



**College of Business and Economics**

**School of Consumer Intelligence and  
Information Systems**

**Applied Information Systems**

**Learning Guide**

**Development Software  
DSW02A1**

**Mr. Ronny Mabokela**

**Academic year (2022/S1)**

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## **1. INTRODUCTION**

### **1.1 Welcome**

First and foremost, I would like to welcome you to the module of Development Software 2A, I hope that you are going to work hard this year and have a little fun. Always remember the main purpose you are at the University of Johannesburg (UJ). Dream big, work hard and practice, practice, and practice more for this module. In this module, you will learn about web development. Web development is a broad term for the work involved in developing a website. Web development can range from developing the simplest static single page of plain text to the most complex web-based internet applications, electronic businesses, or social network services.

### **1.2 School/Department information**

#### **School (SCiS) Details:**

**Director:** Prof. Mpinganjira Mercy

**Secretary:** Ms. Fareea Dangor

Contact details:

Tel: 011 559 3200

Office: APK C Ring 601

#### **Department (AIS) Details:**

**HOD:** Ms. Stella Bvuma

Contact Details:

Tel: 011 5591226

Fax: 011 559 4123

Office: G Purple 4

Email: [stellab@uj.ac.za](mailto:stellab@uj.ac.za)

**Secretary:** Ms. Martha Winter

Contact Details:

Tel: 011 5591224

Fax: 011 559 4123

Email: [marthaw@uj.ac.za](mailto:marthaw@uj.ac.za)

**Academic coordinator:** Ms. Nomusa Mtshali

Contact Details:

Tel: 011 559 1375

Fax: 011 559 4123

Email: [nomusas@uj.ac.za](mailto:nomusas@uj.ac.za)

### 1.3 Lecturer information

Mr. Ronny Mabokela

Contact Details:

Tel: 011 559 2212

Office: APB G Green 2

Email: [rmabokela@uj.ac.za](mailto:rmabokela@uj.ac.za)

### Blackboard (Bb) Announcements

- Dispersion of course announcements and reminders (via Bb)
- The instructor will periodically post announcements and reminders about course deadlines or other important course information.
- All announcements will be distributed through email and via Bb announcements in the course dashboard.

### 1.4 Student conduct (academic honesty, rules of engagement, etc.)

#### In this module

- EVERY Class discussion is important!
- Class participation is important!
- Ask questions when you do not understand.
- In the lectures, you learn tricks; in the labs, you see if your tricks do work.
- To maximize your learning experience, I will occasionally introduce additional learning materials; consider them early birthday presents.
- Missed assessment will NOT be repeated!
- Special circumstances (such as illness) will have to go through departmental procedure for approval!

#### Conduct in online Lectures/discussions.

- Students are expected to conduct themselves as adults.
- Attendance will be always taken during lectures.
- You are not allowed to hold private conversation during the online lectures/discussion.
- Please note that it is the student's responsibility to catch up on any classes missed, irrespective of the reason why he/she missed the class.
- If you are unable to attend a live class meeting, you will be required to watch the class recording to catch up.

## **Original Work**

All work you submit during this class is expected to be your original work. The designs must be your own ideas, and the code must be your own hand-written code, unless

- I have explicitly provided code for the given assignment or
- I have specifically stated otherwise.

This stipulation extends but is not limited to the use of grid systems, templates, and boilerplate products. If you have questions about this policy, do not hesitate to ask for clarification.

Enquiries concerning your registration status, ulink access, special exams, or any other aspect of administration (e.g., exemption for a subject, academic record, etc.) must be addressed to **Faculty of Administration in A Block (APB)**.

## **Late Work**

**All work is due on or before the due date.** Extensions for deadlines will not be given. Minor inconveniences, such as family vacation or minor illness, are not valid reasons for extensions. A problem uploading to Bb is not an excuse.

If you are having technical difficulties with Bb, there are different means to submit work that all involve some sort of time stamping. Emailed links to Dropbox files, or zip files sent directly to my personal email address are examples of acceptable alternatives.

