

PROGRAM OF STUDY
BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Year ONE Semester ONE

		T	P	C
GEN 101	Critical Thinking	2	0	2
ENG 101	Modern English Usage	2	0	2
ECN 101	Principles of Economics	2	0	2
ACC 101	Principles of Accounting	2	0	2
CSC 153	Introduction to Computers	2	2	3
MAT 155	Algebra I	3	0	3
MAT 159	Discrete Mathematics For Computer Science	3	0	3
		16	2	17

Year ONE Semester TWO

		T	P	C
CSC 154	Principles of Programming	2	2	3
CSC 156	Basic Digital Electronics	2	2	3
ENG 104	Business Communication	2	0	2
GEN 104	Human Development and Leadership	2	0	2
FRE 101	French I	2	0	2
MAT 158	Statistics	3	0	3
		13	4	15

Year TWO Semester ONE

		T	P	C
CSC 203	Object Oriented Programming with C++	2	2	3
CSC 216	Computer Architecture & Organization	2	2	3
FRE 101	French II	2	0	2
CSC 247	Systems Analysis & Design I	2	2	3
CSC 209	Information Systems	3	0	3
CSC 201	Operations Research	3	0	3
		14	6	17

Year TWO Semester TWO

		T	P	C
CSC 210	Assembly Language programming	2	2	3
CSC 217	Operating Systems	2	2	3
CSC 230	Object Oriented Programming with Java	2	2	3
CSC 242	Numerical Analysis	3	0	3
CSC 246	Database Management Systems	2	2	3
CSC 248	Object Oriented Analysis and Design	2	2	2
CSC 250	System Administration Tools and Techniques	2	2	2
		15	4	19

Year THREE Semester ONE

		T	P	C
CSC 305	Introduction to Software Engineering	2	2	3
CSC 311	Data Structures & Algorithms I	2	2	3
CSC 321	Visual Basic.Net I	2	2	3
CSC 349	Web Development and Technologies	2	2	3
CSC 365	Research Methods	3	0	3
CSC 367	Data Communications and Computer Networks I	2	2	3
		13	8	18

Year THREE Semester TWO

		T	P	C
CSC 312	Data Structures & Algorithms II	2	2	3
CSC 322	Visual Basic.Net II	2	2	3
CSC 368	Data Communication and Computer Networks II	2	2	3
CSC 370	Distributed Computing	3	0	3
CSC 374	Artificial Intelligence	3	0	3
CSC 376	Introduction to Compilers	3	0	3
		15	6	18

Year FOUR Semester ONE

		T	P	C
CSC 405	Project I	0	3	3
CSC 421	e-Commerce	2	1	2
CSC 442	Graphs and their application	2	0	2
MGT 106	Entrepreneurship & Innovation	2	0	2
CSC 479	Computer Project Management	3	1	3
MGT 415	Strategic Management	3	0	3
CSC 451	Industrial Law I	3	0	3
		15	3	16

Year FOUR Semester TWO

		T	P	C
CSC 422	Internship	0	3	3
CSC 440	Project II	0	3	3
CSC 444	The IT Profession	3	0	3
CSC 446	Human Computer Interaction	3	0	3
CSC 412	Computer Graphics	3	0	3
	Elective I	X	X	X
	Elective II	X	X	X
		15-20		

Elective Courses: In addition to the following courses, students are free to take electives from the diploma courses at a time they are being offered.

CSC 461 Computer Security and Cryptography
 CSC 448 Computer Vision
 CSC 452 Industrial Law II

DETAILS OF SYLLABUS – COURSE DESCRIPTION

Year ONE Semester ONE

GEN 101 Critical Thinking

(2.0.2)

Prerequisite: None

This course examines the importance of the scientific method as the basis of critical thinking and decision making. Topic include: the Language of reasoning – identifying reasons and conclusions, recognizing arguments, Recognition of Fallacies; applying Principles of Critical Thinking to Essay writing; Judging the Credibility of sources; Evaluating inferences, Assumptions, and other relevant arguments; Decision making/Problem solving – factual and non factual issues; Deduction and induction, and identifying unstated premises.

