FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

Tshwane University of Technology

We empower people

STUDENT COURSE GUIDE

NAME OF COURSE			
DEVELOPMENT SOFTWARE 3B			
NQF LEVEL	***NQF CREDITS***	***QUALIFICATION & SAQA ID***	***COURSE CODE***
6	**120**	**N.DIP in Information Technology** **SAQA ID No.: 72416**	**DS034BT**

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ORGANISATIONAL COMPONENT CONTENTS:

SECTION A ORGANISATIONAL COMPONENT

1. WELCOME

Welcome to Development Software 3B. This course may be seen as a culmination of everything that you have learnt up to now in the qualification. It integrates knowledge across all study fields of the qualification, including systems analysis and design, networking principles, project management, database design and implementation and programming. As such it is imperative that you make most of the theory and practical classes and other resources like the library and internet. Although the project will be done in groups, every learner must contribute, thereby ensuring that his/her understanding of the concepts covered, is up to standard. Bear in mind that you are the sole determinant of your success in the course. Assignments must be submitted in time, and no extension for project assessments will be given. Crashed/damaged flash drives or hard disks are always a possibility, so ensure that you have proper back-ups at all times.

2. STAFF

2.1 CONTACT DETAILS

NAME	CAMPUS	ROOM NO	TEL NO E-MAIL	CONSULTATION TIMES	ACADEMIC FUNCTION
Dlamini N	Emalahleni	14G43	dlaminin3@tut.ac.za		Lecturer
Chuene ND	Soshanguwe South	20-116	chuenend@tut.ac.za		Lecturer
Lepota CK	Soshanguve South	20-119	lepotack@tut.ac.za		Lecturer
Phihlela TR	Soshanguwe South	20-108	phihlelatr@tut.ac.za		Lecturer
Ms. L. Mathabela	Soshanguwe		+27 12 382 9505		Subject Librarian
Mrs. M. vd Merwe	Pretoria		+27 12 382 4126		Subject Librarian

Mrs R Segage	Emalahleni				Subject Librarian

Examiners				
Trudie Strydom	Emalahleni	14G37	0136533133 / strydot@tut.ac.za	Examiner
	Soshanguwe			Examiner
Moderator				
				Moderator

2.2 STAFF AVAILABILITY

If, after attending class and making every effort from your side to master content, you still have problems with understanding key concepts or principles or their application, lecturers are available for consultation. Lecturers are available for consultation as indicated on their timetables, but also via e-mail.

3. REQUIREMENTS, RESOURCES AND RECOMMENDED MATERIAL.

3.1 REQUIREMENTS FOR THE COURSE

3.1.1 PRESCRIBED RESOURCES

None. Notes will be distributed to students.

3.1.2 RECOMMENDED RESOURCES

The following recommend resources will enhance your understanding and knowledge in this course, and you are encouraged to use the following additional resources.

RECOMMENDED RESOURCES				
CATEGORY	**AUTHOR**	**NAME**	**PUBLISHER**	**ISBN NO**
BOOKS	Varallo, V.	ASP.NET 3.5 Enterprise Application Development with Visual Studio 2008: Problem-Design-Solution.	Wrox.	
	Sussman, D. & Homer, A.	*ASP.NET 2.0 Visual Web Developer 2005 Express Edition*.	Wiley Publishing inc.	
	Gibbs, M. and Howard, R.	*Microsoft ASP.NET coding strategies with the Microsoft ASP.NET team*.	Miscrosoft Press.	

	Bellinaso, M.	*ASP.NET 2.0 Website programming Problem-Design-Solution.*	Wiley Publishing inc.	
	Schach, S.R.	*Classical and Object-oriented Software Engineering with UML.*		

4. CODE OF CONDUCT

Please take note of the following regulations. These regulations are in addition to the standard rules and regulations as determined by the TUT. Please familiarize yourself with the TUT rules and regulations as set out in the student diaries received on registration.

4.1 ATTENDANCE

Regular attendance of the lectures is of primary importance. It is the learner's responsibility to sign the register each week. A minimum attendance of 75% is mandatory for all courses. In a 15 week semester, 8 classes that have not been attended and for which you have not furnished a valid doctor's letter or other proof of extenuating circumstances, amounts to 25% absenteeism. This level of absenteeism will lead to exclusion from the final moderation at the end of the semester, which means that you will fail the course and will have to repeat it the following year.

4.2 CLASSROOM BEHAVIOUR

Students are required to arrive on time for lectures.

The use a cell phone is permitted only in exceptional cases; it must be arranged with the lecturer beforehand if you may need to answer a call during class time.

Students who disrupt the class with unruly behavior can face disciplinary action according to TUT rules.

4.3 RESPONSIBILITIES OF STUDENTS

It is your responsibility to make a success of learning in this course. To this end you are encouraged to attend class and submit assignments/projects on the set due dates. It is also your responsibility to seek help from the various structures when needed.

