Diploma of Website Development

Programme code: ICT50615

Program Description

The BHCK Diploma of Website Development provides the skills and knowledge for a graduate to design, build and manage websites as an independent web developer or as part of a team. On completion of the program the student will be able to design and implement a web page user interface, create dynamic web pages, design and implement relational databases for use with a web site, design and implement client and server programs to create a dynamic website using both modular and object oriented programming languages and be able to plan and implement a web site project.

Career Pathway

Students with a Diploma in Website Development are able to continue toward a Bachelor Degree in IT or related field or an entry level position as a web developer in industry.

Diploma Components

The 63 credits of the Diploma are composed of:

- 18 credits of General Education courses
- 3 credits of Core DAAD courses
- 42 credits of Specialist courses

General Education Courses – All BHCK Mainstream students take these courses

Course Code	Course Title	Credits
ARB110	Arabic Language	3
ARB110-F(N)	Arabic (As a second Language)	
CRW110	Critical Reading and Writing 1	3
CRW210	Critical Reading and Writing 2	3
IT111	Business Technology	3
MAT100	Basic Math	3
STA100	Elementary Statistics	3
Total		**18**

All DAAD students take this course

Course Code	Course Title	Credits
PMG201	Project Management	3
Total		**3**

Specialist Courses – Only Web Development Students take these courses

Course Code	Course Title	Credits
DBS101	Introduction to Database	3
DBS201	Relational Database Design	3
DBS202	Databases Modeling	3
ECM101	E-Commerce	3
ENV101	IT Environment	3
PRG101	Programming (C++)	3
PRG102	Programming (Java)	3
PRG201	Server-Side Scripting using PHP	3
SDV202	System Development - Implementation	3
WDV101	Web Development Foundation	3
WDV102	Introduction to Web Design	3
WDV201	Web Design Implementation	3
WDV202	Database Driven Web Applications	3
WEB201	New Web Technologies	3
Total		**42**
Total Credits for Diploma of Website Development		**63**

Course:	**ARB110 Arabic**
B.H.I. Codes:	N/A
This course is designed to serve and assist students in their future Business and Design careers. It is designed to equip students with the needed knowledge and skills to successfully send official hardcopy and e-correspondence, present to an audience of Arabic speakers, and reading, writing, and comprehension of business related documents.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**ARB110-F(N) Arabic (As a Second Language)**
B.H.I. Codes:	N/A
This course is designed for students whose first language is not Arabic. It introduces students to the Arabic alphabet and script of modern written Arabic. It develops the students' knowledge in the four skill areas of reading, writing, listening and speaking. With a modern approach, it uses popular media and themes relating to contemporary experience. Note: As the number of students who are eligible for this course is small and will fluctuate each semester, this course will not necessarily be offered every semester. It will be offered when there is sufficient demand due to student numbers.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**CRW110 Critical Reading and Writing 1**
B.H.I. Codes:	N/A
This course will guide students on how to organize information, engage in problem solving both academically and personally, and evaluate and communicate ideas clearly. CRW110 encourages reflective thinking and will help students better prepare for the academic demands of their Mainstream courses as well as the professional demands of their career after college.	
Prerequisites: Co-requisites:	ENG030 Foundation or direct entry to Diploma qualification study None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**CRW210 Critical Reading and Writing 2**
B.H.I. Codes:	N/A
Students continue to develop their critical thinking abilities in reading and apply them to the writing process through conducting research and producing a short paper. This course will require students to select and highly organize information; perform both academic and personal problem solving; demonstrate good time, resource, and self-management; and evaluate and communicate ideas clearly. Resources integrate both reading and writing in a thought-provoking manner. CRW210 requires reflective thinking and will help students better prepare for the academic rigors of Mainstream courses and the professional demands of their career after college.	
Prerequisites: Co-requisites:	CRW110 Critical Reading and Writing 1 None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**IT111 Business Technology**
B.H.I. Codes:	ICTICT205 Design basic organisational documents using computing packages
This is an intermediate-level course building on the information technology material covered in the Foundation I.T. course. The subject matter encompasses four relatively discrete office productivity programs (word processing, spreadsheets, electronic presentations, and databases), with a strong emphasis on real-world application. The functions and usage of the software are taught through a hands-on approach whereby the students learn to utilize the software by performing multiple tasks as encountered in the workplace or other professional environments.	
Prerequisites: Co-requisites:	CS030 Foundation or direct entry to Diploma qualification study None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**MAT100 Basic Math**
B.H.I. Codes:	N/A
This is an intermediate-level course building on the mathematics material covered in the Foundation Program. The subject matter encompasses areas of utmost importance for a college student in any discipline, and gives the students a strong foundation of those concepts, particularly as regards practical skills and problem-solving strategies. Topics include: Percentages, ratios, statistics, algebra, and others.	
Prerequisites: Co-requisites:	MS030 Foundation or direct entry to Diploma qualification study with a pass in the Mathematics Entrance test None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**STA100 Elementary Statistics**
B.H.I. Codes:	N/A
This course introduces modern methods of descriptive and inferential statistics. The topics include descriptive statistics, probability, probability distributions, confidence intervals, hypothesis testing, linear regression, and correlation.	
Prerequisites: Co-requisites:	MAT100 None
Course Load:	3 credit hours per week
Duration:	48 hrs.