MAT 155 Algebra I**(3.0.3)***Prerequisite:* None

Introduction to Number Theory. Algebra of Complex numbers. Polynomials; factorization of polynomials and roots of polynomials. Cubic equations. Systems of linear equations. Vector spaces and subspaces, basis dimension and co-ordinates. Algebra of linear transformations and representation by matrices. Introduction to eigen values and eigen vectors; similar matrices, change of basis.

Year ONE Semester TWO**CSC 154 Principles of Programming****(2,2,3)***Prerequisite:* CSC 153

Properties and classification of Algorithms. Development of algorithm using top-down design and a structured pseudocode language, flowcharts and input, process, and output (IPO) diagrams. Built-in functions, subprograms (i.e. user defined functions and subroutines) and file handling. Translation of algorithms into a high level programming language preferably using C++ language. Problems will be drawn from relevant field of study such as Mathematics and Business.

CSC 156 Basic Digital Electronics**(2, 2, 3)***Prerequisite:* None

Introduction to Electronic Components and Circuits: Resistors, capacitors, Diodes, transistors, CMOS logic gates, Ohm's and Kirchhoff's Laws; Circuit schematics; Logic Circuits :Gates, Truth tables, Adders, Shift registers, Boolean Algebra, Fan-in, Fan-out; Number Systems and Representation; Registers, MUX/DE-MUX: Multiplexer logic and truth tables, registers and tri-state, Data Conversion, Microcontrollers:

ENG 104 Business Communication**(2.0.2)***Prerequisite:* None

This course is aimed at a functional use of English for communication skills. The effective and competency use of English for oral and written presentations in academic work such as efficiency in reading, writing, listening, speaking, research work and note-taking will be critically pursued. Application of oral and written business communication, involving

competency and effective letter writing, preparation of business reports, oral presentation, and employment related communication topics. Instruction in the writing process. Practice in the strategies of writing, revising, and editing paragraphs and essays with attention paid to focus, support, and organization.

GEN 104 Human Development and Leadership (2.0.2)

Prerequisite: None

The purpose of this course is to examine the theories of human development from the perspective of the maturational or biological model, the behavioral model, and the cognitive development model. The course will compare, contrast, integrate and evaluate the theories of human development. Particular attention will be devoted to the contribution of Arnold Gesell to the maturational model, Albert Bandura and Maslow to the behavioral model, and Jean Piaget to the cognitive development.

MGT 106 Entrepreneurship & Innovation (2.0.2)

Prerequisite: None

This course aims at providing a general overview of entrepreneurship. It introduces students to the theoretical concepts in entrepreneurship and the main functional areas necessary for the establishment and continues operation of a small business. Topics to be covered include the evolution of entrepreneurship, entrepreneurial traits, entrepreneurship, innovation, and venture creation, legal, financial, marketing, human resource management and taxation. Students will also be introduced to the preparation of business plan and the assessment of the business plan and the assessment of governmental policies on entrepreneurship.

FRE 101 French I (2.0.2)

Conversational French using oral techniques with reading and writing drills. Stresses speaking, listening, reading, writing and cultural awareness.

MAT 158 Statistics (3.0.3)

Prerequisite: None

Population and variables. Standard measures of location, spread and association. Normal approximation. Regression. Probability and sampling. Binomial distribution. Interval estimation. Some standard significance tests Probability Theory – Definition, types and laws of probability, Tree diagrams, expected values and simulation. Probability Distribution – permutation, combination, binomial, poisson and normal distribution. Sampling Theory – Sampling distribution, estimation, hypothesis testing and non-parametric test. Forecasting Planning and Control Techniques.

Year TWO Semester ONE

CSC 203 Object Oriented Programming with C++ (2.2.3)

Prerequisite: CSC 154

C++ is the object oriented superset of ANSI C. This course provides students with a comprehensive study of the C++ Programming Language. The course stresses the object paradigm including classes, inheritance, virtual functions, and templates in the development of C++ programs. Lab exercises reinforce the lectures. This course covers - The Language of Object-Orientation:- What Is Object-Oriented Programming?, C++ and Object-Oriented Programming, What Is an Object?, What Is a Class?, Encapsulation, Inheritance; Polymorphism; Fundamentals of Classes; Operator Overloading; Introduction to the Standard Template Library

CSC 216 Computer Architecture & Organization

(3.0.3)

Prerequisite(S): CSC 153, CSC 154

In-depth study of the instruction set architecture and hardware design of a specific CPU. Introduction to pipelines, input/output and multi-processors. Computer abstractions and performance measurement.