SECTION B LEARNING COMPONENT

5. OVERVIEW OF THE COURSE

Development Software 3B is a project-based subject. A web-based project is completed in groups. The groups decide which development environment to use. Groups must use a development environment that has not been studied during the diploma, thus excluding C++ Builder and Access. The focus in the course is setting up a web server, understanding 3-tiered development, building robust, secure, user-friendly applications and using a suitable test method to design test data for the system. The groups are also required to integrate their systems with existing components and/or code to enhance their systems.

5.1 PURPOSE OF THE COURSE

Upon completion of this course, the learner will be able to design and implement Full stack software solutions using a suitable open source database and development environment.

5.2 LINKS TO OTHER SUBJECTS

This subject integrates knowledge from Development Software 2A, Information Systems 3A and 3B, Development Software 3A and Systems Software 2A and B.

5.3 COURSE OUTCOMES

The learning schedule, as set out in section A, and ways in which you will be guided to master the content, will enable you to achieve the learning outcomes, as detailed under 7.2.

6. ASSESSMENT

6.1 ASSESSMENT METHODS AND CRITERIA

Assessment of this course will include project assessments as indicated in the schedule under section A. The purpose of assessment is to determine whether you have achieved the learning outcomes. The various assessment methods therefore will focus on criteria that will enable the lecturer(s) to determine whether you have achieved the learning outcomes. The assessment criteria relevant to each learning outcome are detailed in section 3. This subject is a continuous assessment subject. **TAKE THIS ASSESSMENTS AS YOUR INTERVIEWS NO SECOND CHANCE WILL BE GIVEN. PRINT ALL NEBESSARY DOCUMENTS BEFORE THE DAY OF PRESENTATION NOT ON THE DAY YOU ARE PRESENTING.**

6.2 ASSESSMENT RULES

The general rules of TUT regarding assessment apply. You are advised to familiarize yourself with these rules, as they are applied stringently.

a) DSO34BT assessments are like interviews you cannot postpone it. No second chance.

b) In two of the five Assessments students will be expected to do on the spot code editing to ensure that students know what they have submitted.

6.3 MARKING SYSTEM

Assessments 1 to 5 are group assessments for the chosen project. Each assessment is structured so that everyone in the group will get a specified work unit to complete and the individual will demonstrate the work unit for assessment purposes. An individual may be removed from a group if the group agrees that the individual is not contributing or sticking to deadlines. **TAKE THIS ASSESSMENTS AS YOUR INTERVIEWS NO SECOND CHANGE WILL BE GIVEN. PRINT ALL NEBESSARY DOCUMENTS BEFORE THE DAY OF PRESENTATION NOT ON THE DAY YOU ARE PRESENTING.**

6.4 SEMESTER MARK The final mark is compiled as follows

Semester Work SW [40%]

Assessment 1 – 4 : 20%, 20% ,20%, 40%

Final Project PJ [60%]

Assessment 5

Sample Calculation of Final Mark:

SW =*AS1**0.2 +*AS2**0.2+*AS3**0.2+*AS*4*0.4

PJ = *AS5**1.0

Final Mark= **SW***0.4 +**PJ***0.6

6.5 MODERATION

Project assessments are moderated according to TUT regulations.

6.6 PROMOTION REQUIREMENTS

A student passes the subject if he/she obtains a final mark of at least 50%. There is no re-examination for continuous assessment subjects. All students presenting final assessment should be available on that day dress formal code.

7. COURSE CONTENT AND SCHEDULE OF TESTS AND ASSIGNMENTS

There are no tests, but project assessments will be used to assess achievement of outcomes.

7.1 COURSE STRUCTURE AND SCHEDULE OF TESTS AND ASSIGNMENTS

WEEK N0	THEME	PROJECT /ASSIGNMENT/	WEEK COMMENCING
	Commencement of academic activities		
1	Classes start Creating a software proposal, Software modelling concepts visited like Use cases, Business process, Work breakdown structures and project tasks planning	Conceptualize a system in a given domain. This system must aim to automate so business process in order to increase service offering efficiency.	04-08 October
2	Introduce what a full stack system is and different aspects of a full stack system: Client-side / Graphic user interface: HTML5,CSS, Server-side scripting languages and their use. Databases	1. First Evaluation (Assessment 1)	11 - 15 October
3	Graphic user interface advanced topics: HTML tables, Lists to display data Form to get user input Use of Frameworks like ASP.Net OR IDEs like PHPStorm, Atom ect. Dropdown / Selection Structures APis for establishing connection to remote database Reading Form inputs from Graphic user interface to write/read/update database using server-side scripting	Set up remote connection to Database using chosen environment and/framework. Build interface for DML operations on database. Build small system for Assessment First Evaluation (Assessment 2)	18- 22 October
4	Formatting pages, Other data- aware controls. Calendars, Images, FileUpload, RadioGroups, CheckBoxes, Filtering and searching	Set up system as full stack application. Finalize Evaluation (Assessment 2)	25 – 29 October
5	Refining business processes implementation		01 – 05 November
6	Testing strategies - Self-study	First Evaluation (3 and 4 Assessments)	08- 12 November
7	Integrating all pages/, Communication between pages. Limit access according to user role	Finalize Evaluation (3 and 4 Assessments)	15 - 19 November
8	Implementing security in system and Software integration		22 - 26 November
9	Final Assessment 5: Final Project	First Evaluation (Assessment 5)	01 -05 December

