# STADIO

## SCHOOL OF INFORMATION TECHNOLOGY

### BACHELOR OF INFORMATION TECHNOLOGY IN
# WEB DESIGN & DEVELOPMENT

## CONTACT LEARNING

FORMERLY

### PRESTIGE ACADEMY

# BACHELOR OF INFORMATION TECHNOLOGY IN
# WEB DESIGN & DEVELOPMENT

## NQF 7 │ 365 CREDITS │ SAQA ID: 117900 │ MIN. 3 YEARS
## CAMPUSES: BELLVILLE

## CAREER OPPORTUNITIES

| | |
|---|---|
| • ANIMATOR | • GAMING ANIMATOR |
| • TECHNICAL ARTIST IN RIGGING | • ILLUSTRATOR AND CARTOONIST |
| • 3D DESIGNER | • 3D MODELLER |
| • LIGHTING DESIGNER | • SPECIAL EFFECTS DESIGNER OF MOVIES |
| • CHARACTER DESIGNER | • TEXTURE ARTIST |

## MODE OF DELIVERY - CONTACT LEARNING

Contact-learning students will have the opportunity to meet and engage with guest lecturers who are experts from industries related to their field of study during their on-campus lectures. When choosing contact learning as your preferred mode of learning, you will be expected to attend classes on campus, as well as online. You will have the opportunity to contribute to the learning process and at the same time you will learn from the contributions of your fellow students. Contact-learning students will complete many tasks in groups, where they will experience a safe environment to hone their leadership, collaboration, and interpersonal skills. STADIO's campuses are vibrant communities of learning, where students can engage and socialise with students from different backgrounds. All our campuses are Wi-Fi enabled, and facilities for studying and group work are available. Student recreation areas are also provided, and an on-campus canteen providing food and beverages is easily accessible.
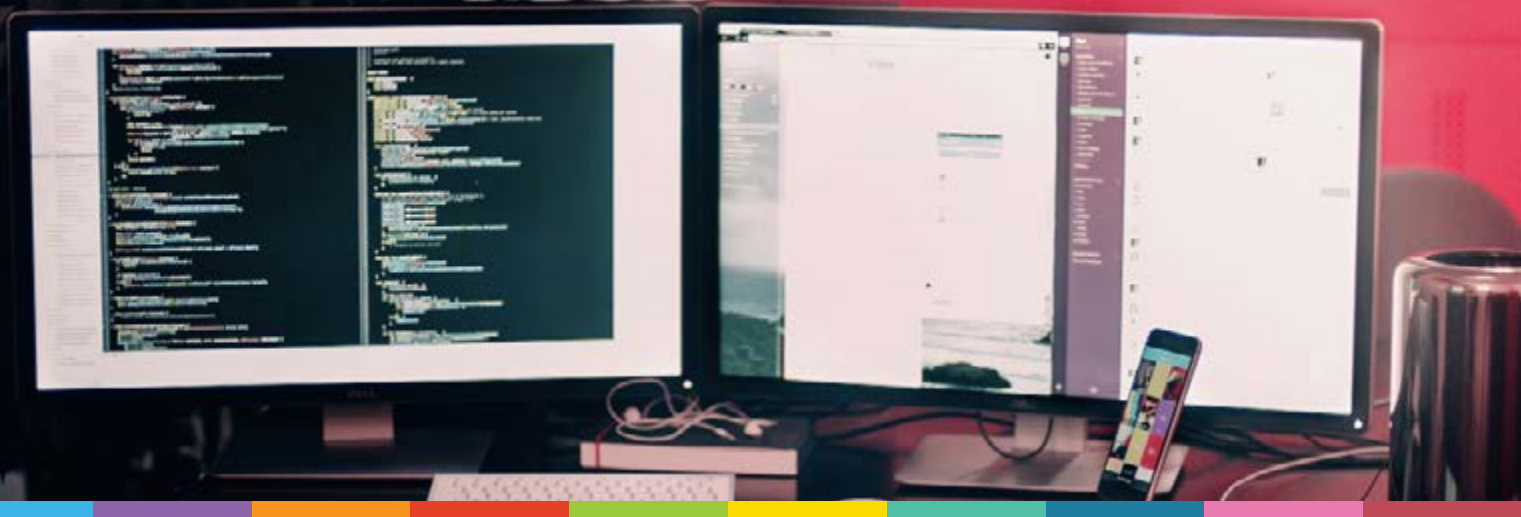
## DESCRIPTION

