

**INTRODUCTION TO WEB DEVELOPMENT**

**CT4009**

Abu Alam, Billy McQueer & David Johnston

School of Business & Technology

**Table of Contents**

[Learning Outcomes 1](#_Toc454447422)

[Module Evaluation 1](#_Toc454447423)

[Assessment 1 4](#_Toc454447424)

[Assessment 2](#_Toc454447425) 10

# Learning Outcomes

By the end of this module, students will be able to:

1. Understand the principles and terminology of the Internet and the World Wide Web
2. Incorporate best practices in navigation and usability to design websites that give users easy access to the information.
3. Conceptualize and plan an internet-based business that applies appropriate business models and web technologies.
4. Design websites using appropriate security principles, focusing specifically on the vulnerabilities inherent in common web implementations.
5. Employ fundamental computer theory to basic programming techniques.
6. Demonstrate the ability to work in a group and negotiate tasks, and the ability to communicate effectively with others

# Module Evaluation

##### EVALUATION FOR 2017/18

The Moodle feedback last year was largely positive. Students made the following comments:

* Students liked to work towards their assignment every week.
* Students found this work challenging which is good.
* Students wants more time to be spent on practical work. Discussed with ASL and more student assistants will be provided in the next year.

##### EVALUATION FOR THE CURRENT YEAR

In this current academic year 2018/19 you will be given the opportunity to undertake a mid-module evaluation which will feed into the course board of studies meeting and will inform module design for the following year. In addition, there will be an independent end of year level evaluation distributed by the University.

**Scheme of work**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date w/c** | **Topic** | **Practical work** |  |
| SEMESTER 1 | | | |
| 17 Sep 18 | Introduction to the Module,  Introduction to HTML | HTML exercises | Lecture: Team  Lab: AA/DJ |
| 24 Sep 18 | HTML – List, Links, Images, Table, Forms, Video | HTML exercises | Lecture: BM  Lab: AA/DJ |
| 01 Oct 18 | Introducing CSS – Color, Text, Boxes | CSS exercises | Lecture: BM  Lab: AA/DJ |
| 08 Oct 18 | CSS – Lists, Tables, Forms, Layout | CSS exercises | Lecture: BM  Lab: AA/DJ |
| 15 Oct 18 | Basic JavaScript – Functions/ Methods/ Object/ Debugging | JavaScript exercises | Lecture: BM  Lab: AA/DJ |
| 22 Oct 18 | Computing YFP Week | | |
| 29 Oct 18 | Document Object Model (DOM) | DOM exercises | Lecture: BM  Lab: AA/DJ |
| 05 Nov 18 | Local Storage | Local Storage exercises | Lecture: BM  Lab: AA/DJ |
| 12 Nov 18 | JavaScript – Events, JQuery | JavaScript/ JQuery exercises | Lecture: BM  Lab: AA/DJ |
| 19 Nov 18 | JavaScript – Decisions and Loop | JavaScript exercises | Lecture: AA  Lab: BM/DJ |
| 26 Nov 18 | Handling Exceptions, Google Map | Handling Exceptions, Google Map exercises | Lecture: AA  Lab: BM/DJ |
| 03 Dec 18 | Form enhancement and validation, Testing | Form exercises | Lecture: AA  Lab: BM/DJ |
| 10 Dec 18 | Assignment Workshop | Assignment Workshop | Team |
| 24 Dec 18 – 04 Jan 19 | 24 Dec 18 to 04 Jan 19 Christmas Vacation (2 weeks) | | |
| 07 Jan 19 | Assessment Week  CT4009 Assignment 1 Submission – Monday 7th January 2019 | | |
|  | SEMESTER 2 | | |
| 14 Jan 19 | Introduction to Assessment 2,  Introduction to PHP | PHP Practical exercises | Lecture: AA  Lab: BM/DJ |
| 21 Jan 19 | Creating Dynamic Website using PHP | PHP Practical exercises | Lecture: AA  Lab: BM/DJ |
| 28 Jan 19 | Introduction to SQL and MySQL | SQL and MySQL Practical exercises | Lecture: AA  Lab: BM/DJ |
| 04 Feb 19 | Advanced SQL and MySQL | SQL and MySQL Practical exercises | Lecture: AA  Lab: BM/DJ |
| 11 Feb 19 | University YFP Week | | |
| 18 Feb 19 | Error Handling and Debugging | PHP Practical exercises | Lecture: DJ  Lab: BM/AA |
| 25 Feb 19 | Using PHP with MySQL | PHP and MySQL Practical exercises | Lecture: DJ  Lab: BM/AA |
| 04 Mar 19 | Cookies and Sessions | PHP Practical exercises | Lecture: DJ  Lab: BM/AA |
| 11 Mar 19 | Computing YFP Week | | |
| 18 Mar 19 | Web Application Security | PHP Practical exercises | Lecture: DJ  Lab: BM/AA |
| 25 Mar 19 | Sending Emails, Create dynamic markers in Google Map | PHP, Google Map Practical exercises | Lecture: DJ  Lab: BM/AA |
| 01 Apr 19 | eBay API | eBay API Practical exercises | Lecture: DJ  Lab: BM/AA |
| 08 Mar 19 | Testing | Testing exercises | Lecture: DJ  Lab: BM/AA |
| 15 Apr – 26 Apr 19 | Easter Holiday (2 weeks) | | |
| 29 Apr 19 | Assignment Workshop | Assignment Workshop | Team |
| CT4009 Assignment 2 Submission – Monday 13th of May, 2019 | | | |