Course:	**PMG201 Project Management**
B.H.I. Codes:	ICTPMG401 Support small scale IT projects ICTICT515 Verify client business requirements ICTPMG501 Manage IT projects
This course develops a foundation of concepts and solutions that supports the planning, scheduling, controlling, resource allocation, and performance measurement activities required for successful completion of an IT project.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 16 tutorial hours)

Course:	**DBS101 Introduction to Database**
B.H.I. Codes:	ICTDBS403 Create basic databases
This is an introductory level course to the theory and design of databases and the use of Database Management Systems. Even though this is an introductory course it assumes the student knows the basic terminology used with databases as covered in the Business Technology course. The topics include analysing the requirements for a database, documenting the requirements, designing the database using Entity-Relationship diagrams, the SQL Language, implementing the designed database in a DBMS using appropriate tools, creating and doing tests on the new database.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**DBS201 Relational Database Design**
B.H.I. Codes:	ICTDBS415 Build a database
This is an intermediate course that will expand your knowledge and skills in Database Management and Programming by practically implementing a relational database application from a specification using the SQL language, MySQL and MS Access as a front-end interface. It assumes the knowledge and skills obtained in DBS101 Introduction to Databases. The topics include reviewing the databse design including data structures, queries, reports, access and security and the user interface, prototyping the design, importing data from existing systems, testing the prototype, implement the database, client approval and acceptance of the new database.	
Prerequisites: Co-requisites:	DBS101 None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 16 tutorial hours)

Course:	**DBS202 Databases Modeling**
B.H.I. Codes:	ICTDBS502 Design a database
This is an advanced course that builds on and requires the knowledge and skills learnt in the previous two database courses. At the end of the course the student will be able analyse and design a multi-relation database to the needs of a client. The topics include determining the requirements of the database with the client, develop and document the logical data model, design and document data structures including DBMS constraints and validation rules, design a complex user-interface, queries and reports, design the security systems needed for the database, identify, develop and document backup and recovery requirements and procedures.	
Prerequisites: Co-requisites:	DBS201 None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**ECM101 E-Commerce**
B.H.I. Codes:	None
This course introduces students to plan, design, and evaluate web sites, how to launch an e-business from scratch, what technology is needed for developing e-commerce, how to market products, what ethical and legal factors to consider, and how to ensure security and integrity of data through various methods and technologies. Additionally students will gain exposure to the managerial and organizational implications of e-commerce and the relationships that must be maintained between a business and the technology drivers of e-commerce.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**ENV101 IT Environment**
B.H.I. Codes:	BSBWHS501 Ensure a safe workplace ICTICT207 Integrate commercial computing packages ICTICT418 Contribute to copyright, ethics and privacy in an ICT environment
This course is concerned with the identification, assessment and control of conditions in the work environment that are harmful to the health and safety of people in all occupations and introduces students to the ethical, legal, and policy issues raised by designing, developing, and using information technology as well as examines the use of information technology tools and techniques in today's global business environment.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**PRG101 Programming (C++)**
B.H.I. Codes:	ICTPRG430 Apply introductory object-oriented language skills
Programming in C++ provides an overview of programming concepts, design and an introduction to coding using the C++ language. The course has a focus on creating working computer programs in C++. The course will address fundamental concepts of analysis, design, and testing and code development. It includes flowcharts, Boolean logic, control flow, data types and structures, variables, arrays, functions, pointers and introduces classes.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**PRG102 Programming (Java)**
B.H.I. Codes:	ICTPRG418 Apply intermediate programming skills in another language
This is intermediate level course will re-enforce and extend the student's knowledge of Object Oriented Programming using the Java Programming Language. The course builds on the knowledge and skills learnt in PRG101 Programming (C++). The topics include designing and using user-defined aggregate data structures, using and manipulating 1-D and 2-D arrays of these user defined data types, sorting arrays, searching arrays using a binary technique, file handling using random access algorithms, use debugging tools and tracing to debug code, documentation of code, designing and testing of student designed and built application.	
Prerequisites: Co-requisites:	PRG101 None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**PRG201 Server-Side Scripting using PHP**
B.H.I. Codes:	ICAWEB502A Create dynamic web pages ICAWEB503A Create web-based programs ICTWEB430 Produce server-side script for dynamic web pages
This course is designed to teach students server side scripting using PHP and MySQL to develop dynamic web sites. Topics will include conditionals, functions, form processing, arrays, and loops. Students create a dynamic web site by developing database tables in MySQL, connecting to them using PHP and adding content to web pages.	
Prerequisites: Co-requisites:	PRG102, DBS101 None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 32 tutorial hours)

