

2009 / 2010

Course Descriptions



Real!

AA1033 Introduction to Pharmacology

This course provides the student with an overview of drug classifications, effects on the body (pharmacokinetics) and issues and effects relating to specific drug classes (opiates, stimulants, sedative/hypnotics, psychiatric medications, anabolic steroids, cannabis and other hallucinogens, alcohol and solvents, and tobacco.) In addition, a section on drug interactions will educate students on the issues related to poly-substance use. Finally a section on pharmaco-therapies (such as methadone maintenance, buprenorphine, naltrexone, nicotine replacement etc.) will introduce the student to basic information regarding these important adjuncts to addiction treatment.

AA1083 Introduction to Research

This course will introduce students to the basics of social science research. Its purpose is to demystify the process and awaken students to the value of research in the field. Students will learn to locate, understand, evaluate and conduct basic research.

AA2014 Pharmacology

The primary purpose of this course is to assist the student in understanding the principles of drug administration and its therapeutic purpose. It will help the student to acquire an understanding of the various clinical disorders and how drugs are used effectively and safely in such cases.

AA2063 Introduction to Autism Spectrum Disorders

This course will assist the learner in developing a basic understanding of Autism Spectrum Disorders (ASD). Characteristics of Autism will be explored; the triad of common difficulties will be explained and used as a basis for better understanding of individuals with an ASD. The learner will identify the particular needs of individuals with an ASD, as well as the needs of the family, the school, the community, etc. Evidence-based intervention techniques will be studied in order to provide the learner with recognized intervention methods when dealing with individuals with an ASD.

AA3001 Fieldwork Preparation

Fieldwork placements provide a valuable opportunity for students to learn what it is like to work in their chosen field first hand. With provided guidance and supervision, this experiential learning opportunity allows students to practice and apply their theoretical knowledge and skills and to acquire the professional competency at an entry-level that is expected for a new college graduate. This course is designed to assist students in preparing for fieldwork placement in the Developmental Services Worker, Educational Assistant and Early Childhood Education programs.

AA3004 Pharmacology Theory and Lab

This course will introduce students to the principles of pharmacology including the role medications play in restoring or maintaining health and provide the basic knowledge and skills required to safely administer medications in community workplaces. Given the ever expanding and changing nature of pharmaceuticals, only an overview of therapeutics will be presented. Emphasis will be placed on remaining current in the area of medication administration through lifelong learning.

AC1004 Accounting I

This course gives hands-on training in

fundamental accounting concepts as applied in service and merchandising firms. Students will be taken through a complete cycle and will record and report financial transactions. At every point in the course, students will examine the accounting decisions based on financial transactions taken from real work situations.

AC1113 Bookkeeping I

This course is designed to provide students with the basic principles, practices, and procedures of bookkeeping. The bookkeeping cycle of a service business is completed. Topics include analyzing transactions, the rules of debit and credit, journalizing, posting to a ledger, preparing a trial balance, worksheets and financial statements.

AC1303 Understanding and Using Financial Information

This course will provide students with an overview of the role of financial information in society and in their own lives. It will increase awareness of ethical and public policy issues. Content includes an exploration of the uses of financial information in decision making from the perspective of managers, owners, creditors, governments and other users.

AC2004 Accounting II

Prerequisite: AC1004 Accounting I
This fundamental accounting concepts course deals with the basics of analysis and recording of transactions involving assets and liabilities. Because efficient management of cash flow is essential for the survival of any business, students will focus on this asset first. Consequently, the course begins with an introduction to cash management and control procedures used by different types of businesses. In the remainder of the course, students learn the fundamental/basic accounting concepts and techniques for recording other assets and liabilities. Students will apply these fundamental accounting concepts by completing a project for a "virtual business."

AC3004 Accounting Applications I

Prerequisite: AC2004 Accounting II
Co requisite: AC3033 Accounting III (except for CESD students)
The focus of this course is on computerized accounting. Students will understand the critical differences between a manual and computerized accounting system. The course will expose students to the increasing use of computerized accounting systems in business and non-business organizations. The platform of learning will be two very popular and commonly used accounting software programs: Simply Accounting by Sage and Sage AccPac ERP. Students will complete major application projects for each.

AC3024 Accounting Information Systems

Prerequisite: AC2004 Accounting II
This course is designed to introduce the fundamentals of accounting software applications. Students will examine how various software packages can be used to facilitate the accounting process – an important component of an organization's information system.