# Assessment 1

|  |  |
| --- | --- |
| **1. Module code and title** | **CT4009 INTRODUCTION TO WEB DEVELOPMENT** |
| **2. Module tutor** | Abu Alam |
| **3. Tutor with responsibility for this Assessment** | Abu Alam  **This is your first point of contact.** |
| **4. Assignment** | 001: 50% Coursework: Individual work (2000 words or equivalent)  You will be penalised according to the **Academic Regulations for Taught Provision** if you exceed the size limit. |
| **5. Submission deadline**  Your attention is drawn to the penalties for late submission; see Undergraduate Modular Handbook. | Monday 7th January 2018  Your attention is drawn to the penalties for late submission; **see Academic Regulations for Taught Provision.** |
| **6. Arrangements for submission** | **Moodle** |
| **7. Date and location for return of work** | **Written feedback and provisional mark will be within 20 working days.** |
| **8. Students with Disabilities** | Alternative assessment arrangements may be made, where appropriate, for students with disabilities. However, these will only be implemented upon the advice of the Disability Advisor. Students wishing to be considered for alternative assessment arrangements must give notification of the disability (with evidence) to the Disability Advisor by the published deadlines. |
| **9. University Regulations for Assessment** | All assessments are subject to the **Academic Regulations for Taught Provision**. These include regulations relating to Errors of Attribution and Assessment Offences. In exercising their judgement, Examiners may penalise any work where the standard of English, numeracy or presentation adversely affects the quality of the work, or where the work submitted exceeds the published size or time limits, or where the work fails to follow normal academic conventions for acknowledging sources. |

**10. The requirements for assessment 1:**

This assignment is an **individual project** and a **report**.

**Assessment 1 - Individual Project:**

This assignment requires you to develop a Social Media Web Site (like Facebook) using HTML, CSS, Javascript/ JQuery (client-side scripting languages).

**User Classes and Characteristics**

The **website users** can do the following using the website:

1. **Register** (create an account)
2. **Login** to the system
3. **Create** wall posts including text, images and location (using google map), and **like** other people’s posts
4. **Send/ receive** messages
5. **Block/ unblock** and **report** friends/ other Facebook users

**Administrators** can do the following using the website:

1. **Login** to the system
2. **Delete** any user
3. **View** a report that shows number of posts made by Facebook users in a specific week/month/year
4. **View** all reports made by Facebook users and **take action** such as block a user for 30 days/ ask for identity document etc.

Assessment 1 requires all the data to be stored in a local database (e.g. HTML local storage).

You must write comment (programmer-readable explanation or annotation) in the source code.

**Assessment 1 - Report:**

Although practical, this assignment requires you to submit full documentation and provide evidence of reflective review. Your documentation must explain all that you have done and confirm your technical competence. If you do not provide documented evidence and explanation for any aspect of your system, we will not be able to consider it when marking.

We will, however, randomly inspect various parts of your developed system to verify that what you discuss in your documentation has actually been implemented. Please ensure that we can access all aspects of your system. You will lose marks if we cannot verify that all developments are as discussed in your documentation.

The **written report** should include the following:

* The URL of your hosted web site.
* The URL, user name and password of your control panel.
* A table containing the list of functioning and non-functioning pages.
* Evidence that you have understood web technologies by showing interesting examples of HTML, CSS and Javascript code used in implemented pages.
* A concise User Manual targeted at the key users (Website User and Administrator). This should be task oriented and demonstrate good consideration of appropriate style. Relevant books on user manual style available from the Learning Centre include: “Read Me First”, and “Developing Quality Technical Information” – please use these.
* Documented evidence of the testing strategy you used to test the web site’s functionality throughout its development.
* Reference List. Don’t forget that all code and ideas that are not your own must be fully acknowledged and used in accordance with any applicable restrictions. Use Harvard referencing.
* Appendix 1: Screenshot of all implemented web pages
* Appendix 2: All Source code (HTML, CSS, Javascript).