Deadlines are critical to this class. For this reason, there will be penalties for late work:

- Less than an hour late – 5 points off.
- 1 hour to 6 hours late – 10 points off
- 6 hours to 24 hours late – 20 points off

No work will be accepted for assessment past 24 hours late unless a Vacation Day is used.

## **Plagiarism**

Dishonesty and plagiarism will not be tolerated. The University and the Faculty view the issue of plagiarism in a serious light. Evidence of plagiarism or dishonesty will be dealt with according to the University's and/or Faculty's Regulations.

The issue of plagiarism as referred to in the Faculty Guidelines for Ethics in Research:

### **Plagiarism is to:**

- present the ideas, words, or results of another person as your own, without acknowledging the original author.
- use the ideas or words of another person without giving due credit to that person or source.
- use sentences, paragraphs or parts of articles and books without quotation marks and/or

appropriate acknowledgement.

- download sentences, paragraphs, or sections of writings from the Internet and to use them without quotation marks and/or proper acknowledgement.
- use another person's direct words without quotation marks, even when you acknowledge the source.
- use ideas without making them properly your own, even though you might have acknowledged the original source.
- formulate your words so closely to those of the original author that it is obvious that you could not have written them without having had the source next to you, i.e. your paraphrasing of the author's words is too close to the original author's use of the words, even if you did acknowledge your source.

**Source: Booth, et al. and Schuklenk**

If you use the words and ideas of other people, their words must be clearly indicated in quotation marks and used correctly, and their source indicated to avoid being guilty of plagiarism. No copying of textbooks is allowed.

**Plagiarism is wrong because:**

- It is theft of intellectual property.
- The person (plagiarist) lies about the contribution made to the project.
- The person (plagiarist) cannot give a true account of how the research was carried out.

**Source: Udo Schuklenk (University of the Witwatersrand)**

**Benefits to be derived from consciously avoiding plagiarism:**

By deliberately avoiding plagiarism, students learn:

- the value of doing original work;
- to develop professional skills such as doing research, giving attention to detail and analysing arguments;
- to act with honesty and integrity in their professional lives; and
- to write professionally and engage in debate.

<b>The Ethical and Professional Rules of the Medical and Dental Professions Board of the Health Professions Council of South Africa</b>
In terms of the Ethical and Professional Rules of the Medical and Dental Professions Board of the Health Professions Council of South Africa, the medical profession has introduced the following rules with respect to medical certificates:
<b>Rule 15.(1)</b> : A practitioner shall only grant a certificate of illness if such certificate contains the following information, namely:
a. the name, address and qualification of the practitioner;
b. the name of the patient;
c. the employment number of the patient (if applicable);
d. the date and time of the examination;
e. whether the certificate is being issued as a result of personal observations by the practitioner during an examination, or as the result of information received from the patient and which is based on acceptable medical grounds;
f. A description of the illness, disorder or malady in layman's terminology with the informed consent of the patient: Provided that if the patient is not prepared to give such consent, the medical practitioner or dentist shall merely specify that, in his or her opinion based on an examination of the patient, the patient is unfit to work;
g. Whether the patient is totally indisposed for duty or whether the patient is able to perform less strenuous duties in the work situation;
h. the exact period of recommended sick leave;
i. the date of issuing of the certificate of illness; and
j. a clear indication of the identity of the practitioner who issued the certificate which shall be personally and originally signed by him or her next to his or her initials and surname in printed or block letters .
<b>Rule 15(2)</b> : If pre-printed stationery is used, a practitioner shall delete words which are irrelevant.
<b>Rule 15(3)</b> : A practitioner shall issue a brief factual report to a patient where such a patient requires information concerning himself or herself.

#### **Sick assessment:**

A supplementary assessment will only be given to students with a completed sick test application form (**See Annexure 1**) and a valid doctor's certificate and. Learners must apply for the assessment within 7 working days after the assessment by completing an application form with relevant documentation with the secretary / lecturer.

A final supplementary evaluation may be given to students who obtain a final mark which less than the pass mark.