***Please note that test dates may be moved on short notice where circumstances require such change. Also, take particular note of the rules regarding tests and assignments in section B,**

7.2 LEARNING OUTCOMES AND ASSESSMENT CRITERIA

The following tables clearly indicate what you have to achieve (the learning outcomes) and how you will be assessed (assessment criteria) to determine whether you have achieved the required knowledge and competences:

LEARNING OUTCOME 1	
The student can set up a small 3-tiered application using an open source database and suitable web server.	
Assessment criteria	**Assessment method**
The student can • Identify a suitable project • Identify the domain or business where the project is to be used.ie • Identify core business processes that the identified project should automate • List Requirements for the system • Design the system: use UML tools • Prepare a project proposal	Assessment 1 **Proposal document** Mark allocated for: Requirements Design: Use case, and Business process diagrams Project planning

LEARNING OUTCOME 2	
The student can prepare a project proposal.	
Assessment criteria	**Assessment method**
The student can: • **Create a Full Stack web application:** implementing at least two core business processes **Full Stack web application consists of:** **Presentation layer/ Graphic user interface** Developed in HTML, CSS maybe some JavaScript **Business Logic layer** Developed using one of these: **PHP, C#**, Java, Python etc. Use functions /APIs to connect to a Database Read from presentation layer ie <Form> inputs and: use functions / APIs to read, write update database records. **Data persistence layer** Use any open-source DBMS to create a database Create tables and relationships, insert records, produce ERD	Assessment 2: **Min Full Stack system**: that implements only a few businesses processes. Marks allocated when mini system is demonstrated on Assessment 2 date
Students are expected to be able to edit the submitted code on the spot	Zero Mark allocated for AS2 if failed to do code edit on the spot.

LEARNING OUTCOME 3	
The student builds an application based on the project description/proposal, using suitable controls and menu structure. Update project from Assessment 2 by implementing all business processes in the chosen system.	
Assessment criteria	**Assessment method**
The student can • Build a complete suitable menu structure to facilitate user-friendly access to all pages • Design and build all user interfaces for data entry, updates and reports • Error handling/ Form validation • Prepare test case document.	Assessment 3 Practical Assessment 4 Practical Assessment 5 Practical

LEARNING OUTCOME 4	
The student can design test data for an application. Know almost all the submitted code and can edit the code when asked to do so.	
Assessment criteria	**Assessment method**
The student can • explain the principles underlying test strategies • apply a suitable test methodology to design test data for the application • **Review / Edit submitted code on the spot.**	Assessment 3 Test-case document Failure to do on-the-spot code review / editing a **Zero mark** will be allocated for Assessment 4.

LEARNING OUTCOME 5	
The student understands the importance of defensive programming and ensuring integrity of data.	
Assessment criteria	**Assessment method**
The student can • use suitable strategies to ensure integrity of data • use suitable strategies to handle page, database and other errors	Assessment 3 Practical group assessment Assessment 4 Practical group assessment Assessment 5 Practical group assessment

LEARNING OUTCOME 6	
The student understands how roles and/or users can be created using the chosen environment.	
Assessment criteria	**Assessment method**
The student can • create roles to manage access to parts of the application • create new users dynamically • record new user data in the database • display content related to the logged-on user • manage/restrict access according to logged-on user • adapt the menu according to the logged-on user	Assessment 4 Practical group assessment Assessment 5 Practical group assessment

LEARNING OUTCOME 7	
The student can create business-oriented reports, designed for different roles, that are properly filtered and that may be exported in different formats.	
Assessment criteria	**Assessment method**
The student can • provide different reports for different roles • provide different types of and level of detail in reports for different roles • provide a range of filters, e.g. filtering by date and/or by logged-on user to support business requirements • provide suitable default values on report filters to simplify user interaction with the system • build business-oriented reports • provide a choice of export options for the reports	Assessment 4 Practical group assessment Assessment 5 Practical group assessment

LEARNING OUTCOME 8	
The student understands how existing code may be integrated with a new application.	
Assessment criteria	**Assessment method**
The student can • integrate existing DLL's, API's or other components with the system to extend the functionality of the system • re-use code to simplify tasks • provide links to social networks or other web sites as applicable	Assessment 5 Practical group assessment