AC3033 Accounting III

Prerequisite: AC2004 Accounting II
This course is an introduction to accounting for corporations. The corporate form of business organizations poses some unique challenges for financial accounting. Issuance of bonds or shares, investments in other corporations'

securities, and reporting of dividends and earnings per share, are all examples of events or transactions that do not affect the financial statements of a smaller business. This course will also explore how corporations communicate information about cash management activities through the statement of cash flows. Students will apply what they learn to problems, mini-cases, and the understanding and interpretation of actual annual reports of prominent Canadian corporations.

AC4004 Intermediate Accounting I

Prerequisite: AC3033 Accounting III
This course focuses on an understanding of financial statements. This is the first of three courses to prepare the professional accountant responsible for the communication of financial information to shareholders, creditors, and financial institutions. In this course, the student will study the theoretical and practical basis of financial accounting systems leading to the preparation of the set of financial statements found in a company's annual report. Student understanding of financial statement preparation and use will be enhanced through application of knowledge gained through problems, cases and realistic business situations.

AC4023 Introduction to Financial Management Accounting

Prerequisite: BU1074
Students will learn financial and management accounting concepts and techniques, focusing on the relationships between management of performance and basic management functions of planning, coordination and control. It is recommended that students have a basic knowledge of accounting before taking this subject.

AC4034 Management Accounting I

Prerequisite: AC3033 Accounting III
What use do managers within an organization make of accounting information? This course will cover some of the important ways in which managers can use accounting information for planning, controlling, and decision-making. While some attention is given to manufacturing companies, most of the procedures covered in this course are applicable to retailers, service providers, non-profit organizations, as well as government. Preparing master budgets and cost-volume-profit analysis are two of the topics covered.

AC4053 Financial Management I

Prerequisites: MA2033 Math of Finance II, AC2004 Accounting II
This course introduces the main concept of financial management and its increasing importance in a business organization. Areas examined include, working capital management, capital structuring, capital budgeting, financial analysis and planning, business securities and taxes, financial markets, interest rates and project evaluation.

AC4512 Income Tax: Part I

Income tax preparation for the individual taxpayer and small businessman. The repeated use of actual tax return forms throughout the course will enable the student to understand and to become familiar with the various forms and terms. The course prepares the student to complete an income tax return in accordance with the law, so as to pay all necessary taxes, but at the same time, to take advantage of all possible legal opportunities to reduce taxes.

AC5005 Intermediate Accounting II

Prerequisite: AC4004 Intermediate Accounting I

This course focuses on understanding assets and liabilities. Assets and liabilities on a balance sheet represent the economic resources and obligations of a business at a particular point in time. Building on Intermediate Accounting I, this course reviews and explores the detailed procedures and principles behind the financial accounting for all major types of assets and liabilities. Understanding this process will enhance the student's ability to communicate and interpret information about these important elements of financial reporting. Learning will be supported through problem assignments and the use of a computerized practice set.

AC5033 Management Accounting II

Prerequisite: AC4034 Management Accounting I

This course continues on from Management Accounting I with the important discussion of the management use of accounting information. Again, this course will cover some of the important ways in which managers can use accounting information for planning, control, and decision-making. While some attention is given to manufacturing companies, most of the techniques covered in this course are applicable to retailers, service providers, non-profit organizations and government. Students will learn how to use techniques like variance analysis and relevant costs for decision-making in a variety of potential employment situations through problem assignments and class discussion.

AC5053 Financial Management II

Prerequisite: AC4053 Financial Management I

This course is a continuation of Financial Management I and includes the following Topics: capital budgeting, security valuation, cost of capital and long-term financing decisions.

AC5064 Taxation

Prerequisite: AC2004 Accounting II

Completion of this course will enable students to prepare basic tax returns for employed and self-employed individuals, as well as for small businesses. Students will gain an increased understanding of the major components of income for tax purposes: employment income, business income, property income and capital gains and losses. The resulting increased knowledge of the Canadian income tax system will enable students to provide basic tax services and advice in a variety of employment situations.

AC5512 Income Tax: Part II

Prerequisite: Income Tax: Part I

This course is a continuation of Part I that covers topics of interest for business affairs. Some topics dealt with include: capital cost allowance, commission sales, rental income, business and professional income, etc.

AC6004 Intermediate Accounting III

Prerequisite: AC5005 Intermediate Accounting II

This third course in intermediate accounting will complete the preparation of the professional accounting student responsible for the communication of financial information to shareholders, creditors, and financial institutions. In this course, the student will explore the accounting procedures and principles behind some of the least understood aspects of a company's financial statements. The shareholder's equity section of the balance sheet, the effect of accounting for corporate income taxes, and earnings per share calculations

and disclosure, are all technically demanding yet important aspects of financial statement preparation and use.