## 2. MODULE AND PROGRAMME INFORMATION

### 2.1 Module name, code, NQF level, NQF credits and prerequisites

<b>Module name</b>	Development Software
<b>Module code</b>	DSW02A1
<b>NQF level</b>	5
<b>NQF credits (calculated according to notional hours)</b>	16
<b>Prerequisites (if any)</b>	DSW01A1 & DSW01B1

### 2.2 Module purpose, outcomes, and assessment criteria

#### Purpose of the module

At the end of this module, you should be able to do the following:

- To acquire the knowledge to implement introductory programming solutions to problems using web-based programming techniques.
- Structure and components of both websites and web applications.
- Purpose and function of both front-end and back-end development and how to generate a visually appealing and responsive website.
- Foundation paradigms (OOPS | Design Patterns | Object Modelling | JSON | PHP)
- Connect to various Web Services as well as create Web Services for consumption.
- Introduce you to basic HTML, CSS, jQuery, JavaScript web page coding languages.
- Render the server-side Web services with PHP and MySQL by integrating forms and other HTML form features.
- Learn best practices to design a fully functioning dynamic-responsive website.
- design, program, and implement web pages that interact with web-enabled databases performing simple CRUD (Create, Read, Update, Delete) operations.
- Authenticate, store, and structure user data.



**By the end of the course, you should be able to:**

- Demonstrate an understanding for the web programming techniques being taught.
- Apply intermediate and advanced web development practices.
- Demonstrate knowledge of databases integrated with Web services.
- Develop and design a fully functioning dynamic-responsive website.
- Develop a fully functioning website and deploy on a web server.

### **3. ADMINISTRATIVE AND ORGANISATIONAL INFORMATION**

#### **3.1 Prescribed course material (textbook, etc.)**

*Textbook:*

- Carey, P.M. (2018) New perspectives: HTML, CSS3, and JavaScript. (6th ed.) Cengage Learning. Type: Textbook. ISBN: 978-1-305-50392-2.
- Learning PHP, MySQL, JavaScript, CSS & HTML5, A Step-by-Step Guide to Creating Dynamic Websites, Robin Nixon, O'Reilly Media, Print ISBN: 9781491949467,

#### **Recommended Readings:**

- <https://www.w3schools.com/css/>
- [https://www.w3schools.com/php/php\\_intro.asp](https://www.w3schools.com/php/php_intro.asp)
- <https://www.w3schools.com/sql/default.asp>
- <https://www.w3schools.com/css/default.asp>
- [https://www.w3schools.com/js/js\\_ajax\\_intro.asp](https://www.w3schools.com/js/js_ajax_intro.asp)
- Mozilla Developer Network - Mozilla's wiki for everything about the web (HTML, CSS, JS).
- Codrops' CSS Reference - Best CSS reference I've found, covers every CSS property in-depth.
- Can I use (<https://caniuse.com/>) - See if the main browsers support a specific HTML, CSS, or JS feature.
- SASS/SCSS - Because vanilla CSS sucks.

*NB: All the materials will be uploaded on **Ulink***

#### **3.2 Work schedule for the semester**

Date/week	Learning Unit(LU)	Tasks	Teaching Method
-----------	-------------------	-------	-----------------