7.3 GENERIC OUTCOMES AND CRITICAL CROSS-FIELD OUTCOMES

Compliance with Critical cross-field Outcomes
The student must be able to: • Identify and solve IT systems problems in which responses display that responsible decisions using critical and creative thinking have been made • Work effectively with others as a member of a team, group, organization or community. The project groups nurtures this skill. • Organize and manage oneself and ones activities responsibly and effectively, as illustrated during assessments • Collect, analyse, organize and critically evaluate information. The analysis and design of the system support this outcome. • Communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation. This outcome is illustrated by the documentation that is provided, as well as verbal contributions during assessments, amongst others. • Use science and technology effectively and critically, showing responsibility towards the environment and health of others • Demonstrate an understanding of the world as a set of related systems by recognizing that problem solving contexts do not exist in isolation. The relationship between this subject and other subjects illustrates this in a small way. • Reflecting and exploring a variety of strategies to learn more effectively • Participating as responsible citizens in the life of local and global communities • Being culturally and aesthetically sensitive across a range of social contexts. This should be reflected in the choice and development of the system. • Exploring education and career opportunities and • Developing entrepreneurial opportunities. The choice and development of the system is an excellent opportunity to develop these skills.

8. GLOSSARY OF TERMS

The following technical terms are used in this course, and you should be familiar with these terms and their meanings.

Web server

Multi-tiered application

Development framework

.Net framework

J2EE framework

Software integration

ODBC, ADO, JDB, DAO

COM objects, DLL and API

9. ASSESSMENT RECORDS

The following section gives examples of some of the Assessments.

9.1 EXAMPLE OF A CLASS TEST

N/A

9.2 EXAMPLE OF A PRACTICAL REPORT

Please refer to MyTUTOR for some examples.

9.3 EXAMPLE OF SUMMATIVE TEST AND EXAMINATION WITH MEMORANDUM.

N/A

10. APPENDICES

Examples of mark sheets for the assessments are given.

ASSESSMENT 1 - **in Proposal** [weight 20% in SW] Total **[100]**

An example of a project proposal is given. The mark for the aspect is given in bold, in brackets.

NAME OF SYSTEM, introduction **[1]**

Prison management system.

OBJECTIVE/VISION **[3]** IDE chosen

Example This project is aimed at developing a prison management system that is a collection of registers and reports for the effective management of prisons. Besides this, police and government officials can see crime/criminals reports for their purpose. The management of prisoners includes prisoner admission and dismissal, prisoner release on parole, prisoner visits, prisoner movement and suitable reports regarding these aspects. It will be developed using ASP.NET and mysql database.

USERS OF THE SYSTEM **[5]**

1. Police officers (Read only access)
2. Warden
3. Administrators (Jail admin/government officials)
4. Family members of prisoners
5. Data clerk

FUNCTIONAL REQUIREMENTS and USE CASE DIAGRAMS **[16]**

Bear in mind that functional requirements refer to what the system must be able to do. These aspects will typically appear in the final system as menu items. Non-functional requirements refer to constraints regarding performance, development environment, fault-tolerance, etc.

It is preferable that use cases (at least twelve) are used to document this. An event table is useful to record the information. Ensure that the users of the system correspond with the **source** on the events table, which will correspond to the actors on the use cases.

Note how information is recorded using one use case, and the report related to this information is generated in another use case.

It is important to consider all the different users/roles of the system, and what information these users may be recording, need reports on.

You can also watch the video about event table creation on at **http://www.youtube.com/watch?v=vEmE2dfC5NM.** _____ can also check **http://www.slideshare.net/wmomoni/modelling-system-requirements-events-things**

_____

_____

The functionality of the system is summarized using the following event table:

Event	Trigger	Source	Use case	Response	Destination
Prisoner enters prison	Prisoner arrives at admission desk	Administrator	Capture prisoner data		
Warden print prisoner tag	Prisoner arrives at Warden after admission	Warden	Prints prisoner tag	Prisoner tag	Warden
Warden submits case details	Warden submits case details to admission desk	Administrator	Capture case data		
Prisoner is moved inside prison	Warden records prisoner move	Warden	Record prisoner movement		
Administrator wants prisoner report	Administrator requests prisoner report	Administrator	Print prisoner report	Prisoner report	Administrator
Administrator wants case report	Administrator requests case report	Administrator	Print case report	Case report	Administrator
Time to produce release diary	Every day		Produce release diary	Release diary	Administrator
Prisoner released on parole	Prisoner presented to parole desk	Administrator	Record parole information		
Administrator wants parole report	Administrator requests parole report	Administrator	Print parole report	Parole report	Administrator
Prisoner family request interview	Family submits request for interview via internet	Family member	Record interview request		

Prisoner family request interview	Family submits request for interview via telephone	Data clerk	Record telephonic interview request		
Administrator needs interview request report	Administrator requests interview request report	Administrator	Print interview request report	Interview request report	Administrator
Prisoner leaves prison	Prisoner leaves prison	Administrator	Record prisoner leaving		
Administrator responds to interview requests	Administrator responds to interview requests	Administrator	Administrator responds to interview request		
Family member requests response to interview request	Family member requests response to interview request	Family member	Print interview request response	Interview request response report	Family member
Prisoner returns to prison	Prisoner returns	Administrator	Record prisoner return		
Official request in-out report	Official request	Warden	Print in-out report	In-out report	Warden
Prisoner gets visit	Visitor arrives for visit	Administrator	Record visit		
Visitor leaves	Visitor departs	Administrator	Record end of visit		
Administrator needs visit report		Administrator	Print visit report	Visit report	Administrator

Use case additional detail (This will usually be done during the design phase, using formal use case descriptions):

Capture prisoner data: The details of the prisoner and his/her demographic details should be captured. A digital

photo comprising different views of the prisoner and the list of articles surrendered by prisoner during nominal roll are to be recorded.