CSC 217 - Operating Systems

(2.2.3)

Prerequisite: CSC 154

Introduction to sequential and multiprogramming operating systems; kernel calls, interrupt service mechanisms, scheduling, files and protection mechanisms, conventional machine attributes that apply to operating system implementation, virtual memory management, and I/O control systems. Design and implementation of multiprogramming kernels, systems programming methodology, inter-process communications, synchronization, deadlocks, device drivers and network access methods.

FRE 102 French II

(2.0.2)

Prerequisite(s): FRE 101

Further study of language structures, vocabulary reading and development of conversation on topics of interest with the use of structure and lexical items learnt.

CSC 247 - System Analysis & Design I

(3.1.3)

Prerequisite(S): CSC 153, CSC 154

General systems theory and its application. Fact finding methods, charting methods including business process modeling - *data-flow diagrams* and *use-case scenarios*, Using *data normalization* to simplify database structure, structural and object-oriented data analysis and design, and decision tables, Data taxonomy: elementary, composite, and container, Choosing internal and external data representations, Defining data items, Establishing and maintaining a data dictionary, Avoiding ambiguity through logic- and process-specifications, Specifying *system inputs*, Designing on-line *dialogues* and user-interfaces, Specifying *manual procedures*, Specifying *interfaces* to other automated systems, Forms design, output-input design and code design. Backing storage devices and file design. Case study involving use of the above techniques with appropriate CASE tools.

equations. 3 lectures. Prerequisite: MAT 155 and knowledge of a high level programming language, or ability to use one of the following systems: Maple, MatLab, Mathematica, or Mathcad. Solution of systems of differential equations, predictor-corrector methods, stiff equations. Approximation methods: cubic splines, B-splines, Bezier curves, least squares, methods for solving boundary value problems.

CSC 246 Database Management Systems (2.2.3)

Prerequisite(S): CSC 153, CSC 154

Data structures and algorithms used in the implementation of database systems. Implementation of data and transaction managers: access methods interfaces, concurrency control and recovery, query processors and optimizers. Introduction to implementation of distributed database systems.

CSC 248 Object Oriented Analysis and Design (3.1.3)

Prerequisite(S): CSC 247

The role of the System Analyst, Overview of the Information Systems Department, Organization chart, Management of the Information Systems Department including outsourcing, Introduction to the System life cycle, Introduction to Process models, introduction to UML, Logical and Physical design, Documentation and Security risks identification of computer systems, System Testing, Evaluation and Maintenance, System Re-engineering, Software Metrics. Case study involving use of the above techniques with appropriate CASE tools.

CSC 250 Systems Administration Tools and Techniques

Prerequisite(S): CSC 153, CSC 247

This course covers methods of tweaking operating systems for computer efficiency. UNIX, WINDOWS, & APPLE are examined. Topics include Files/Data backup procedures, installation of systems and applications, disk formatting and defragmentation, problem diagnosis and isolation. At the end of the course, students should be able to configure and optimize a computer using MS Windows OS or UNIX (Linux) or Apple Tiger OS.

Year THREE Semester ONE

CSC 305 Software Engineering (3.1.3)

Prerequisite(S): CSC 230, CSC 248, CSC 203

Introduction to the software lifecycle. Methods and tools for the analysis, design, and specification of large software systems. Project planning, documentation, communication, and time/cost estimates. Graphical User Interface Design. Technical presentation methods. Software design case studies and practices. Methods and tools for the implementation, integration, testing and maintenance of large software systems. Software development and test environments. Software quality assurance. Group laboratory project. Technical presentation methods and practice.

CSC 311 Data Structures & Algorithms I (2.2.3)

Prerequisite(S): CSC 203 , CSC 154

Analysis of Algorithms- running time of algorithms, Big-O-Notation, Fundamental dynamic data structures including linear lists, queues and linked list, arrays, mapping functions and access tables. Dynamic allocation of storage for arrays. Algorithms will be implemented in Pascal or C++, with emphasis on top-down design.