16 Feb 2020	LU0	<b><i>Class Intro &amp; intro to Web Development</i></b> (Planning, ways of work and intro class)	<b>Lecture &amp; Discussion</b>
23 Feb 2022	LU1	<b><i>Introduction to WEB Design &amp; Build a website using HTML</i></b> (Basics of web design, development, Introduction to HTML, the history of the Internet and gain insight into web design process)	<b>Lecture &amp; Discussion</b>
3 March 2022	LU2	<b><i>Advance HTML and STYLING CSS</i></b> (Learn about HTML5 and the web standards, explore how to write HTML code to build a basic web page, discover how to edit, optimize graphics for web use, use design element to establish the mood of a website, learn to style a web page)	<b>Lecture &amp; Discussion</b>
10 March 2022	LU3	<b><i>Introduction to JavaScript &amp; Make websites interactive with JavaScript.</i></b> (JavaScript is the programming language of HTML and the Web, DOM manipulation, and program the behavior of web pages)	<b>Lecture &amp; Discussion</b>
17 March 2022		<b><i>Introduction to JavaScript &amp; Make websites interactive with JavaScript.</i></b> (JavaScript is the programming language of HTML and the Web, and program the behavior of web pages)	<b>Lecture &amp; Discussion</b>
24 March 2022		<b>WEB TEST 1 SCOPE (LU0, LU1, LU2, LU3)</b>	<b>Assessment</b>
31 March 2022	LU4	<b><i>Responsive/Dynamic Web Design</i></b> (Develop a basic understanding of JavaScript, JQuery, HTML and CSS for interactive and responsive websites)	<b>Lecture &amp; Discussion</b>
13 April 2022	LU5	<b><i>Introduction to Web Programming with PHP</i></b> (PHP is a server (Wamp Server   Xampp Server) scripting language, downloading, and installing web servers well as running your web site from Wamp server, introduction to programming with basic PHP)	<b>Lecture &amp; Discussion</b>

20 April 2022	LU6	<b>Web Programming with PHP &amp; MySQL</b> (Fundamentals of PHP, Connecting to MySQL database with PHP AND introduction to CRUD functions)	<b>Lecture &amp; Discussion</b>
28 April 2022	LU7	<b>Accessing MySQL Using PHP</b> (Use PHP functions and Perform more CRUD function and modify data in your database)	<b>Lecture &amp; Discussion</b>
4 May 2022		<b>WEB TEST 2</b> <b>SCOPE (LU0, LU1, LU2, LU3)</b>	<b>Assessment</b>
11 May 2022	LU7	<b>Advance Web Programming with PHP &amp; MySQL</b> (HTML forms, Connecting to MySQL database with PHP AND introduction to CRUD functions)	<b>Lecture &amp; Discussion</b>
18 May 2022		<b>GUEST LECTURE</b> <b>(Full Stack Web Development)</b>	<b>Lecture &amp; Discussion</b>
25 May 2022		<b>REVISION</b>	<b>Lecture &amp; Discussion</b>
27 May 2022		<b>GROUP PROJECT</b>	<b>Lecture &amp; Discussion</b>
28 May 2022		<b>GROUP PROJECT PRESENTATIONS</b>	<b>Presentation</b>

### 3.3 Tutorial arrangements

Purpose of the tutorial and practical's is for the student to go to the labs and perform hands-on work tutorial for the module from the content that was covered same week during the theory classes on Wednesday for the entire semester.

Tutorials and practicals will run every **Wednesday** and **Thursday** as Stipulated in the University of Johannesburg timetable. During the tutorials, you will be given graded, ungraded labs and code challenges to accumulate the semester marks allocate in section *Assessment schedule/opportunities*.

**NB:** *Extra classes for DSW02A1 will be conducted on per request on Fridays only.*

### 3.4 Live, Online Class and tutorial attendance

Online Class sessions are compulsory, and it is the learner's responsibility to catch up on any classes missed, irrespective of the reason for missing the class. Learners who attend less than

80% of lectures will not be allocated the 5% for participation during all our online activities should there be a need to do so.

### 3.5 Blackboard access and use

For assistance to log onto the student portal go to <http://student.uj.ac.za> or ask the assistants in the computer laboratory to help you.

- From the student portal go to Edulink to explore the different tools in your web learning environment for important information:
  - Class calendar
  - Lecture/work schedule
  - Contact details
  - Assessments
  - Graded Labs

### 3.6 Consulting times

#### Weekly Consultation Times:

Day	Time	Methods for communication
Thursday	10:00 to 15:00	<a href="mailto:rmabokela@uj.ac.za">rmabokela@uj.ac.za</a>   Office/Zoom/MS Teams

#### Consultation by appointment:

Schedule appointment with me using this email address: [rmabokela@uj.ac.za](mailto:rmabokela@uj.ac.za), I will confirm available day and time. When scheduling an appointment clearly highlight the purpose of the meeting and the module code. Please use university **student email address** to communicate with the lecturer.