Record prisoner leaving: This can be for various reasons, like court appearance, hospitalization, etc.

Also add any additional detail regarding the use cases here. The student can also use graphical use cases to illustrate actors of the use cases.

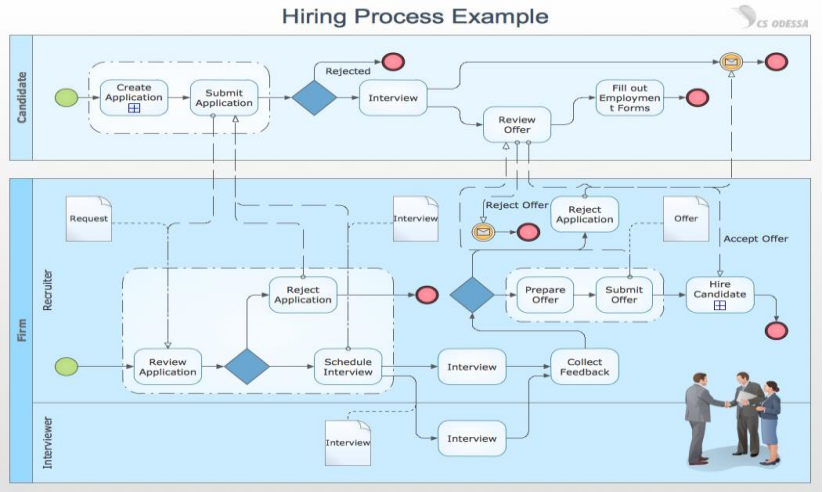
USECASE DIAGRAM

1. Include and extend stereotypes
2. All actors shown
3. Use of UML tools

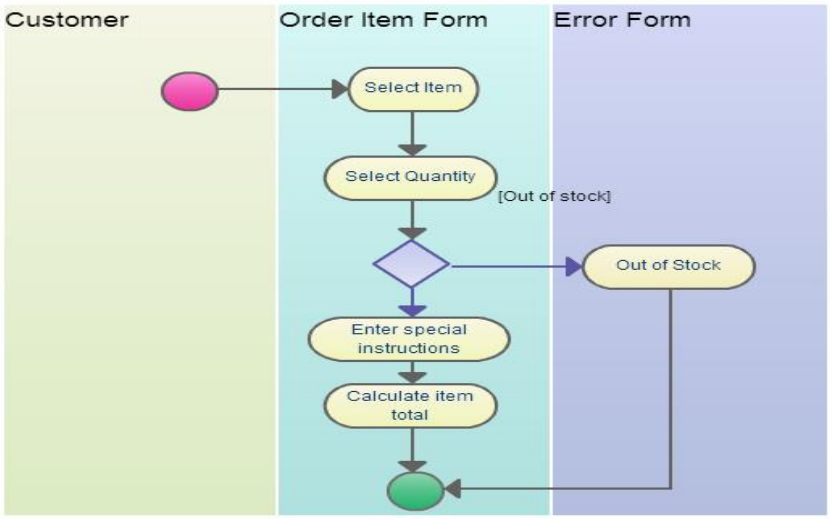
Business Process diagram [55]

Use the following examples as a guide to capture **ALL** business processes found in your system.

Business process Example 1: *Job application process*



Business process Example 2: *Food ordering system*



Block Diagram **[5]**

Overview of the system, major components found in the system.

Planning [Work Breakdown Structure] [**15**]

Plan what tasks need to be done in order to complete the project
Assign tasks to group member(s). Capture start and end dates for each task.
Produce a Gantt chart depicting the plan, example: https://www.projectmanager.com/gantt-chart
Please use software like write: www.wrike.com

ASSESSMENT 2 – WEIGHT 20% of SW

For this assessment each group must develop a mini full stack system. **Only few (at least two) business processes must be implemented here**. Testing strategies must be in place to demonstrate that the system was thoroughly and systematically tested. Testing documentation with documented test cases must be provided.

Database Insert, update, delete must be implemented in line with core business process (es), and user input must come from the presentation layer via: drop-down lists, radio groups, calendars ect. The different reports will be evaluated in Assessment 4, but the menu system must include links to these pages already.

Code review / on the spot code editing [Allocate 0 for AS2 if students cannot do this]

ASSESSMENT 3 – WEIGHT 20% of SW

For this assessment, each group must indicate four main pages to be checked for inserts, updates and deletions. These pages will be evaluated in detail, but other pages for simple functionality must be provided to illustrate completeness of system. **Testing strategies must be in place to demonstrate that the system was thoroughly and systematically tested. Testing documentation with documented test cases must be provided.**

When selecting the pages for assessment, ensure that these pages illustrate the use of stored procedures, suitable controls, alternative controls such as drop-down lists, radio groups, images and calendars. These pages must also support the core functionality of the system. The different reports will be evaluated in Assessment 4, but the menu system must include links to these pages already.