AC6033 Accounting Applications II

Prerequisite: AC4004 Accounting Applications I

This course is designed to provide the accounting student with further experience using a computerized accounting software package: Sage Accpac ERP.

AC7010 Basic Bookkeeping for Small Business

This course, developed by U & R Tax, has evolved as a result of requests by tax practitioners and business people wanting a straightforward bookkeeping course to zero in on the needs of the small, unincorporated business. This course will give the student bookkeeping basics and help them to apply these to their own business needs. Whether you have a small, one-person operation, a larger firm with several employees, or perhaps you are an enterprising employee with your eye on starting your own business, this course will help you to keep proper records and analyze your financial decisions.

AG1003 Grooming-Cats I

Students will learn to groom companion cats. All areas of care will be discussed and practised, including bathing, clipping, nail trimming, scissor cuts and conditioning of the coat. Special emphasis will be placed on the proper use and maintenance of the equipment necessary to accomplish the above tasks.

AG1006 Grooming-Dogs I

Students will learn to groom companion dogs. All areas of care will be discussed and practised, including bathing, clipping, nail trimming, scissor cuts and conditioning of the coat. Special emphasis will be placed on the proper use and maintenance of the equipment necessary to accomplish the above tasks.

AG2002 Grooming-Cats II

Prerequisite: AG1003-Grooming Cats I

Students continue to build on grooming skills begun in Grooming-Cats I.

AG2006 Grooming-Dogs II

Prerequisite: AG1006-Grooming Dogs I

Students continue to build on skills begun in Grooming-Dogs I.

AP1003 Agricultural Mathematics

This course emphasizes the application of mathematics to real world agriculture. Topics include; determination of fertilizer quantity based on application rate, seed quantity as related to field size, and feed requirements based on animal needs.

AP1013 Plant Production

The basic structure and function of plants and the major functions involved with growth will be covered in this course. Plant species variation and their uses will be introduced. An overall understanding of the importance of plant science to the agriculture will be achieved.

AP1023 Soil Composition and Uses

Soil types will be discussed with relation to their uses. The primary and secondary nutrients will be explored and the relationship crop production will be discussed. The contribution of fertilizers, water, air, organic matter and pesticides to soil composition will be covered.

AP1033 Risk Management

This course will assist the prospective farmer in the decision making process. Managing your business's risk, weather related issues, finance, insurance, and governmental assistance are some of the topics covered. The student will participate in model development and evaluate levels of risk.

AP1043 Machinery Maintenance and Repair

This course will discuss basic repair of agricultural equipment as used in the day to day operation. Safety and training of employees will be emphasized. WHMIS will be covered and the Occupation Health and Safety Act will be discussed.

AP2002 Finance

The prospective farmer will be introduced to basic accounting methods. Profit margin and loss evaluation will be taught. Governmental issues such as Canada Pension Plan, income tax, wages, and loans application will be discussed. Special emphasis will be placed on current governmental programs such as The Tile Loan Program and Food Safety and Quality Program.

AP2003 Insect and Disease Management

Identification and control of pathogens of field and horticulture crops are presented, Control measures, benefits and limitations of agricultural chemicals will be discussed. Emphasis will be placed on environmental impact and concerns.

AP2012 Value-added Products and Alternate Markets

Determination of value added products and the public demand will be discussed. A model will be developed by the student which will address the establishment, successful start-up, and operation of a value added enterprise. Risk management, environmental impact, loan application and sustainability will be applied to the model developed.

AP2013 Animal Health

Animal health will be discussed from disease process, prevention, and control perspectives. Topics such as antibiotic usage and legislation will be discussed. Carcass quality as affected by the disease process will be included in this course.

AP2023 Alternate Energy Sources

Alternate energy sources utilized on the farm and in the home are explored in this course. Wind, water, solar, ethanol production will be discussed from a practical point of view. Cost of implementation, cost recovery and potential saving will be explored as well as environmental impact and related issues.

AP2033 Nutrient Management

Environmental farm plans have been encouraged by the Ontario government for many years. Nutrient management requires the application of "best practices" as used in Ontario. This mandatory program is the key to long term viability and profitability of the Ontario farm. All aspects of this program and compliance issues will be covered in this course.

AP2043 Food Safety

The Canadian food production systems must work together to produce safe, high quality food products at a reasonable cost. The Food Safety Initiative as implemented by the governments of Canada and Ontario provides assistance for non-federally registered food processing plants to enhance their food safety systems. Basic food

safety issues; biological contamination, storage and biotechnology will be discussed as well as components of the afore-mentioned initiative.