Course:	**SDV202 System Development-Implementation**
B.H.I. Codes:	ICAPRG512A Prepare for the build phase of an IT system ICAPRG513A Coordinate the build phase of an IT system ICTSAS519 Perform systems tests
This course prepares the student so they are able to implement a new IT system. Topics include the preparation of the development environment for the build phase and actual coding of the IT system; the day-to-day management of tasks associated with making sure that the software product is developed according to the design specifications and project plan; methods used to ensure that the properties of the entire system are tested and proved adequate before handover to the client or user for final acceptance testing.	
Prerequisites: Co-requisites:	PMG201 None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 16 tutorial hours)

Course:	**WDV101 Web Development Foundation**
B.H.I. Codes:	ICTWEB429 Create a markup language document to specification
The students are given the knowledge, experience and hands - on experience with HTML 5 and XHTML needed to build and develop successful Web sites. Continuously, students develop their ability in the different parts of creating a Web site; namely, design its content, accessibility, workflow, functionality, and its visual appeal. Most hands on exercises train students to develop or create and save a markup language document to a given set of specifications using a text editor rather than an authoring tool. A well-rounded balance of hard skills (HTML 5, CSS) and soft skills (Web Design, Web site promotion strategies) presents everything beginning Web developers need to know in order to build and promote successful Web sites.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hrs

Course:	**WDV102 Introduction to Web Design**
B.H.I. Codes:	ICTWEB411 Produce basic client-side script for dynamic web pages ICTWEB504 Build a document using eXtensible markup language
An introductory course that investigates the business and technology of websites. Students study design issues such as navigation, usability, site architecture, search engine optimization, and Web 3.0 techniques. Students explore basic Web creation techniques, such as HTML, JavaScript, and Cascading Style Sheets (CSS). They learn how to interface with IT professionals to specify complex requirements. They create and publish their own sites to demonstrate their understanding of these issues.	
Prerequisites: Co-requisites:	WDV101 None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 16 tutorial hours)

Course:	**WDV201 Web Design Implementation**
B.H.I. Codes:	ICTWEB506 Develop complex cascading style sheets ICTWEB505 Develop complex web page layouts
This course is designed to teach students all the components to design, implement, and manage both static and dynamic websites. It describes the performance outcomes, skills and knowledge required to design and create a web page layout to an advanced level. It will also include complex cascading style sheets (CSS) that are attached to a mark-up language document. Students will use Adobe Dreamweaver to create, format, update, debug, and manage their individual web pages and websites. The course will begin with Adobe Dreamweaver on how to develop a Web site. Instruction will include: text; graphics; links; and tables. Students will then learn how to draw objects; create animations; and create special effects. The instructor will give step-by-step instructions, as well as in-depth explanation of these applications. The student will learn how to: work with objects; import; select and modify graphics.	
Prerequisites: Co-requisites:	WDV102 None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 16 tutorial hours)

Course:	**WDV202 Database Driven Web Applications**
B.H.I. Codes:	ICTDBS504 Integrate database with a website ICTWEB501 Build a dynamic website ICTWEB508 Develop website information architecture
This course introduces the students to the more advanced techniques required to build complex, modern database driven applications. Based on previous knowledge of Web design principles, XHTML and CSS, this course covers the client-side and server-side processing that enables database interactions in dynamic intranet and Internet applications. Related topics include in web application security, deployment, and maintenance are also taught. All these concepts are applied in a group project that implements a fully functional database driven Internet application.	
Prerequisites: Co-requisites:	WDV201, PRG201 None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 32 tutorial hours)

Course:	**WEB201 New Web Technologies**
B.H.I. Codes:	ICTWEB516 Research and apply emerging web technology trends
This course will explore, discuss, and research emerging technologies in the web arena. Emphasis is placed on exposure to up-and-coming technologies relating to the web, providing hands-on experience, and discussion of practical implications of these emerging fields.	
Prerequisites: Co-requisites:	None None
Course Load:	3 credit hours per week
Duration:	48 hours (plus 16 tutorial hours)