



# COS 216 Practical Assignment 1

- Date Issued: **28 February 2022**
- Date Due: **14 March 2022** before **08:00**
- Submission Procedure: **Upload to the web server (wheatley) + clickUP**
- This assignment consists of **5 tasks** for a total of **70 marks**.

## 1 Introduction

During this practical assignment you will be designing and developing a web site that will showcase a News Website similar to what can be seen from News24 (<https://www.news24.com/news24/southafrica>). Each assignment will build off the other in an attempt to have a fully functional news database website at the end of all the practicals. **NB: It is important that you do not miss any practicals or you will fall behind. Each practical will have a portion of new work, that does not build on previous functionality.**

After successful completion of this assignment you should be able to create a web page which complies to the HTML5 standards and CSS styling. The specific web page for this assignment will showcase the following functionality:

- a navbar from where navigation to each component/part for each assignment should be showcased;
- you should have the following tabs in the navbar: Today, South Africa, World, COVID-19 and Calendar which each go to the specific HTML page.
- an “under construction” page which is the page displayed if the assignment/tab has not as yet been completed;

**NB: Each component/part must be linked to the navbar. See Task 2 for further details.**

## 2 Constraints

1. You must complete this assignment individually.
2. You may ask the Teaching Assistants for help but they will not be able to give you the solutions.
3. You must produce all of the source files yourself; you may not use any tool to generate source files or fragments thereof automatically.
4. You may not use any frameworks for this practical or any JavaScript.
5. Your assignment will be viewed using Chrome/Brave Web Browser (<https://brave.com/>) so be sure to test your assignment in this browser. Nevertheless, you should take care to follow published standards and make sure that your assignment works in as many browsers as possible.
6. You may utilize any text editor or IDE, upon an OS of your choice, again, as long as you do not make use of any tools to generate your assignment.
7. All written answers must be typed and clearly visible in the HTML of the web page, **no** paper based or PDF marking will be done.
8. All written code should contain **comments including your name, surname and student number** at the top of each file.

9. Your assignment must work on the **wheatley** web server, as you will be marked off there, in special cases (when Wheatley is offline) you may demo off your laptop or a local copy from the files you downloaded from ClickUP.

### 3 Submission Instructions

You are required to upload **all** your source files (e.g. HTML5 documents, any images, etc.) to the web server (**wheatley**) and clickUP in a compressed (zip) archive. Make sure that you test your submission to the web server thoroughly. All the menu items, links, buttons, *etc.* must work and all your images must load. Make sure that your practical assignment works on the web server before the deadline. **No late submissions** will be accepted, so make sure you upload in good time. **The server will not be accepting any uploads and updates to files from the stipulated deadline time until the end of the marking week (Thursday at 3pm).**

**The deadline is on Sunday but we will allow you to upload until Monday 8am. After this NO more submissions will be accepted.**

You must therefore make sure that you **ftp** your assignment to the web server. Also make sure that you do this in good time. A snapshot of the web server will be taken just after the submission was due and only files in the snapshot will be marked.

**IMPORTANT: No upload to ClickUP, No marks**

### 4 Online resources

**HTML5** - <https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/HTML5> and  
<http://www.w3schools.com/>

**CSS** - <http://www.w3.org/Style/Examples/011/firstcss>

**HTML and CSS** - <http://www.codecademy.com/en/tracks/web>

**Standards compliance** - <http://validator.w3.org/>, <https://jigsaw.w3.org/css-validator/>

**FTP tutorial** - <http://www.cyberciti.biz/faq/linux-unix-ftp-commands/>

### 5 Rubric for marking

<b>Setup web server</b>	5
<b>Launch Page + Navbar</b>	
Layout + Logo	3
Navbar	2
<b>Today Page</b>	
CSS	10
Layout	15
<b>South Africa Page</b>	
CSS	3
Layout	7
<b>COVID-19 Page</b>	
CSS	3
Layout	7
Deductions	5
<b>Under Construction Message for all to-be-implemented pages</b>	5
<b>HTML5 compliance</b>	3
<b>CSS compliance</b>	2
<b>Upload</b>	
<b>Does not work on wheatley</b>	<b>-10</b>
<b>Not uploaded to clickUP</b>	<b>-70</b>
<b>Total</b>	<b>70</b>

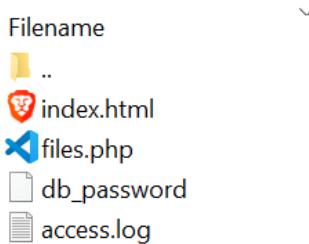
## 6 Assignment Instructions

### Task 1: Setup the web sever .....(5 marks)

The first time you ftp into the web server, your home folder will be created with a few files: *db\_password*, *files.php*, *index.html* and/or *access.log* and *error.log*. Do **NOT** delete these files as they won't be created again and will be used in a later practical involving PHP. Complete the following steps to setup the web server:

**Step 1:** ftp into the web server, *wheatley.cs.up.ac.za*, using your user name and password that you use to login to the CS Portal.