CSC 321 Visual Basic.Net 1 (3.1.3)

Prerequisite(S): CSC 153, CSC 154

Introduction to .NET, Object Technology:the .NET Framework and the Common Language Runtime; Introduction to the Visual Basic IDE: Overview of the Visual Studio IDE, Menu Bar and Toolbar, Navigating the Visual Studio IDE; Graphical User Interface Concepts: Windows Forms etc. Introduction to Visual Basic Programming: Displaying a Line of Text, Creating A Console Application in Visual Basic, Using a Message Dialog to Display a Message; Introduction to Visual Basic Programming: Introduction to Classes and Objects; Control Statements: Modules, Classes and Methods: Subroutines: Methods That Do Not Return a Value; Functions: Methods That Return a Value: Shared Methods and Class Math ,Arrays; Object-Oriented Programming: - Inheritance; Base Classes and Derived Classes, Protected Members, Constructors in Derived Classes - Friend Members; Object-Oriented Programming: Polymorphism; Demonstrating Polymorphic Behavior Abstract Classes and Methods; Not Overridable Methods and Not Inheritable Classes

CSC 349 Web Developments and Technologies (2.2.3)

Prerequisite(S): CSC 153, CSC 154

Introduction - Foundation of web-based programming, Foundation in web-based technologies, Web Page Creation (layout, navigation), Web-based Architectures - Client/Server, Distributed, Web servers and web hosting - IIS, Apache, Domain name registration, Static and Dynamic web content and creation - HTML, DHTML, XML, Server side and Client side Scripting , Trading and security on the web - e-commerce, e-business, encryption, signatures, Scripting languages - Open source (perl, php, python, jsp, servlets) and Microsoft based languages (ASP, ASP.NET).

CSC 365 Research Methods (3.0.3)

Prerequisite(S): MAT 158, ENG 101

This course in research methods is designed to instruct the student in the theory, tools, techniques, processes, and approaches from developing a researchable research topic to the final reporting on the research. It provides relevant comprehensive guide to content and process of academic research. The course covers such critical "how to" areas as: select a suitable topic, conduct an appropriate review of the literature, build argument, manage data, work with faculty advisors, organize time and space, deal with emotional blocks, and complete the project.

CSC 367 Data Communications & Computer Networks I (2.2.3)

Prerequisite(S): CSC 153, CSC 154

This course covers the basic concepts of networking technology within Local Area Network (LAN) and Wide Area Network (WAN) environments. Topics include the dominant network topologies (Ethernet, Token Ring, FDDI), network protocols (TCP/IP, SPX/IPX and NetBIOS), cabling systems (coaxial, twisted pair, fiber optic), as well as, wireless communication. The course introduces the primary features of internetworking devices (bridges, routers, repeaters, hubs, gateways, and switches) and the OSI software model for computer communication. All topics are related to the historical development of the field.

Year THREE Semester TWO

CSC 312 Data Structures and Algorithms II

(2, 2, 3)

Prerequisite(S): CSC 311

Non-linear lists: graphs, trees, recursive definition, binary trees, tree traversals. Threaded, AVL, and multi-way trees, B-trees. Searching - directed and controlled scanning. Binary search tree. Hashing algorithms and techniques. Collision handling. Analysis of search algorithms. Sorting algorithms – insertion, selection, bubble sort, heap sort, merge sort, quick sort, etc., factors affecting the choice of sorting method. Analysis and comparison of sorting methods. Algorithms will be implemented in Pascal or C++, with emphasis on top down design.

CSC 322 Visual Basic.Net 11

(2.2.3)

Prerequisite(S): CSC 321

This is an advanced course which covers Exception Handling Divide by Zero Without Exception Handling, Handling Divide By Zero Exceptions and Format Exceptions, .NET Exception Hierarchy, Finally Block, Exception Properties, User-Defined Exception Classes; Multithreading: Thread States: Life Cycle of a Thread, Thread Priorities and Thread Scheduling, Creating and Executing Threads, Thread Synchronization and Class Monitor Strings, Characters and Regular Expressions: String Constructors, String Indexer, Length Property and Copy To Method, Comparing Strings, Locating Characters and Substrings in Strings, Extracting Substrings from Strings, Concatenating Strings, Append and Append Format Methods of Class String Builder Database, SQL and ADO.NET: Relational Databases, SQL, ADO.NET Object Model; Programming with ADO.NET: Adding, Updating, Deleting and Displaying Data Report creation using Crystal Reports.

CSC 368 Data Communications and Computer Networks II

(3.1.3)

Prerequisite(S): CSC 367

This course continues the studies in computer networking I.