AR1016 Methods and Materials I/Detailing

This course describes in detail the material and construction techniques required for quality residential construction. Topics will extend from the purchase of lot and installation of foundation, to installation of roofing membrane. Various options are discussed for each topic, allowing the builder/designer to make informed decisions. Students will use established sketching and drafting techniques to complete various construction details.

AR1203 Ontario Building Code I

This course, using the Introduction to the Ontario Building Code materials, is designed to help the students understand the responsibilities and appropriate conduct of the building inspector, understand the ways in which the Ontario Building Code applies to the use of materials, know when to and how to use the inspector's authority when dealing with infractions of the Building Code and other regulations and how to assist the public to understand their responsibilities under the Ontario Building Code.

AR2014 Statics

Prerequisite: MA1015 Mathematics I

This is an introduction to engineering mechanics tailored to the needs of Architectural, and Civil students. The major topics include vectors, moments, couples, beam reactions, forces acting on truss and frame members, use of method of joints and method of sections, calculation of centroids, moment of inertia, and use of parallel axis theorem. Applied mechanics is the basis for all calculations in areas such as stress analysis, machine design, hydraulics and structural design.

AR2034 Project Documentation

Prerequisite: AR1016 Methods and Materials I/Detailing

Project Documentation consists of specification writing and project planning, both integral parts of any project. The specifications contain the legal documentation as well as the trade section for various building materials. Project planning is a series of activities strung together using critical path management principles to create a time line for estimating and construction purposes.

AR2063 Construction Management/Law

This course will help students understand their legal obligations, authority and responsibilities as a construction manager.

AR2206 Ontario Building Code II

This course, using the House 2003 material, will assist the students to review and become more familiar with the particular portions of the OBC dealing with houses. The course covers: Basics of Structural Requirements, Design of Areas and Spaces, Doors, Windows and Skylights, Stairs, Ramps, Handrails, Guards, Means of Egress, Fire Protection, Sound Control, Excavation, Dampproofing, Waterproofing, Soil Gas Control, Drainage, Footings, Foundations, Slabs-on-Ground, Columns, Crawl Spaces, Attic and Roof Spaces, Masonry, Chimneys, Fireplaces, Wood Frame Construction, Sheet Steel Stud Wall Framing, Heat Transfer, Air Leakage, Condensation Control, Roofing, Cladding, Stucco, Flooring, Plumbing, Electrical Facilities, Garages and Carports, Cottages, Log Construction and Park Model Trailers.

AR3016 Construction Management Placement

Prerequisite: AR2063 Construction Management/Law

This is a one-day per week placement required for the entire semester. Students select an area of construction they would like to observe and participate in with the assistance of the professor and must provide a written report detailing their activities when completed.

AR3034 Mechanical/Electrical Installations I

This course introduces the student to basic mechanical and electrical systems in the commercial construction industry. Topics covered include: HVAC, piping, plumbing equipment and systems, fire protection, introduction to electricity, communications, life safety, security systems, electrical design, electrical wiring, lighting design and sustainable design.

AR3204 Ontario Building Code III

This course, using the Plumbing House 2003 material, will assist students review and become more familiar with the particular portions of the OBC dealing with plumbing in houses. This Course covers the following topics: Water Supply, Waste-Water Management, Water-Service Inspection, Water Distribution System Inspection, Sewer and Drain Inspection I, Sewer and Drain Inspection II, Stacks and Waste Pipes Inspection, Venting Systems Inspection, Fixtures and Plumbing Appliances Inspection.

AR3216 Ontario Building Code IV

Using the Small Buildings 2003 material, this course will assist the students to review and become more familiar with the particular portions of the OBC dealing with small buildings. This course covers: Special Structures and the Basics of Structural Requirements, Design of Areas and Spaces, Doors, Windows and Skylights, Stairs, Ramps, Handrails and Guards, Means of Egress, Fire Protection, Slabs-on-Ground, Wood Frame Construction, Plumbing, Public Pools and Spas, Electrical Facilities, Compliance Alternatives and Alternative Measures and Farm Buildings.

AR4044 Residential Estimating

Prerequisite: AR1016 Methods and Materials I/Detailing

This course will provide beginning estimators with an understanding of the fundamental principles of estimating and the use of spreadsheets to increase their estimating productivity and reduce errors. This course will also provide students with practical experience.

AR4054 Commercial Estimating

Prerequisite: AR1016 Methods and Materials I/Detailing

This course introduces beginning estimators to fundamental principles of estimating and includes real-world exercises to help them gain practical commercial estimating experience.