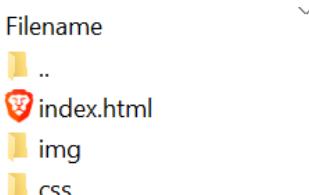
**Step 2:** Check whether the *access.log*, *error.log* files reside in your web server folder. Don't worry if they don't appear in your folder yet. Your directory should look similar to the following:



**Step 3:** Create a folder and name it "**COS216**". Note that subsequent files and folders that you would create for the various practical and homework assignments should be contained in this folder.

**Step 4:** For each practical assignment you will need to have a separate folder. This means that you would have to create a copy of your website each practical and then build on it. You will be penalised if you do not follow this rule. For this practical assignment you should create a folder inside your COS216 folder and name it "**PA1**".

**Step 5:** For each practical assignment you should have your home page *index.html* (or any other suitable name) in the relevant PA folder. You should also separate all your resources into their own different folders (eg. img, css, js, etc.) within this folder. Your PA1 directory should look similar to the following:

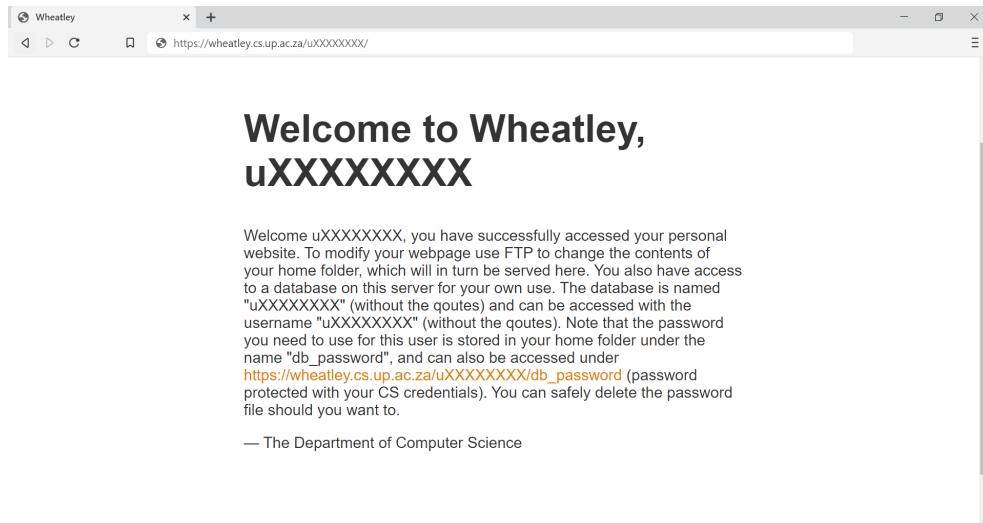


**Step 6:** Check whether you can access your home folder via the web server by going to:

<https://wheatley.cs.up.ac.za/uXXXXXXXXX/>, where XXXXXXXX is your student number, in your web browser. You should see a pop-up that will ask you to login. The login details are the same as the CS Portal login. You will see something similar to the following:



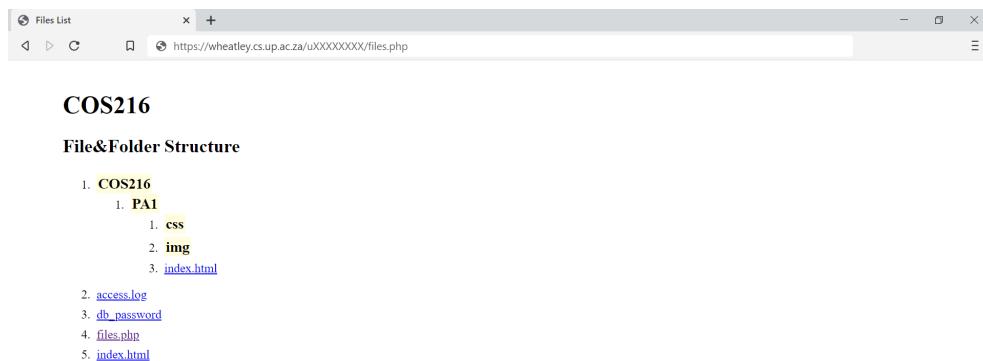
**Step 7:** Once logged in, you will see something similar to the following:



This page will serve as the launch page for your News Site (see Task 2 for more details).

**Step 8:** Check that your file listing is correct on the web server by going to:

<https://wheatley.cs.up.ac.za/uXXXXXXX/files.php>, where XXXXXXXX is your student number, in your web browser. You will see something similar to the following:



**NB: if there is no filename specified in the url don't forget to add the '/' to the end.**

## Task 2: Create a Launch Page and Navbar ..... (5 marks)

This task requires you to create a Launch page and Navbar that will link each assignment (and their pages) that you will be required to complete for COS216 this semester.