Course Focus

- Communication media: conductive metal, optical fiber, wireless
- Analog & Digital signals: digital encoding schemes, multiplexing
- Encryption & Decryption: Caesar cipher & transposition cipher, Public Key Encryption
- LAN: Ethernet IEEE 802.3 standard; interconnecting LANs
- WANs; Backbones, Routing tables, types of routing, Open Shortest Path First, Congestion & deadlock
- Internet Application: virtual terminal, Telnet, File Transfer Protocol, Simple Network Management Protocol (SNMP)
- Data Security: Parity checking, Cyclic Redundancy Checks, Viruses, Worms, & Hackers, Public Key Encryption – digital signatures, authentication using hash-based schemes.
- Cost estimates and speed are examined from a management perspective.

CSC 370 Distributed Computing

(3.0.3)

Prerequisite(S): CSC 367, CSC 230, CSC 217

Introduction to distributed computing paradigms and protocols: interprocess communications, group communications, the client-server model, distributed objects, and Internet protocols. Emphasis on distributed software above the operating system and network layers. Introduction to fault-tolerance and distributed algorithms.

CSC 374 Introduction to Artificial Intelligence

(3.0.3)

Prerequisite(S): CSC 203, CSC 230

Programs and techniques that characterize artificial intelligence. Programming in a high level language. Basic ideas and techniques underlying the design of intelligent computer systems. Topics include heuristic search, problem solving, game playing, knowledge representation, logical inference, planning, reasoning under uncertainty, expert systems, learning, perception, language understanding

CSC 376 Introduction to Compilers

(3.0.3)

Prerequisite(S): CSC 203, CSC 230,

Translators, assemblers. Introduction to the structure of compilers. Block structured programming languages, their design and implementation via retargetable compilers, with emphasis on code generation for a variety of contemporary computer architectures. Meta language (Backus Naur Form & Syntax Diagrams). Lexical Analysis & Semantic Analysis of statements – Symbols and Symbol table, Associated routines. Syntactic analysis of statements – Context-tree grammar, Parsing, Polish notation. – The different code generators, Arithmetic statement generator, Code optimisation.

Year FOUR Semester ONE

CSC 405 Project I**(0.3.3)**

Prerequisite(S): Successful Completion of Level 300

Students will be assigned project supervisors who will help the students in choosing a very relevant and related project topic of interest. During this semester, a student will be expected to do all literature survey, system analysis and design. At the end of the semester, students will be required to submit for grading a soft copy of all works done.

CSC 412 Computer Graphics**(3.1.3)**

Prerequisite(S): CSC 203, CSC 230

This course studies the use of the computer to model and graphically render two- and three-dimensional structures. Topics include graphics devices and languages, 2- and 3-D object representations, and various aspects of rendering realistic images. Students will be expected to implement programs which span all stages of the 3-D graphics pipeline, including clipping, projection, arbitrary viewing, hidden surface removal and shading.

CSC 479 Computer Project Management**(3,1,3)**

Prerequisite(S): CSC 248, CSC 305

Students will be taken through all aspects of Computer Project Management techniques. This course studies the key practices that are under project management. The practices fall under four groupings: Planning, Organizing, Monitoring, & Adjusting. At the end of the course, the student should be able to i) develop a project plan that includes effort estimation and work breakdown structure (WBS), ii) perform project status monitoring, iii) demonstrate key project adjustment parameters.

Course Focus

- Project content and deliverables: prioritization, task analysis
- Goals and measurements
- Resource Planning: human and materials, outsourcing vs insourcing, project team
- Leadership principles
- Software maturity framework
- Configuration management
- Formal data gathering methods
- Strategies of implementing software

MGT 415 Strategic Management**(3.0.3)**

Prerequisite(S): CSC 209, ECN 102

Areas of study include Strategic Situation and Competitive Advantage, Corporate Diversification Strategies, Techniques for building organizations. The various functional decision areas are integrated into a balanced overall view of an enterprise, and the responsibility of business

managers, especially at the centre (top management level), for anticipating change, identifying threats and opportunities in the environment and providing appropriate adjustment that will bring fortunate results to the enterprise.

The course covers the Strategic Management Process, Development of General Corporate Strategies, Inter-firm and Competitive analysis, Corporate Intra-firm Situation Analysis.