In this programme students will be equipped with knowledge of the most current industry standard and cutting edge web development technologies, including web-based marketing enabling them to become part of one of the fastest growing sectors of the creative industry.  It relates closely to the knowledge economy where all individuals, companies and organisations depend on information for effective decision-making. The programme was designed around fundamental, conceptual and applied competence in this context. At the exit point the students will be able to design web sites including interactive designs and multi-media.  A large portion of the programme consists of coding including developing in HTML, CSS, JavaScript, ASP and PHP.  Furthermore, students will acquire knowledge of Mobile App development and database-supported web applications. Students will graduate with a cutting edge portfolio that will reward them in an excellent career in online/web-based communication. Career opportunities are extensive given that computer-based information systems are almost universal. Graduates are likely to find employment as a Website and applications developer, Games Developer, SEO Specialist, Social Media manager, and many more.

## OUTCOMES

1.  Demonstrate integrated knowledge of the key areas and practices of web design and web development, including an understanding of and the ability to apply and evaluate the key terms, concepts, facts, principles, rules and theories, and how it relates to other disciplines such Information Technology System Development and System Support
2.  Demonstrate an understanding of knowledge as contested, and the ability to evaluate types of knowledge, principles and concepts common to the study of web design and web development.
3.  Demonstrate an understanding of a range of methods of enquiry in a field, discipline or practice, and their suitability to specific investigations; and the ability to select and apply a range of methods to resolve problems or introduce change within web design and web development.
4.  Demonstrate the ability to identify, analyse, evaluate, critically reflect on and address complex problems, applying evidence-based solutions and theory-driven arguments in web design and web development
5.  Demonstrate the ability to take decisions and act ethically and professionally, and the ability to justify those decisions and actions drawing on appropriate ethical values and approaches within a web design and web development environment.
6.  Demonstrate the ability to develop appropriate processes of information gathering for a given context or use; and the ability to independently validate the sources of information and evaluate and manage the information.
7.  Demonstrate the ability to develop and communicate ideas and opinions in well-formed arguments, using appropriate terminology in the web design and web development and related fields.
8.  Demonstrate the ability to manage processes in unfamiliar and variable contexts, recognising that problem solving is context and system bound, and does not occur in isolation.
9.  Demonstrate the ability to identify, evaluate and address his or her learning needs in a self-directed manner, and to facilitate collaborative learning processes.
10.  Take full responsibility for his or her work, decision-making and use of resources, and show limited accountability for the decisions and actions of others in varied web design and web development contexts.

## ADMISSION REQUIREMENTS

- a Senior Certificate (SC) with degree endorsement
- a National Senior Certificate (NSC) with a minimum of 50% in four 20-credit subjects and a minimum of 30% in English Home Language or First Additional Language; or
- a National Senior Certificate – Vocational Level 4 (NC(V)) with a minimum of 60% in three fundamental subjects including English; and minimum 70% in four vocational subjects; or
- a cognate Higher Certificate (NQF 5), Advanced Certificate (NQF 6) or Diploma (NQF 6).

## ADDITIONAL OR SPECIFIC ADMISSION REQUIREMENTS

- A minimum of 50% for Mathematics OR
- A minimum of 70% for Mathematical Literacy OR
- A minimum of 50% for Information Technology (not CAT).

## SPECIFIC REQUIREMENTS

### MINIMUM SYSTEM REQUIREMENTS:

- Reliable broadband Internet Access (Wi-Fi available at all our campuses, but you may prefer access from home as well)
- Firefox/Internet Explorer/Chrome web browser
- Microsoft Word
- PDF Viewer
- Ability to scan and upload documents
- Email/cellphone for notification and communication

### ACCESS TO TECHNOLOGY:

STADIO provides students with materials, resources, assessments (including online tests and quizzes), as well as discussion opportunities and a number of administrative services via its student administration and learning environments. Having access to the above online facilities is essential for efficient communication, learning and success. You will need continuous access to study, using the resources mentioned above, and to access and submit some assessments.