### 3.7 Assessment programme for the semester

#### Module assessment criteria

You will be assessed as competent if you can design, implement, test a Web application using HTML, CSS, Bootstrap, JavaScript, JQuery, PHP, and MYSQL or SQL or Firebase.

#### Media/resources/examples/support for this module

- Prescribed and recommended resources (e.g. texts and slides)
- Tutors/assistants
- Edulink (Online learning support)

## Assessment

### Assessment schedule/opportunities

No late assessments will be offered without a valid medical certificate and/or explanatory letter along with the necessary documents.

### Semester Marks Distribution

Task	Date	Weight (%)
Web Test 1	24 March 2022	20
Web Test 2	04 May 2022	20
Assignments	TBD	10
Group Project	27 May 2022	30
Assessments	Weekly	10
Graded Labs/Code Challenge	Weekly	10
Total		100

## 3.8 Composition/calculation of final mark

### Final Module Mark

Examination / Semester Mark	100
Total	100%

### Examination Type:

This is a continuous assessment module.

- A minimum pass mark of 50% is required.
- To pass with distinction, a learner has to achieve at least 75% in the module.

## 3.9 Access to replacement and supplementary assessment opportunities (semester tests and examinations)

There will only be one re-assessment per module for learners who produce a valid doctor's certificate after missing an assessment together with a completed application for writing the sick test (**See Annexure 1**). All assessments are compulsory. A weighted average of 50% constitutes a pass. Assessments not handed in on due date will not be marked and 0% awarded. This does not apply in the case of official absenteeism:

- Medical certificates; or
- Prior application (with confirmation from the sports bureau or cultural office) for participating in provincial, national or international sports or cultural events; or

- The death of a close family member or friend (a copy of the death certificate or funeral letter must be included as proof); or
- Other excuses deemed acceptable to the assessor.

### 3.10 Collection of assessment scripts and request/application for remarking.

All assessment scripts will be handed back. In case of remarking learner/student can send the lecturer an email requesting for remark in a **semester test** then can scheduling an appointment with the lecturer.

### 3.11 Grievances and appeals

If you have an issue that needs the lecturer's attention students are welcome to send your lecture and email: [rmabokela@uj.ac.za](mailto:rmabokela@uj.ac.za) or you can talk to the class representatives to talk to the lecturer on your behalf.

**NB:** The lecturer and the departments contact details are included in the learning guide.

### Key concepts/terminology/acronyms

#### Action verbs

Action verbs are used to assist you in the completion of the required activities, assignments and/or tests/exams.

Apply	Put to practical use or make use of a relevant equation or law.
Calculate	Determine the value, using formulae or specific calculation methods.
Classify	Group concepts or subjects together based on certain characteristics or commonalities.
Compare	Point out the similarities and differences between objects or points of view. The word <i>contrast</i> can also be used.
Convert	Transform a quantity expressed in one unit to a quantity expressed in another unit.
Define	Give a short and clear description of a term or concept.
Demonstrate	Show clearly/prove/make clear by reasoning or evidence/illustrate and explain, especially with many examples.
Derive	Deduce or infer something from the given information.
Describe	Tell in detail how a process works or how a subject appears. You need not comment on the process or the subject or give your own point of view.
Differentiate	Find differences between objects or statements.

Discuss	Explain terms or concepts in your own words. Give comments or give your own point of view.
Distinguish	Write down the differences between subjects or concepts.
Draw	Create a drawing, diagram or representation of a subject or concept.
Explain	Write about the subject in your own words. Clarify or give reasons – use examples or illustrations. You must prove that you understand the content.
Formulate	Express in a concise, systematic way.
Identify	Establish the identity or recognise a process.
Illustrate	Explain by means of detailed descriptions and drawings.
Interpret	Explain or clarify the meaning of a concept/value.
List/Name	Briefly write down the facts or main points.
Motivate	Give reason(s) for your answer.
Name	Nominate or specify a site or process.
Organize	Arrange data according to certain criteria.
Predict	Use the facts available to derive an outcome.
Relate	Show the relation/connection of entities, how the concepts can be linked.
Solve	Find an answer by using critical thinking and/or calculations.
Summarize	Briefly state/list/write down only the most important detail/facts.