AR4206 Ontario Building Code V

Using the Large Buildings 2003 material, this course will assist experienced students to review and become more familiar with the particular portions of the OBC dealing with large buildings. The course covers: Occupancy, Construction Types, Fire-Resistance, and Occupant Load, Fire Performance Ratings, Building Fire Safety - Part 1 dealing with Building Size and Construction Relative to Occupancy, Building Fire Safety - Part 2 dealing with Spatial Separation and Exposure Protection, Building Fire Safety - Part 3 dealing with Fire Suppression, Emergency Lighting, Mezzanines and Interconnected Floor

Spaces, Safety Within Floor Areas, Exits, Vertical Transportation, Anchorage Systems for Fixed Ladders, Health Requirements, Barrier-Free Design, Portable Classrooms and Self-Service Storage Buildings, Public Pools and Public Spas, Rapid Transit Stations, Tents and Air-Supported Structures, Additional Requirements for Change of Use and Renovations and Wind, Water and Vapour Protection.

AR4213 Methods and Materials II

This course complements the Methods and Materials I course at an advanced level and prepares students for the construction industry.

AR4216 Ontario Building Code VI

Using the *Legal-Interpretation of the Act* material, the course is based on *Building Code Statute Law Amendment Act, 2002* and O.Reg. 305/03 (Building Regulatory Reform).

The course addresses the following topics: Understanding Roles and the Legal Framework of the Building Code Act, Qualifications and Registration under the Building Code Act and the Ontario Building Code, Permit Applications and the Issuance Process, Exercising Lawful Entry, Inspection and Compliance Processes, The Occupancy Process, Co-operation, Conflict and Dispute Resolution under the Building Code Act, Offences, Liability and Immunity from Actions, Change of Use and Renovations, and Powers and Duties of the Chief Building Official and the Registered Code Agency.

AU1001 Field Placement II

This course will provide a practical opportunity to demonstrate some of the vocational outcomes of the course. The placement will consist of 140 hours of participation in an ABA/BI program for children with ASD. The student will develop technical skills through application of their knowledge gained in the prerequisite courses. Students will also have the opportunity to observe and practice the ethical application of behavioural principles/techniques.

AU1002 Transition Planning and Implementation

This course will prepare the student for assisting in planning and mediating transitions for children with ASD within and across home, school and community settings. Topics will include: models for effective transition planning, assessment and evaluation; understanding differing perspectives on transitions within and across environments; developing collaboration and relationship with parents and professionals; understanding transition practices and relevant legislation; and practice in the use of transition assessment and evaluation tools.

AU1003 Introduction to Autism/ ASD

This course examines the five major syndromes of the Autism Spectrum Disorders (ASD) including Autism, Asperger Syndrome, Rett Syndrome, Childhood Disintegrative Disorder and Pervasive Developmental Disorder NOS according to their core features and their diagnostic criteria. This course provides an introduction to a neurodevelopmental and behavioural understanding of children with ASD.

AU 1004 Introduction to Applied Behaviour Analysis

This course introduces the student to the principles of applied behaviour analysis (ABA), which is the basis for Intensive Behavioural Interventions (IBI). In addition to basic terminology, students will learn when and how to use these techniques appropriately. Students

will also learn how to access and interpret journal publications in the field of autism and applied behaviour analysis.

AU1013 Treating Challenging Behaviours

In this course, the student will be introduced to a variety of procedures used to assess and treat challenging behaviours presented by individuals with autism / ASD. The topics covered will include functional behavioural assessment and functional analysis and scientifically validated techniques for the treatment of challenging behaviours, e.g., stereotypy, pica, aggression, self-injury, etc. Emphases will be placed on ethical considerations such as the utilization of the least intrusive, least restrictive model and "effective treatment". Techniques covered will include antecedent control strategies, schedules of reinforcement, extinction, differential reinforcement strategies, social stories, desensitization procedures, and decelerative procedures.

AU1023 Working with Families & Teams

This course presents the student with theories, terminology and applications underlying current approaches to teamwork and working with the families of children with Autism Spectrum Disorders. The focus will be on effective collaboration with a multi-disciplinary team, which is essential to successful intensive behavioural intervention. Students will develop the interpersonal, job-oriented skills necessary to problem-solve as team members in a flexible, empathetic, resourceful, and productive manner.

AU1033 Ethics and Professionalism

This course will introduce the foundations of ethical thinking and will review the different perspectives and rationale for ethical decision-making within a behavioural framework. Students will be introduced to professional codes of ethics that are essential for ethical practice. They will learn how to think critically and apply general ethical principles to particular situations through the use of case studies, practice vignettes, structured exercises and group discussions. This course will provide students with the basis for developing ethical guidelines for practice, examining areas related to legislative acts, ONTABA/ABA standards of practice and current controversial issues. Students will also learn how to evaluate their own professional expertise and limitations for ongoing professional development planning.