## STUDENT SUPPORT FOR CONTACT LEARNING STUDENTS

STADIO believes in inclusive education and in creating opportunities for students from all walks of life to improve themselves. As part of this process, STADIO aids students with special learning needs, by accommodating for special assessment arrangements. STADIO utilises a diagnostic software programme that shows progress within the student's learning path and indicates gaps for improvement within the academic journey of the student. There are remedial procedures in place that will allow students to close any learning gaps. The institution is affiliated / partnered with SADAG, where students can use their call centre to reach out to counsellors. If there is a requirement for a personal consultation, students may also be referred to counsellors within the area.

## STADIO

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# CURRICULUM OUTLINE

| | 1st YEAR | 2nd YEAR | 3rd YEAR |
|---|---|---|---|
| Compulsory (All) | Information Systems 1 INF12 (15) | Database Development DD22 (15) | Content Management Systems CMS32 (15) |
| | Informatics A ICS12A (15) | Web Marketing WE22 (15) | Mobile Application Development A MAD32A (25) |
| | Web Design A WS12A (20) | Information Systems 2 INF21 (10) | Mobile Application Development B MAD32B (20) |
| | Web Development 1 WD12 (20) | Web Development 2A WE22A (20) | Web Development Project WDP33 (35) |
| | Statistical Methods STM11 (5) | Web Development 2B WE22B (20) | Research Methodology RE32 (15) |
| | Informatics B ICS12B (15) | Web Development 2C WE22C (20) | Information Systems 3 INF31 (10) |
| | Web Design B WS12B (20) | Web Animation Scripting WA22 (15) | |
| | Web Interactive Design WI12 (15) | Academic Literacy AL21 (5) | |
| CREDITS P/YEAR | 125 | 120 | 120 |

* Some of the modules are semesterised and will be communicated at Registration

# MODULE DESCRIPTIONS

## INFORMATION SYSTEMS 1

This is a pre-requisite module that will form the foundation for Information Systems 2 (INF21). It will develop an understanding and knowledge of the principles of information systems and how real global businesses use technology and information systems to increase their profitability, gain market share, improve their customer service and management their daily operations. The student will learn how information systems provide the foundation for modern business enterprises.

## INFORMATICS

In this module the student will acquire the ability to think logically about business information processes and the fundamentals of software development in support of that. A software package consists of two primary components: the program code and the data on which the code works. In this module the student will acquire knowledge of the importance of data and its transformation by the computer programme into useful information. Data storing techniques will also be explored.

## STATISTICAL METHODS

It will develop the student's thinking about statistics and create an understanding of its application in real work situations. This introduction to statistics aims to develop skills to recognise that all data contain levels of variation and choices, and the outcome of a situation is determined by the recognition of these choices and how our responses impact on business decisions. The student is furthermore introduced to the basic statistical application of Microsoft EXCEL in the application of statistical concepts.

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## WEB DESIGN

Knowledge will be acquired to create vector illustrations, logos and basic web layout, including a wide range
of techniques to create professional designs. The module also provides students with image editing experience and provides the students with knowledge of different software functions, as well as a range of imaging and editing tools. Knowledge of using a professional visual editor for creating and managing web site will be developed. The student will be able to create and edit cross-platform, cross-browser pages.

## WEB INTERACTIVE DESIGN

Students will explore animation and audio capabilities in building interactive content that can be shared over the Internet. It will create dynamic motion graphics, including aesthetics of design, motion and sound including mono, audio, sound effects and the manipulation of sounds.

## WEB DEVELOPMENT

Students will be able to plan the structure and apply correct tools for designing a web design in software such as Dreamweaver. XHTML is a language used to describe data and display content of the website. Students will also develop understanding of working with CSS, and the relationship between XHTML and CSS.