## 4. ANNEXURES

### 4.1 Annexure 1



## DEPARTMENT OF APPLIED INFORMATION SYSTEMS

[Annexure 1 - Application to Write Sick Test](#)

**UNIVERSITY OF JOHANNESBURG**

NB THE FINAL DECISION AS TO WHETHER THE STUDENT IS/WAS ABLE TO WRITE A TEST/EXAMINATION RESTS WITH THE UNIVERSITY.

**APPLICATION FOR DEFERRED (AEGROTAT) TEST(S)/EXAMINATION(S)**

APPLICATION(S) FOR DEFERRED (AEGROTAT) TEST(S) MUST BE SUBMITTED TO THE RELEVANT LECTURER, AND APPLICATIONS FOR DEFERRED (AEGROTAT) EXAMINATION(S) TO THE HEAD: FACULTY ADMINISTRATION IN THE OFFICE OF THE DEAN.

**SECTION 1 TO BE COMPLETED BY THE STUDENT**

1.1 **INITIALS AND SURNAME:** \_\_\_\_\_

1.2 **TITLE (MARK WITH AN X):** ☐ MR ☐ MRS ☐ MS ☐ MISS ☐ OTHER \_\_\_\_\_

1.3 **STUDENT NUMBER:** \_\_\_\_\_

1.4 **NAME OF QUALIFICATION:** \_\_\_\_\_

1.5 **TELEPHONE NUMBER:** \_\_\_\_\_ (AREA CODE) \_\_\_\_\_

1.6 **ADDRESS DURING STUDIES:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ **POSTCODE:** \_\_\_\_\_

1.7 **COURSE(S) AND DATE(S) OF TEST(S)/EXAMINATION(S):**

COURSE	DATE	COURSE	DATE	COURSE	DATE

**DATE OF APPLICATION:** \_\_\_\_\_ **SIGNATURE OF STUDENT:** \_\_\_\_\_

**SECTION 2 TO BE COMPLETED BY A MEDICAL PRACTITIONER**

2.1 **INITIALS AND SURNAME:** DR \_\_\_\_\_

2.2 **REGISTERED PRACTICE/PROFESSIONAL COUNCIL NUMBER:** \_\_\_\_\_

2.3 **TELEPHONE NUMBER:** \_\_\_\_\_ (AREA CODE) \_\_\_\_\_

2.4 **I HEREBY CONFIRM**

(a) that I examined the abovementioned patient on \_\_\_\_\_ (date) ; and

(b) that the following diagnosis was made: \_\_\_\_\_

MARK APPROPRIATE BLOCK WITH AN X

(c) ☐ I am convinced that the patient is/was not able to write test(s)/exam(s) on \_\_\_\_\_ (date(s))

**OR**

☐ I cannot, with certainty, say that the patient is/was not able to write test(s)/exam(s) on \_\_\_\_\_ (date(s))

YOU ARE KINDLY REQUESTED TO PLACE AN OFFICIAL STAMP OF YOUR MEDICAL PRACTICE ON THE FORM OR TO ATTACH A LETTERHEAD OF THE MEDICAL PRACTICE WITH YOUR SIGNATURE THEREON. YOUR COOPERATION IS GREATLY APPRECIATED.

\_\_\_\_\_  
 SIGNATURE OF MEDICAL PRACTITIONER

\_\_\_\_\_  
 DATE

**SECTION 3 TO BE COMPLETED BY THE DEAN OR HIS/HER APPOINTEE**

☐ APPROVED ☐ REJECTED (MARK WITH AN X)

\_\_\_\_\_  
 SIGNATURE OF DEAN

\_\_\_\_\_  
 DATE

[SEKTE-EKS-VORM-4]

AFRIKAANS OP KEERSY