The report must be written in third person.

You should carefully consider the following when writing your report:

* Style – suitable to be quickly read and comprehended.
* Content – relevant, clearly explained, logically organised.
* Authority – discussed concepts and ideas will need evidence in support.
* Practical understanding – your own practical examples, advice and demonstrations should be included.

1. **Special instructions**

*Submit your project source files on W****eb Server*** *(student sites). The root folder should be named according to the convention*

*CT4009 2018-19 001 StudentNumber SubmissionDeadline*

*e.g. CT4009 2018-19 001 1608131 07 Jan 2018*

*Submit report (just one Word document) via* ***Moodle*** *named according to the convention*

*CT4009 2018-19 001 StudentNumber*

*e.g. CT4009 2018-19 001 1608131*

**12. Assessment 1 criteria**

You need to achieve at least 40% to pass this assessment. Below a guide to the level of practical content and report required for the assignment.

|  |  |
| --- | --- |
| **Grade** | **Content** |
| To achieve <30 | Some requirements met, but very limited and not recoverable. Copyright violation. |
| To achieve <40 | Deliverables partially complete, e.g. no implementation or no report. |
| To achieve 40+ | Project   * Partial implementation of the web site (at least 5 web pages using HTML and CSS) * Limited documentation (comments) in source code   Report   * Report contains explanation of implemented web pages |
| To achieve 50+ | Project   * Partial implementation of the web site (at least 5 web pages using HTML ,CSS and Javascript) * Javascript has been used to store and retrieve data * Good documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * User manual has been provided |
| To achieve 60+ | Project   * Most functions of the web site were implemented (at least 7 web pages using HTML, CSS and Javascript) * Javascript has been used to store and retrieve data * Very good documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * User manual has been provided * Harvard referencing has been used |
| To achieve 70+ | Project   * Full implementation of the web site (all required web pages using HTML, CSS and Javascript) * Javascript has been used to store and retrieve data * Excellent documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * User manual has been provided * Documented evidence of the testing strategy * Appendix contains Screenshot of web pages and source code * Harvard referencing has been used |

The **maximum** size for the report is 2000 words.

***Assesses learning outcomes (1), (2), (3), (4), (5) and (6)***

Note that the overall grade will be determined by the application of the School of Business & Technolgy Assessment Criteria Grid.

# Assessment 2

**Assessment specification**

|  |  |
| --- | --- |
| **1. Module code and title** | **CT4009 INTRODUCTION TO WEB DEVELOPMENT** |
| **2. Module tutor** | Abu Alam |
| **3. Tutor with responsibility for this Assessment** | Abu Alam  **This is your first point of contact.** |
| **4. Assignment** | 002: 50% Coursework: Group work (2000 words or equivalent)  You will be penalised according to the **Academic Regulations for Taught Provision** if you exceed the size limit. |
| **5. Submission deadline**  Your attention is drawn to the penalties for late submission; see Undergraduate Modular Handbook. | **Monday 19th May 2019**  Your attention is drawn to the penalties for late submission; **see Academic Regulations for Taught Provision.** |
| **6. Arrangements for submission** | **Moodle** |
| **7. Date and location for return of work** | **Written feedback and provisional mark will be within 20 working days.** |
| **8. Students with Disabilities** | Alternative assessment arrangements may be made, where appropriate, for students with disabilities. However, these will only be implemented upon the advice of the Disability Advisor. Students wishing to be considered for alternative assessment arrangements must give notification of the disability (with evidence) to the Disability Advisor by the published deadlines. |
| **9. University Regulations for Assessment** | All assessments are subject to the **Academic Regulations for Taught Provision**. These include regulations relating to Errors of Attribution and Assessment Offences. In exercising their judgement, Examiners may penalise any work where the standard of English, numeracy or presentation adversely affects the quality of the work, or where the work submitted exceeds the published size or time limits, or where the work fails to follow normal academic conventions for acknowledging sources. |

**10. The requirements for assessment 2**

This assignment is a **Group project** and **report**. The assessment requires you to work as part of a group of 2-3 students.

**Assessment 2 - Group Project:**

This assignment requires you to extend Assessment 1 so that data can be stored into a server database (MySQL). You need to use server side programming language PHP as well as HTML, CSS, Javascript/ JQuery.