AU1043 Behavioural Skill Building

This course presents a comprehensive review of procedures for choosing and organizing curriculum for students with autism of various ages. A review of basic behaviour principles and teaching strategies will be discussed. Emphasis will be placed on curriculum development such as the utilization of the Assessment of Basic Language and Learning Skills (ABLLS). Curriculum development will be discussed with an emphasis on speech and language, social and play skills, personal care skills and inclusion into less restrictive environments.

AU1053 Parent and Staff Training

This course introduces the student to techniques for training others specifically to implement behaviour change plans (technology transfer). Students will learn and practice techniques for individual and group presentation formats for the training of families or professionals. Students will also learn how to maintain procedural integrity, use performance feedback, evaluate the effects of training, and understand

the challenges that may impact before, during and after mediator training.

AU1063 Specialized Instructional Strategies

This course introduces the student to common evidence-based behavioural approaches applied in teaching individuals with autism new skills with an emphasis on receptive and expressive language. Topics will be approached by providing the student with an understanding of the terms used, a description of the teaching techniques characterized in each of the models (where applicable) and a basic understanding of the conceptual elements motivating the approaches. Topics will include traditional discrete trial training protocols, protocols developed based on Skinner's analysis of verbal behaviour, Precision Teaching methodology, and Direct Instruction. This course will briefly overview other approaches such as Incidental Teaching, Picture Exchange Communications System, and visual learning strategies.

AU2001 Field Placement II

This course will provide a practical opportunity to demonstrate some of the vocational outcomes of the course. The placement will consist of 210 hours of participation in an ABA/IBI program for children with ASD. The student will further develop their technical skills through application of their knowledge gained in the prerequisite courses. In addition to implementing a further range of treatment plans, students will be required to critically evaluate ongoing interventions within the placement. Students will continue to have the opportunity to observe and practice the ethical application of behavioural principles/techniques.

BD2003 Engineering Materials

This course provides a clear and concise introduction to engineering construction materials, including soils, aggregates and Portland cement concrete technology. Students will gain understanding in the theory.

BD3201 Building Inspection Placement I

Placement will give students an opportunity to experience firsthand a municipality's role in plans examination and building inspection. They will observe and practice those skills required to be successful in the position of building inspector and plans examiner. This one day per week placement continues for two semesters. It is the student's responsibility, working with a faculty advisor, to find their placement.

BD4201 Building Inspection Placement II

Placement will give students an opportunity to experience firsthand a municipality's role in plans examination and building inspection. They will observe and practice those skills required to be successful in the position of building inspector and plans examiner. This one day per week placement. It is the student's responsibility, working with a faculty advisor, to find their placement.

BI1003 Anatomy and Physiology I

This course introduces learners to the normal development, structures and functions of the human body. Learners will examine the physiological components of the human body in order to obtain understanding of how the structures and functions of the body are related.

BI2013 Anatomy and Physiology II

The study of normal anatomy and physiology of the human body is a continuation of Anatomy and Physiology I. It continues with the study

of the major body systems, from the nervous system to the reproductive systems. The unifying themes of the interrelationships of body organ systems, homeostasis, and the complementary nature of structure and function, will provide the basis for understanding the workings of the human body.

BI3013 Pathophysiology

The pathophysiology course builds on the Anatomy and Physiology courses by creating new conceptual models that take into account the complex interactions within the body. The emphasis on this course is on recognizing and categorizing disease to understand the clinical manifestations of disease and injury in the form of signs and symptoms. From here students will learn which appropriate interventions and clinical outcomes are desired. The learner will be able to describe how these activities will assist in determining clinical outcome.

BN1006 Self and Family Health

The major emphasis of this course is on the personal meaning of health, health-related assessments and health maintenance. Learners will examine significant theoretical and conceptual frameworks of health in relation to self and family. A community clinical experience will take place in the context of a resource family. An agency-based clinical experience will take place in the context of working with the well elderly. By reflecting and reconstructing personal and professional experiences, learners have an opportunity to identify resources and challenges that affect health and recognize the complexity of the change process as related to health promotion and caring.

BN1007 Family Experience of a Chronic Health Challenge

This course focuses on concepts related to the family's lived experience with a chronic health challenge, health promotion and the determinants of health. Emphasis is placed on the development of critical thinking skills in relation to critiquing the literature. Learners will participate in health assessment of individuals and families following a recognized framework in order to explore the meanings of health for individuals and their family members. A variety of activities related to the nurse's role in promoting and maintaining health in lives complicated by chronic health challenges will be provided.

