Structure

1. Questions about the exercises from last time.
 2. Presentation of new material.
 3. Exercises.
 4. Learning path on itslearning (videos, links, and exercises).
- You are expected to complete everything before the next session.
 - If you don't finish in class, then it's homework.

Introduction to HTML

- Hyper Text Markup Language (HTML).
- Markup's tells how the content of a webpage should be presented through the use of standardized tags and codes.
- Standards from World Wide WEB Consortium (W3C) – available on www.w3.org
- The “recipe” language for webpages.

HTML Document

- A plain text file (ASCII)
- All editors can be used to edit HTML
 - We use Visual Studio Code
- File extension must be .html
- The “front page” of any website is called **index.html**
- A HTML file has a minimum contents that must be there
 - More about this later

Principles of HTML


Markup

Start tags: `<h1>`, `<p>`, ``, ``, `<i>`

End tags: `</h1>`, `</p>`, ``, ``, `</i>`


Tags are nested:

`<i>This is bold italic</i>`

A diagram illustrating nested tags. Below the code, there are two sets of black brackets. The first set is a long bracket spanning the entire code snippet. The second set is a shorter bracket nested inside the first, spanning only the italicized portion of the text. This represents the correct nesting of the bold and italic tags.

Not like this:

`<i>This is bold italic</i>`

A diagram illustrating overlapping tags. Below the code, there are two sets of red brackets. The first set is a long bracket spanning the entire code snippet. The second set is a shorter bracket that starts after the first bracket begins and ends before the first bracket ends. This represents an overlapping or non-nested structure, which is incorrect.

Empty/open tags: `
`, `<hr>`

Workflow

1. Make a draft in plain text
2. Find the logical elements in the text
3. Mark up the text using HTML elements

Required HTML File Contents

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <title>Title of the document</title>
</head>
<body>
    <p>Your text goes here</p>
</body>
</html>
```

HTML Example

```
<h1>WEB1 Session plan</h1>
```

```
<h2>Session 1</h2>
```

```
<h3>Main topics</h3>
```

```
<ul>
```

```
  <li>Introduction to the course</li>
```

```
  <li>Introduction to HTML</li>
```

```
</ul>
```

HTML Example

```
<h3>Exercises</h3>
```

```
<ol>
```

```
  <li>Download "Star Pizza.txt".</li>
```

```
  <li>Create the HTML page for Star Pizza.</li>
```

```
  <li>Create a menu for Star Pizza with images and  
links.</li>
```

```
  <li>Complete the learning path on itslearning</li>
```

```
</ol>
```

Lists

`...` Items in a list are surrounded by

`...` The unordered list (*will give you bullet points*)

`...` The ordered list (*will give you numbers*)

The definition/description list (*will not give you an indentation*)

`<dl>`

`<dt>...</dt>`

`<dd>...</dd>`

`</dl>`

Lists

HTML

Unordered list:

```
<ul>
  <li>Item 1</li>
  <li>Item 2</li>
  <li>Item 3</li>
</ul>
```

Ordered list:

```
<ol>
  <li>Item 1</li>
  <li>Item 2</li>
  <li>Item 3</li>
</ol>
```

In Browser

Unordered list:

- Item 1
- Item 2
- Item 3

Ordered list:

1. Item 1
2. Item 2
3. Item 3

Lists

Description list:

```
<dl>
  <dt>RWD I1</dt>
    <dd>Responsive WEB Design
course</dd>
  <dt>LRL I1</dt>
    <dd>LEGO Robot Lab course</dd>
</dl>
```

In Browser

RWD I1
Responsive WEB Design course
LRL I1
LEGO Robot Lab course

Links

`<a>` This is a link tag (anchor)

``

Has an attribute that defines where the link points to

Link to `` a popular search engine

Links

`<a>` This is a link tag (anchor)

``

Has an attribute that defines where the link points to

Hypertext reference

The page the link takes you to

Link to `` a popular search engine ``

The text the user will see, and can click on

Links

`<a>` This is a link tag (anchor)

``

Has an attribute that defines where the link points to

Link to `` a popular search engine ``

Links

`<a>` This is a link tag (anchor)

``

Has an attribute that defines where the link points to

Target (which window) reference

Link to `` a
popular search engine ``

"Blank" means new window

Images

`` This is an image tag. Doesn't take a closing tag (uses / inside tag instead)

Images

```

```



Images

Alt (alternative description) of the image, can be read by screen reader, or used if image fails to load

Title of the image, shown as tool tip when hovering over the image

```

```

Source (destination) of the image file



Image + Link = An image that is a link

- To create an image link use a link element to contain an image element (instead of text)

```
<a href="index.html"> Text goes here </a>
```


Image + Link = An image that is a link

- To create an image link use a link element to contain an image element (instead of text)

```
<a href="index.html">  </a>
```



Home

Image + Link = An image that is a link

- To create an image link use a link element to contain an image element (instead of text)

```
<a href="index.html">  </a>
```



Home

- Many browsers automatically add a border to image links.
- Later we will handle this with CSS

Thumbnail Image

- A small image configured to link to a larger version of that image



Thumbnail Image

- A small image configured to link to a larger version of that image

```
<a href="big.jpg"></a>
```

Comments

```
<!-- This is a comment for the paragraph below -->
```

```
<p> This text wrapped as a paragraph </p>
```

```
<!-- These lines of paragraph are not being instanced by the  
browser because they have been "out-commented"
```

```
<p> Paragraph line 1 </p>
```

```
<p> Paragraph line 2 </p>
```

```
-->
```

Exercises

- Find the exercises on itslearning (zip file containing an HTML file and an images folder)
 - Open it in Visual Studio Code to see the HTML structure and content
 - See the result in the browser window
 - Go step by step and make your Star Pizza homepage
 - Just ask me if you get stuck 😊
- Complete the learning path on itslearning (videos, links, and exercises).