**The following additional features should also be included:**

1. Marketplace (such as eBay) advertisements will appear on social media website pages.
2. Administrators can view heat map of social media posts locations in a google map
3. Social media users can deactivate their account
4. Social media users can create event (such as party, function etc), invite friends and see which friends are gathering.

Assessment 2 requires all the data to be stored in a Server database (e.g. MySQL).

You must write comment (programmer-readable explanation or annotation) in the source code.

**Assessment 2 - Report:**

Although practical, this assignment requires your team to submit full documentation and provide evidence of reflective review. Your documentation must explain all that you have done and confirm your technical competence. If you do not provide documented evidence and explanation for any aspect of your system, we will not be able to consider it when marking.

We will, however, randomly inspect various parts of your developed system to verify that what you discuss in your documentation has actually been implemented. Please ensure that we can access all aspects of your system. Your team will lose marks if we cannot verify that all developments are as discussed in your documentation.

* 80% of your mark will be allocated for the team’s submission as a whole, but you will receive a reduced mark if it is evident that you haven’t sufficiently contributed or engaged.
* 20% of your mark will be allocated for a personal statement.

The team’s submission should include the following:

* The URL of your hosted web site.
* The URL, user name and password of your control panel.
* A table containing the list of functioning and non-functioning pages.
* Evidence that you have understood web technologies by showing interesting examples of HTML, CSS, Javascript, PHP, MySQL, Google map and eBay API code used in implemented pages.
* A concise User Manual targeted at the key users (website user and administrator). This should be task oriented and demonstrate good consideration of appropriate style. Relevant books on user manual style available from the Learning Centre include: “Read Me First”, and “Developing Quality Technical Information” – please use these.
* Documented evidence of the testing strategy you used to test the web site’s functionality throughout its development.
* Discuss business values of different features of your implemented social media web-site
* Outline what security measures you have taken to implement the website
* Reference List. Don’t forget that all code and ideas that are not your own must be fully acknowledged and used in accordance with any applicable restrictions. Use Harvard referencing.
* Appendix 1: Screenshot of all implemented web pages
* Appendix 2: All Source code (HTML, CSS, Javascript, PHP, MySQL database build code).

The total number of words of the team’s submission must not exceed 3000 words (for team of 2 students) or 4500 words (for team of 3 students). You will be penalised according to the Academic Regulations for Taught Provision if you exceed the size limit.

Your personal statement should include the following:

* explain how you contributed to the team; what tasks you worked on;
* what you learned; and why you feel you contributed equitably to the team workload.

The total number of words of the personal statement must not exceed 500 words. You will be penalised according to the Academic Regulations for Taught Provision if you exceed the size limit.

Team’s submission must be written in third person.

You should carefully consider the following when writing your report:

* Style – suitable to be quickly read and comprehended.
* Content – relevant, clearly explained, logically organised.
* Authority – discussed concepts and ideas will need evidence in support.
* Practical understanding – your own practical examples, advice and demonstrations should be included.

1. **Special instructions**

*Submit your project source files on W****eb Server*** *(student sites). The root folder should be named according to the convention*

*CT4009 2018-19 002 StudentNumber1 StudentNumber2 StudentNumber3 SubmissionDeadline*

*e.g. CT4009 2018-19 002 1608131 1608133 1608135 13 May 2018*

*Submit report (just one Word document containing both team’s submission and personal statement) via* ***Moodle*** *named according to the convention*

*CT4009 2018-19 002 StudentNumber1 StudentNumber2 StudentNumber3*

*e.g. CT4009 2018-19 002 1608131 1608133 1608135*

**12. Assessment 2 criteria**

You need to achieve at least 40% to pass this assessment. Below a guide to the level of practical content and report required for the assignment.

|  |  |
| --- | --- |
| **Grade** | **Content** |
| To achieve <30 | Some requirements met, but very limited and not recoverable. Copyright violation. |
| To achieve <40 | Deliverables partially complete, e.g. no implementation or no report. |
| To achieve 40+ | Project   * Implementation of all pages required for Assessment 1 and extended to store data into a Sever database * Limited documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * Personal statement shows how you contributed to the team and what tasks you worked on |
| To achieve 50+ | Project   * Implementation of all pages required for Assessment 1 and extended to store data into a Sever database * Partial implementation of additional features listed in section 10 (at least 1 additional web page) * Good documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * User manual has been provided * Harvard referencing has been used * Personal statement shows how you contributed to the team, what tasks you worked on; |
| To achieve 60+ | Project   * Implementation of all pages required for Assessment 1 and extended to store data into a Sever database * Partial implementation of additional features listed in section 10 (at least 2 additional web pages) * Very Good documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * User manual has been provided * Business values of different features * Security measures * Harvard referencing has been used * Personal statement shows how you contributed to the team and what tasks you worked on; what you learned; and why you feel you contributed equitably to the team workload |
| To achieve 70+ | Project   * Implementation of all pages required for Assessment 1 and extended to store data into a Sever database * Partial implementation of additional features listed in section 10 (all additional web pages) * Very Good documentation (comments) in source code   Report   * Report contains explanation of implemented web pages * User manual has been provided * Documented evidence of the testing strategy * Appendix contains Screenshot of web pages and source code * Harvard referencing has been used * Personal statement shows how you contributed to the team and what tasks you worked on; what you learned; and why you feel you contributed equitably to the team workload |