CSC 421 e-Commerce (2,1,2)

Prerequisite(S): CSC 209,

This course introduces students to the technology, marketing channels, dangers and pitfalls in online business. Students are to set up their own online businesses as individual project work.

Course Focus

- Business Models – Examine B2B, B2C, C2C, P2P using these key elements: revenue, market opportunity, competitive environment, competitive advantage, management team.
- Technology Infrastructure: The Internet and World Wide Web (benefits and limitations); building a web site; security and encryption; payment systems;
- Marketing communications: online advertising, direct e-mail marketing, online catalogs.
- B2B model: supply chain management and collaborative commerce.

Ethical, Social and Political issues in E-Commerce; Bank of Ghana e-zwitch system and its impact on commercial activities in Ghana.

Year FOUR Semester TWO

CSC 406 Project II (0.0.3)

Prerequisite(S): CSC 405

This is a continuation of CSC 405 Project I. At the end of the semester students will be expected to have completed the project work started in the first semester.

CSC 422 Internship (0.3.3)

Prerequisite(S): Completion Level 300

Supervised practical instruction in an organization monitored by faculty. This four-month internship involves at least 30 hours a week of practical exposure. Students will be required to write a report which will be graded by the instructor.

CSC 442 Graphs and their applications (2.0.2)

Prerequisite(S): CSC 312

Graphs –graphs and digraphs, families of graphs, graphs modeling and application, Basic definitions and terminology. Undirected, directed and weighted graphs. Graph Traversals – Paths, Cycles, Circuits. Eulerian circuits. Hamiltonian circuits. Structure and Representation of Graphs – Adjacency lists, Adjacency matrix, Reach ability Matrix and Incidence matrix. Connectivity, Graph colouration – Maps and Dual Graph, Colouring, Chromatic number, Application of graph colouration. Trees – Characterisation and properties, Types of trees, Rooted

and weighted trees, Counting trees, Spanning trees, Minimal spanning tree, Applications of trees. Applications of graph theory – Shortest path, Longest path, Chinese postman, Travelling Salesman, Network flow, Minimum connector.

CSC 444 Computer Professional Ethics

(3,0,3)

Prerequisite(S): CSC 248, CSC 305

Management and Professional Issues in Software Engineering: Contractual restraints, Compromises in software planning, Effect of team work, Career structures, code of conduct, practice, liability and obligations, ethics and the interrelationships in the computer and software industry. Legal Issues in Software Engineering: copyright, patent, trade secrets, publications and computer generated evidence

CSC 446 Human Computer Interaction

(3.0.3)

Prerequisite(S): CSC 248

Topics to cover are user psychology to explain how different disciplines influence the design of interactive systems and how users can interact with systems, Hardware (input/output) devices, Models and Metaphors, Interaction styles, Graphical User Interface (GUI) and windowing systems, Design methodology, Task analysis, Guidelines, standards and metrics Evaluation and Advanced Interfaces

CSC 448 Computer Vision

(3.0.3)

Prerequisite(S): CSC 153, CSC 154

Human and Computer vision systems: the human eye-brain system as a model and image models, Image formation, Image processing Techniques, Edge detection, Feature extraction: boundary and line, Segmentation, 2-D and 3-D Shape representation and matching.

System Administration tools and Techniques

Introduction to the Unix and environment; files, processes, pipes, filters and basic utilities. Data manipulation tools and utilities such as editors and grep, Scripting tools and scripting, Types of shell and shell programming. Program development tools and Document preparation.

CSC 451 Industrial Law I

Prerequisite(S): MGT 101, ECN 102

The Court settlement of disputes, Laws: Creation, types and classification, finding out about law, legal techniques, and legal process. Contract Law: formation of contracts, terms of contracts, consequences of fraud, liabilities and remedies. Tort: Introduction to negligence; duty of care, damage, negligent advice. The interface between contract and tort.

CSC 452 Industrial Law II

Prerequisite(S): CSC 451

This course is a continuation of industrial law I. Candidate wishing to take this course will be expected to have taken Industrial Law I. This course covers the business organisation, Corporate personality and Governance Directors' Duties, Shareholders Remedies, Insolvency, Employment: terms, conditions of contract of employment, dismissals, remedies for unfair, unlawful or wrongful dismissal,