Note that there is substantial individual assessment in this assessment. If a group member is absent for the assessment, he/she will forfeit these individual marks.

The learners must submit the proposed pages to be evaluated. The pages must be approved prior to the assessment.

Group: _____

Members: _____ **Total: (96)** _____

_____ _____

_____ _____

_____ _____

Aspect to be evaluated	**Detail**	**Total mark**	**Learner mark**	**Comment**
Database design	ERD	**10**		
Menu design		**7**		
Report pages not yet finished at this stage, but navigation to them (as empty pages) provided on menu. **Refer to your project proposal to ensure completeness.**	Menu structure. Business terminology, ease of use.	2		
	Pages created which support business functionality. Any missing functionality when compared to project proposal -1/2.	5		
DML operations and correct business functionality.	**The +12 mark indicates each individual's mark for his/her page (multiplied by 2)**	**30** **+12**		
4 main pages to be checked. DML operations. If incorrect functionality on any of these pages, 0 for this section/group	Page 1	6		
	Page 2	6		
	Page 3	6		

member.	Page 4	6		
	At least **2** pages use **stored procedures** containing DML statements affecting more than one table	2x3		
User interface design		**31**		
	The system appears professional. Alignment of controls, business terminology on controls. Any wrong aspect here **- 2.**	3		
	Standardised look throughout site.	2		
	Every page has a title. Any page without a title -1/2.	2		
	Drop downs where applicable (**all fk fields**). -1 for each missing dropdown.	4		
	All controls display suitable **business meaning.** (e.g. be careful of displaying PKs in drop-down list) Each group member evaluated individually on his/her page(s)	2		
	A range of suitable controls used for recording sets, enumerated types, lists, dates. 1 mark for each non-textbox, non-dropdownlist control to a maximum of 8.	8		
	Correct values are recorded in database when values are	5		

	recorded using non-textbox controls (e.g. radiogroups, calendars, drop-down lists, checkboxes.) (-2 for any incorrect value) Each group member evaluated individually on his/her page(s). If no non-textbox controls are used learner gets **0.**			
	At least one databound image displayed	3		
	At least two default values are supplied inside a FormView, DetailsView or GridView	2		
Testing	**+10** refers to each group member's individual score doubled.	**20+10**		
	Each group member provides use case descriptions and diagrams with test cases and test data for his/her page for testing the system (Hard copy). The test cases are complete. Each missing test case -3.	5 5 5 5		
Total		**120**		
Bonus	The middle tier is split into 2 or more tiers using classes for data access, for example. This is done for at least one page. 10 marks for each page using user-created class for data access.	**20**		

ASSESSMENT 4 – WEIGHT 40% of SW

The learners must submit All pages in the system, implementing all business processes found in there proposed system. The business-oriented report pages also will be evaluated together with the implemented business processes. The pages must be approved prior to the assessment. This assessment also focuses on security aspects, integrity, reliability of the system to execute processes are expected in the domain where the system will be used.

Code review / on the spot editing [Allocate 0 for AS4 if students cannot do this]

Group name: _____

Members: _____

_____

_____

_____

_____

Aspect to be evaluated	Detail	Total mark	Learner mark	Comment
Security and authentication		**22**		
	Access is restricted according to logged on user. Test for anonymous users and restricted users and roles.	3		
	New users can be created dynamically.	2		
	The user interface for creating new users is integrated with the business aspects. No duplicate data-entry (e.g. asking for username) is required	3		
	New users are assigned to correct role.	2		

	New user information is correctly recorded in DB.	2		
	Page content is displayed according to logged on user. Check for update/delete pages.	4		
	Menu is adapted according to logged-on user using suitable method.	4		
	Default page is adapted according to logged-on user	**2**		
Reports		**20**		
	There is at least one summary report page, **useful** for management.	1		
	There are at least three reports (different from the summary report), each of which displays data from more than one table.	3x1		
4 reports to be evaluated, 1 for each group member.	The report is properly filtered according to business requirements. 1 mark for each filter used (2) (e.g. dates). The report is also filtered according to the logged-on user where applicable (2).	4		
	The report filters use	3		

	default values to simplify the filter selection, e.g. the filter shows beginning of current month. Each student evaluated individually			
	The report is correct and complete. -1/2 for any missing field deemed important for business value. 0 if the report content is incorrect in any respect. Every group member evaluated individually.	5		
	Each report can be exported to another format, e.g. PDF, CSV.	4x1		
Page-level error-handling for the four data-entry or update pages.	The +9 indicates each individual's marks for his/her error handling (multiplied by 2)	**12** **+6**		
In each case check error handling for empty fields (1), numeric and/or date data (1) and field lengths or ranges (1).	Page 1	3		
	Page 2	3		
	Page 3	3		
	Page 4	3		
Total		**60**		

ASSESSMENT 5 [PJ] – WEIGHT 60% of Final Mark

This assessment focuses on the completed full stack web application. Although some aspects have been evaluated in previous assessments, this assessment provides an opportunity to fix errors or improve the functionality of the system.