***Assesses learning outcomes (1), (2), (3), (4), (5) and (6)***

Note that the overall grade will be determined by the application of the School of Business & Technology Assessment Criteria Grid.

**Appendix: School of Business & Technology Assessment Criteria Grid**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Mark %** | **Comment** | **Grade &**  **Characteristics** | **Theory &**  **Academic Approach** | **Practice & Deliverables** |
| 0 |  | **Fail** | plagiarism, collusion, non-pres., name only | as theory |
| 1-9 |  | **Fail** | no understanding, very short, inadequate | no effective deliverables |
| 10-29 |  | **Fail** | factual but little interpretation, lacks  coherence, short, errors, misconceptions | requirements not met; not recoverable |
| 30-39 |  | **Reassess:**  ***inadequate but recoverable with limited effort*** | coherent but mechanical notes, basic task OK but limited - partial - rudimentary answer, limited interpretation, lack of knowledge of topic, weak English but some appropriate use of language of topic | deliverables partially complete, not all requirements met, limited response to brief. |
| 40-49 |  | **3rd, D**  **Pass: Sufficient for award of credit *adequate mainly descriptive approach, fair, limited conceptual or theoretical ability*** | adequate response, demonstration of basic knowledge, relevant content, clear intention communicated, evidence of reading, acceptable minimum level of English for business presentation but may lack precision, some limited analysis / application of knowledge / theory / weighting of evidence, inconsistent | deliverables meet basic requirement correctly but limited, just adequate but not innovative, interesting or exciting, for higher marks, 45+ just exceeds minimum specification, might be good in some areas but not consistent |
| 50-59 |  | **2ii, C**  **Satisfactory**  ***Satisfactory with some conceptual ability but lacks good evaluation or synthesis of ideas*** | good response to task, collates info, *satisfactory* analysis & judgement, constructs generalisations based on evidence & opinion, argues clearly, logically & constructs a case, some limited ability to state a personal position, correct English with few imprecise statements | good deliverables, some evidence of good design or execution, coherent and organised product, some limited evidence of self criticism concerning deliverable, some independence, initiative, autonomy, appropriate techniques, integration of knowledge for task |
| 60-69 |  | **2i, B**  **Good.**  ***Good analysis, evaluation, synthesis, integration & argument.*** | evaluates info. & synthesises generalisations, good ability to state & defend personal position, good analysis & judgement, applies knowledge to new situations, sound on theory, critical, understands limitations of methods, selective coherent & logical approach, well written with clear, correct and precise English | all criteria met to **good** standard, evidence of good design or execution, good integration of academic & practical issues,  solid evidence of self critique/evaluation of deliverables, products well organised - documented - coherent. Evidence of independence, initiative, autonomy, creativity, adaptability, resourcefulness.  Integration of knowledge, |
| 70-79 |  | **First class, A, *as above but also stronger evidence of excellent, original,***  ***innovative, articulate work*** | very strong ability to state & defend  position, uses criteria & weighting in judgements, wide knowledge and theoretical ability, full understanding  of possibilities and limitations of methods & theories, *75+* more original, innovative approach, command of critical positions, lively articulate writing, excellent grasp of material - synthesis of ideas | most criteria met to **high** standard, strong evidence of evaluation of deliverables, *75+:* deliverables excellent - all criteria met in clear and definite manner, evidence of excellent design or execution, elegance, innovation, very good evaluation of deliverables, |
| 80-89 |  | **Outstanding. *as above but also authoritative, superlative, creative*** | **as above but also :-**  seen all possibilities in task, gone beyond accepted conceptual/critical positions, evidence of creative, intelligent, innovative approach consistently & forcefully expressed | **as above but also :-** all aspects of deliverables superlative  beyond 80% emphasis on theory rather than practice/deliverables |
| 90-100 |  | **Faultless**  **Edexcel Distinction** | **as for 80-89 but also :-**  all work superlative & without fault | as for 80-89 |