Your launch page will serve as the navigation to your news database website. Choose a name wisely and make a logo for your website. Other than the page being intuitive to use, you need to design it to be aesthetically pleasing. You will be graded according to how the layout is chosen, use of colour, images, design, etc.

The page should include links to all your practical assignments i.e. a link that takes you to the home page for PA1, PA2, and so on. Remember to include an "Under Construction" page if the assignment has not been completed yet.

Save the HTML5 code for this page in a file called `index.html` and place it in the same directory on the web server as which `files.php`, `access.log`, `error.log` are in (you should already have an `index.html` file in the home directory so you can just update this). View the page on `wheatley`. You should be able to access your page using <https://wheatley.cs.up.ac.za/uXXXXXXX/>

Alternatively you can call the page directly using the following url in your web browser:  
<http://wheatley.cs.up.ac.za/uXXXXXXXXX/index.html>

You should create a navigation bar that will link the pages for each practical assignment i.e. it will contain links that take you to the Today, World, etc. pages. ([https://www.w3schools.com/html/html5\\_semantic\\_elements.asp](https://www.w3schools.com/html/html5_semantic_elements.asp)).

**Note:** The Navbar needs to be available on each page. You cannot use JavaScript or PHP in this practical. Remember to include an "Under Construction" page if the page has not been completed yet.

**IMPORTANT:** This index.html page would need to be group all your COS216 practicals together. This means that for each assignment this page needs to be updated!

An example of the Launch page can be seen below:



### Task 3: Create a 'Today' page ..... (25 marks)

For this task you are required to make and design the "Today" page. This page simply shows the current news of the day (only the news published on the current day). You should make use of mock data to populate your webpage. **This page will also serve as the home page of your website.**

**NB:** You may NOT copy the design of existing websites but should rather use your own creativity.

Your page should have the following information:

- Searchbar - You should only have styled elements, no functionality needs to be implemented in this practical
- Filters (at least 2) [Tags, Categories, Source, Author, etc] - You should only have styled elements, no functionality needs to be implemented in this practical. The filters can be anything that allows you to filter data, so make the design intuitive to use, for example, a dropdown with prefilled items or a checkbox to select multiple items to filter by (Filter results by multiple tags instead of just one).
- Each news item should have the following:
  - News background - an image of the news article, if no image can be sourced, a random image can be used.
  - Title
  - Description
  - Keywords/Tags
  - Date Published

- Author
- Category

Your page should at least have 5 mock news elements. Marks will be given according to layout, design, usage of colours and other factors.

The following CSS functionality needs to be incorporated into your design. You are free to add more styling as you prefer but remember it must still look professional.

- Backgrounds - colours, images, etc.
- Fonts - at most 3 and must be readable. Have a look at importing fonts instead of using the standard HTML fonts
- Text - colour and size
- Boxes - should include padding, margins, shadows and/or borders

#### **Task 4: Create a 'South Africa' page ..... (10 marks)**

For this task you are required to make and design the "South Africa" page. This page shows news articles of only South Africa. You should make use of **different** mock data to populate your webpage.

**NB: You may NOT copy the design of existing websites but should rather use your own creativity.**

Each article should have the following:

- News Background - an image of the article, a random image can be used
- Title
- Date of Publication
- Author
- Area - A default location of South Africa can be used, however, you should obtain the location area from the article itself (Text searching). More info on this in PA2.

The following CSS functionality needs to be incorporated into your design and should use more advanced CSS styling. You are free to add more styling as you prefer but remember it must still look professional.

- Links - must be styled (no default text colour, underline, etc.). The styling should also change when the user hovers over the link
- Lists
- Icons - can be added via icon libraries such as Font Awesome (<https://fontawesome.com>)
- Tooltip - provide the name and rating of the article in a tooltip when the user hovers over the article artwork

#### **Task 5: Create the "COVID-19" Page ..... (15 marks)**

For this task you are required to make and design the "COVID-19" page. This page simply shows information and statistics specifically about COVID-19. You should at least have the statistics of South Africa. You would also need to display a graph of this statistics from an external source, i.e. the graph needs to be dynamic (not real-time). For now, the graph should only be an image, sized correctly, and using an external source, e.g <https://corona.dnsforfamily.com/graph.png?c=ZA>.

**NB: You may NOT copy the design of existing websites but should rather use your own creativity.**

This page should have the following:

- Overall COVID Cases
- Overall COVID Recoveries
- Overall COVID Deaths
- Daily Cases Stats (Cases, Recoveries, Deaths)
- Graph Statistics (You may choose what data to display or source)
- Deductions

The **Deductions** will be calculated information based on the overall and daily cases. The following deductions need to be calculated by you with the data sourced (from an API) [More in PA2]. For now you just need to focus on displaying this information with **Mock** values.

- IFR - Infection Fatality Ratio
- CFR - Case Fatality Ratio
- Mortality Rate
- Cases:Recoveries:Death Ratio

Note: Don't forget to add your own styling to this page as well.

**IMPORTANT: Note no functionality needs to be implemented, you are just focussing on the design, layout and styling of the page.**