Group name: _____

Members: _____

_____

_____

_____

_____

Aspect to be evaluated	Detail	Total mark	Learner mark	Comment
Software Integration		**10**		
	The student demonstrates the use of external code or components to add functionality to the system.	8		
	The student provides useful links to external sites, including social network sites.	2		
Overall impression	The site appears neat and professional. Alignment of controls, standardized appearance, ease of navigation and logical navigation are addressed (4). Enough suitable **BUSINESS** data is displayed (at least 10 records in each table). (4). The group understands the business (2).	**10**		

3-tiered implementation	The system is deployed on a web server and can be accessed from a remote client (6). The database is on a different machine from the web server (6).	**12**		
Security and authentication	Security and authentication are correct in the 3-tiered deployment. This includes **creation of users (3)** and **displaying content (3) and menu (3)** according to logged-on users. It also includes **restriction of users** on pages for which they are not authenticated **(3).**	**12**		
Integrity		**50**		
	All DML operations have the correct result in the 3-tiered deployment. Check 4 main pages. Any page with any integrity error gets 0.	4x6		
	Data integrity is ensured using defensive programming and database design. Any error not properly handled -8 (page level). Error messages that are not descriptive or specific enough -5.	16		
	Exception handling of exceptions at server level (4). Exception handling is done at the lowest possible level (6). Any unhandled exception -5.	10		
Reports		**16**		

Tshwane University of Technology

Faculty of Information and Communication Technology
Department of Computer Science

Date: 23 January 2020

TO: All students currently in the Department of Computer Science

FROM: Office of the Head of Department: Computer Science

RE: The Phasing out of the old National Diploma in Information Technology qualifications

According to the Department of Higher Education and Training, all NATED 151 qualifications (that is the current National Diploma and Baccalaureus Techologiae qualifications) are to be phased out by December 2019 and there will be no admission granted for such in 2020. This old Nated programme is to be replaced with the new Higher Education Qualification Sub-Framework aligned qualifications.

Therefore, the current *National Diploma in IT: Software Development (NDIS12/NDISF1), w*ill be replaced with the Diploma in Computer Science. The *National Diploma in IT: Multimedia (NDIU12/NDIUF1) will be replaced with the Diploma in Multimedia Computing.* The department of Computer Science is consequently informing you, that students who are **already enrolled** on the Nated *National Diploma in IT: Software Development (NDIS12/NDISF1), and National Diploma in IT: Multimedia (NDIU12/NDIUF1* will have up to 2023 to complete these qualifications as there will be no more admission or re-admission to these qualifications.

In the table below a detailed explanation to the phasing out plan per subjects are provided. The latter will give you a clear indication of how the phase out plan of the National Diploma will unfold. Please it is also important that you observe these deadlines as some subjects will not be repeated after a given period of time. Failure to do so will leave you with one option of enrolling for the new qualification.

If you require more information with regards to this matter, please feel free to contact the Department of Computer Science.