BN1056 Introduction to Professional Growth I

This course provides an introduction to the profession of nursing. The philosophy and constructs of the nursing program are examined, and the role of nursing and its evolution in society are explored, as is the relationship between theory, practice and research. Learners are introduced to the process of critical reflections, reflective learning and opportunities are provided for them to experience professional practice (nurse's work) in a variety of settings.

BN1094 Introduction to Nursing Practice

This course provides the opportunity to develop professional caring relationships with people experiencing chronic health challenges. Experiences will include the care of individuals and families in a variety of long-term care settings.

BN1206 Self and Others I: Personal Discovery

This course is designed to deepen the learner's awareness of self through a reflective process so as to enhance the therapeutic use of self. Through interaction and reflection, emphasis is placed on understanding how select concepts relate to and impact on our experiences with self and others.

BN1207 Self and Others II: Interpersonal Relationships and Awareness

This course enhances caring interpersonal communication. The emphasis is on the acquisition of interpersonal skills and preparation of learners to engage in and maintain a therapeutic relationship with clients. These abilities are considered from the perspectives of contextual awareness, decision-making, confidence and performance.

BN2006 Healing I: Episodic Health Challenges

This course focuses on people's experience with healing specifically related to a variety of episodic health challenges through selected stages of the life cycle. Emphasis will be on the generative family during the childbearing years. Learners integrate concepts of healing as they relate to health restoration and develop a repertoire of skills that promote healing.

BN2007 Healing II: Complex Health Challenges

Learners develop an understanding of people's experience with healing, specifically related to a variety of complex health challenges. They further develop their repertoire of cognitive, practice skills, interpersonal and organizational skills to promote healing. Pattern recognition, critical decision-making and increased self-directedness are emphasized.

BN2057 Professional Growth II: The Nursing Profession

This course builds on the philosophy and concepts examined in BN1056, and examines and explores the professional practice of nursing. Particular emphasis is placed on standards for practice, responsibility and accountability of professional nurses.

BN2084 Nursing Practice II

This course provides the opportunity to develop caring practices with people experiencing episodic health challenges with an emphasis on the use of the nursing process integrated with pharmacological knowledge. Experiences include nursing individuals and families in a variety of care settings, as well as in the transition from hospital to home.

BN2094 Nursing Practice III

This course is a continuation of BN2084 with a focus on increasingly complex episodic health challenges. This course also provides opportunities for learners to refine their critical judgment and decision-making and to explore and utilize the expertise of a variety of health team members.

BN2105 Human Anatomy and Physiology (Duration: 2 semesters in Year I)

This course describes human anatomy and physiology at the cellular, tissue, organ and systems levels of organization, using current medical terminology. Aspects of this course will concentrate on clinical applications including causes, signs and symptoms of common diseases, as well as pathological effects of drugs

and alcohol.

BN2107 Nursing Pathophysiology

This course focuses on the pathophysiology of episodic and chronic health challenges. Emphasis is placed on the nurse's role in health restoration. Using a conceptual approach, learners explore a variety of episodic and chronic health challenges from individual, family, and community perspectives.

BN2111 Principles of Microbiology

This course is an introduction to microbiology, and is offered to students in the Nursing Science program. The topics covered include morphology and structure, classification, microbiology techniques, microbial nutrition, growth, environmental effects on microbes, mutation and genetic recombination, sterilization, and disinfection, and antimicrobial chemotherapeutic agents.

BN2220 Clinical Chemistry (Duration: 2 semesters in Year II)

A course designed for students in nursing to develop an appreciation, largely on the basis of case studies, for the relationship between various common diseases, the underlying biochemistry and the clinical tests used in their diagnosis.

BN3006 Health III: Primary Health Care

This course focuses on health protection in relation to individuals and families within the context of illness prevention/health protection. In this course, primary health care is viewed as a level of care, a philosophy and a strategy. It is the foundational core of prevention and community health nursing.

BN3007 Health IV: Health Promotion

Learners integrate people's experiences with health and healing focusing on the community as client. Societal responsibility for health is examined from a health promotion perspective. National and international issues related to the role of nursing in health promotion are explored.

BN3056 Professional Growth III: Teaching / Learning in Professional Nursing Practice

Learners examine assumptions underlying a variety of teaching and learning perspectives and methodologies. Through reflection, learners explore personal beliefs and values in relation to these assumptions. Through praxis and building on concepts in Professional Growth I and II, learners experience teaching/learning opportunities with a focus on health protection.

BN3066 Professional Growth IV: Empowerment

The effects of social, political and economic structures on health and life potential will be examined with a focus on empowerment, relationships of dominance and unequal participation in society examined within the context of feminist and critical social theory.