## INFORMATION SYSTEMS 2

It will equip the student with knowledge and an understanding of e-Business and e-Commerce, basic wireless principles of information systems and how wireless computer networks, mobile computing and mobile commerce applications are used in an organisation. The student will also gain knowledge of how information systems operate within the organisation integrating social computing.

## ACADEMIC LITERACY

Academic Literacy is of vital importance for students studying at a tertiary institution. This module will equip students with the necessary basic knowledge, understanding and skills that they should apply across all other modules during the completion and presentation of assignments. The content is structured around the following key themes: analyse an assignment topic, planning the first draft, using the correct vocabulary and tenses, formulating a paragraph, avoiding plagiarism, citing and referencing sources as well as correctly and professionally delivering a presentation.

## DATABASE DEVELOPMENT

The student will develop fundamental, conceptual and applied competence in this particular context. SQL (Structured Query Language) is a database computer language designed for the retrieval and management of data in relational database management systems, database schema creation and modifications. SQL is a standard interactive and programming language for querying and modifying data and managing databases. The core of SQL is formed by a command language that allows the retrieval, insertion, updating, and deletion of data.

## WEB DEVELOPMENT 2

JavaScript programming, interacting with controls on the client side, doing calculation and create a small animation for the website as well as create client-side forms using the same structure in Action Script and in .NET programming. Client and Server side coding, using Web services between Websites projects, XML technology, and SQL database to save and retrieve information and design Mobile Applications. Creating and modifying PDF and Text File, creating and connecting to email addresses and store information on MYSQL database and creating MVC frameworks in PHP.

## WEB ANIMATION SCRIPTING

The student will be equipped with the knowledge on constructing an interactive web animation product by using HTML in combination with JavaScript. The basics of animation as well as more advanced concepts of web animation scripting and finally debugging, evaluating and optimizing the final product. Similar to ActionScript, HTML and JavaScript can be used to create rich animation-based web applications. Instead of using a separate SWF file, animation is included within the HTML files itself

## WEB MARKETING

Internet marketing, digital marketing, web marketing, online marketing, search marketing, or e-marketing,
is referred to as the marketing of products or services over the Internet. Digital customer data and electronic customer relationship management (ECRM) systems are often grouped under internet marketing.
Internet marketing also refers to the placement of media along many different stages of the customer engagement cycle through search engine marketing (SEM), search engine optimization (SEO), banner ads, email marketing, mobile advertising, and Web 2.0 strategies.

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# MODULE DESCRIPTIONS CONTINUED

## INFORMATION SYSTEMS 3

It deals with the integration of customer relationship management and supply chain management as well as business analytics. It will equip the student with sufficient knowledge to be able to acquire and apply information systems. The syllabus includes the planning, justification and evaluation of IT applications.

## MOBILE APPLICATION DEVELOPMENT

In this module the student will gain knowledge how to create and run mobile applications with various operating system, with the largest concentration on Android Programming. Android also encompasses the XML language as well as basic Apache Ant scripting for build purposes. A student must have pre-requisite knowledge of XML (covered in Web Development (WD12) and Java (covered in Informatics ICS12A and Informatics ICS12B) in this programme.

## RESEARCH METHODOLOGY

It covers principles, concepts and processes pertaining to academic scientific research. Aspects covered include the features of scientific research, types of research, as well as common aspects in the execution of a research assignment, such as problem identification, motivation of the study, formulating a hypothesis, research objectives, selecting suitable methods, planning and preparing the research action, as well as the gathering of data, and performing analysis and interpretation of results leading to a research report.

## CONTENT MANAGEMENT SYSTEM WEBSITES

A web content management system (WCMS) is a software system that provides authoring, collaboration, and administration tools designed to create websites. This module will enable students to create a website by means of a web content management system. To demonstrate the ability of the functions of a Web Content Management System (CMS), WordPress will be used, but it can vary from year to year as technology changes.

## WEB DEVELOPMENT PROJECT

This module will require the student to investigate and execute a project of choice, use the selected computer software for the specific project, use all the template documents associated with projects, produce reports and do presentations before, during and with the close of the final year project. Students should work individually on the Responsive Website Design and Development Final Project.

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### CAMPUSES: BELLVILLE

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