Fir st yea	2020-S1	2020-S2	2021-S1	2021-S2	2022-S1	2022-S2	20

	CFS10AT* (new students)	CFS10AT* (repeaters)	CFS10AT* (repeaters)	**No longer offered**	**No longer offered**	**No longer offered**	**No**
	CGS10AT* (new students)	CGS10AT* (repeaters)	CGS10AT* (repeaters)	**No longer offered**	**No longer offered**	**No longer offered**	**No**
	CMK10AT (new students)	CMK10AT (repeaters)	CMK10AT (repeaters)	**No longer offered**	**No longer offered**	**No longer offered**	**No**
	DSO17AT* (new students)	DSO17AT* (repeaters)	DSO17AT* (repeaters)	**No longer offered**	**No longer offered**	**No longer offered**	**No**
First Year 2nd Semester	**2020-S1**	**2020-S2**	**2021-S1**	**2021-S2**	**2022-S1**	**2022-S2**	**20**
		CFS10BT* (new students)	CFS10BT* (repeaters)	CFS10BT* (repeaters)	**No longer offered**	**No longer offered**	**No**
		CGS10BT* (new students)	CGS10BT* (repeaters)	CGS10BT* (repeaters)	**No longer offered**	**No longer offered**	**No**
		CMK10BT (new students)	CMK10BT (repeaters)	CMK10BT (repeaters)	**No longer offered**	**No longer offered**	**No**
		DSO17BT* (new students)	DSO17BT* (repeaters)	DSO17BT* (repeaters)	**No longer offered**	**No longer offered**	**No**
Second Year 1st Semester	**2020-S1**	**2020-S2**	**2021-S1**	**2021-S2**	**2022-S1**	**2022-S2**	**20**
			TPG12AT (new students)	TPG12AT (repeaters)	TPG12AT (repeaters)	**No longer offered**	**No**
			ITN20AT (new students)	ITN20AT (repeaters)	ITN20AT (repeaters)	**No longer offered**	**No**
			MMN20AT (new students)	MMN20AT (repeaters)	MMN20AT (repeaters)	**No longer offered**	**No**
			ISY23AT* (new students)	ISY23AT* (repeaters)	ISY23AT* (repeaters)	**No longer offered**	**No**
			GUI10AT (new students)	GUI10AT (repeaters)	GUI10AT (repeaters)	**No longer offered**	**No**
			DSO23AT (new students)	DSO23AT (repeaters)	DSO23AT (repeaters)	**No longer offered**	**No**
			TPG111T (new students)	TPG111T (repeaters)	TPG111T (repeaters)	**No longer offered**	**No**
			SSF24AT (new students)	SSF24AT (repeaters)	SSF24AT (repeaters)	**No longer offered**	**No**
Second Year 2nd Semester	**2020-S1**	**2020-S2**	**2021-S1**	**2021-S2**	**2022-S1**	**2022-S2**	**20**
				TPG12BT (new students)	TPG12BT (repeaters)	TPG12BT (repeaters)	**No**
				ITN20BT (new students)	ITN20BT (repeaters)	ITN20BT (repeaters)	**No**
				MMN20BT (new students)	MMN20BT (repeaters)	MMN20BT (repeaters)	**No**
				ISY23BT (new students)	ISY23BT (repeaters)	ISY23BT (repeaters)	**No**
				GUI10BT (new students)	GUI10BT (repeaters)	GUI10BT (repeaters)	**No**
				DSO23BT (new students)	DSO23BT (repeaters)	DSO23BT (repeaters)	**No**
				TPG201T* (new students)	TPG201T* (repeaters)	TPG201T* (repeaters)	**No**

				SSF24BT (new students)	SSF24BT (repeaters)	SSF24BT (repeaters)	**No of**
Third Year 1st Semester	**2020-S1**	**2020-S2**	**2021-S1**	**2021-S2**	**2022-S1**	**2022-S2**	**20**
					MMX30BT (new students)	MMX30BT (repeaters)	MM (rep
					MMX30AT (new students)	MMX30AT (repeaters)	MM (rep
					MMZ30AT (new students)	MMZ30AT (repeaters)	MM (rep
					MMZ30BT (new students)	MMZ30BT (repeaters)	MM (rep
					IDC30AT* (new students)	IDC30AT* (repeaters)	IDC (rep
					DSO34AT (new students)	**No longer offered**	DS (rep
					DSO34BT (new students)	DSO34BT (repeaters)	DS (rep
					ISY34AT (new students)	ISY34AT (repeaters)	ISY (rep
					ISY34BT (new students)	ISY34BT (repeaters)	ISY (rep
Third Year 2nd Semester	**2020-S1**	**2020-S2**	**2021-S1**	**2021-S2**	**2022-S1**	**2022-S2**	**20**
						IDC30B* (new students)	ID (rep

10.2 Referencing and citation

Use the Harvard style for citations. A copy of the citation guide, which explains how to use the Harvard style, is available from MyTUTOR.
However, below are examples of citations from a book, a journal and a web site. You can use these examples as templates.

Book

CHORAFAS, D. 1998. Agent Technology Handbook. New York: McGraw-Hill.
You would cite this example in your text as (Chorafas, 1998:pp) where pp is the page number you referenced.

Journal

BERNASCHI, M. & CASTIGLIONE, F. 2005. Computational Features of Agent-Based Models. *International Journal of Computational Methods*, 2:33-48.
Note that the journal name is in italics, and volume and page number is included. You would cite this example in your text as (Bernaschi & Castiglione, 2005:pp) where pp is the page number you referenced.

Web site

FRANKLIN, S. & GRAESSER, A. 1996. Is it an Agent, or just a Program? [Online] Available from: http://www.msci.memphis.edu/ franklin/AgentProg.html [Accessed: 2007/05/03]
You would cite this example in your text as (Franklin & Graesser, 1996).

A typical paragraph that uses these references will appear like this:

Chorafas (1998:6) states that agents are autonomous and rational. They are also software-based and may be mobile or stationary (Bernaschi & Castiglione, 2005:5). Agents are often used to combine information from various sites on the internet, to provide users with an integrated view of content (Franklin & Graesser, 1996). In many cases agents are used to facilitate on-line auctions (Chorafas, 1998:6; Bernaschi & Castiglione, 2005:20).

Note especially where the punctuation marks are used. Also note how, when an author name is used as part of a sentence, only the year of publication appears in the brackets. Also note that only surnames are used in the citations. Finally, the list of references will be listed in alphabetical order. More detailed information is available in the TUT citation guide, which is available on MyTUTOR. Also note the use of uppercase (author surnames), punctuation (full-stops and commas) and italics (journal names) in the reference list.