BN3084 Nursing Practice IV

This course focuses on health protection and illness prevention. The concept of health protection and its complexities in relation to healthcare delivery in hospitals and communities are emphasized. Learners have opportunities to develop leadership and acquire proficiency in client care. Clinical hours in both an acute care agency and community agency are required.

BN3094 Nursing Practice V

This course focuses on health promotion and protection with an emphasis on community

and multi-disciplinary teamwork. Learning experiences take place in hospital and community settings with an emphasis on the nurse as a leader and a proficient provider of client care.

BN3206 Self and Others III: Helping Relationships

This course provides an opportunity for learners to develop a conceptual and experiential understanding of effective interpersonal relationships. Opportunities are provided for learners to become aware of their interpersonal style as it impacts on their relationships with clients and colleagues. Through integration of the principles of effective communication, learners participate in initiating, maintaining and bringing to closure caring interpersonal relationships.

BN3406 Nursing Inquiry

Various modes of nursing inquiry are addressed including, scientific, philosophical and historical modes. Relationships between practice, theory and research are explored. Past and present contributions to nursing knowledge are discussed.

BN3416 Nursing Research I

In this theory-based course, learners discover ways to transform personal inquisitiveness into a process of posing, exploring and answering researchable questions. Using both quantitative and qualitative analysis, learners experience ways to critically examine the research process.

BN4056 Professional Growth V: Nurses Influencing Change

This course explores the ways nurses can influence clients, the nursing profession, the healthcare system and society, generally, to facilitate the creation of a healthy environment. Emphasis is on strategies for enhancing nursing influence.

BN4057 Professional Growth VI

This course provides a forum for learners to reflect on and analyze the conceptual understandings of Nursing Practice VII. By sharing with peers, learning about self and others is enhanced.

BN4084 Nursing Practice VI

This course focuses on the actualization of the nurse as a professional. By critically reflecting on clinical experiences, learners experience the significance of their role as generators and disseminators of nursing knowledge in shaping and responding to the challenges of healthcare in our society.

BN4094 Nursing Practice VII

Learners choose an area of clinical focus and learning experiences to build upon and balance previous learning.

BN4206 Self and Others IV: Group Process

This course focuses on the theories and concepts of group process from a multi-disciplinary perspective. Learners have the opportunity to experience and critically reflect on group process. The examination of self in relation to group process is an essential component.

BN4416 Nursing Research II

Building on skills acquired in BN3406, 3416 and 4057, the course strives to enhance nurses' ability to work as scholars. Through praxis, learners experience ways to critically examine relevant nursing knowledge and explore ways to

generate new nursing knowledge.

BU1003 Introduction to Business

In order to succeed, Canadian businesses must compete internationally. By studying Canadian business, students will be able to explore career opportunities in a global context. The course focuses on the structure of businesses and why some succeed while others fail. Students are expected to research on the internet and report on actual businesses in order to look at employment trends and opportunities.

BU1024 Economics

Prerequisite: Introduction to Business

This is an introductory study of Economics. The course offers students a basic understanding of what is economics, why its study is important and how it is related to the values and goals of different societies. The first half of the course describes how markets function from the point of view of supply and demand, while the second half of the course examines the economics system from a broader perspective. The latter section includes such topics as the measurements of economic performance, the banking system and the role of government in the management of the economy.

BU1045 Organizational Behaviour

Prerequisite: Introduction to Psychology

The course focuses on the behaviour of people in work situations. Rather than presenting a mere compendium of undigested facts and theory, the objective is to analyze research findings and behavioural science concepts, and their applications to the world of work. Thus this course will appeal to a wide range of students, including all levels of personnel and those requiring a practical and non-cookbook approach to the subjects. The basic components of the course are the sequenced study guide and the companion television programs.

BU1064 Small Business Management

Prerequisite: Marketing II and Accounting I (for Northern College students)

This course presents a fundamental approach to managing a small business in Canada. The material covers many areas and is designed so as to acquaint the student with the many challenges and opportunities a small business faces. Topics include: buying vs. starting your own business, franchising, merchandising, financing, advertising/promotion, risks, computers and the small business, and essential accounting.

BU1073 Intro to Business Management & Organizational Behaviour

This course consists of an examination of the Canadian business environment and the management decision making process as an integral component of organizational behaviour.

BU1074 Principles of Human Resources Management

This course will teach students how to forecast the human resource needs of an organization within ambient socio-political situations.

BU1083 Compensation Management

This course is designed to expose students to all the essential elements of compensation design, implementation, management, and evaluation within the competitive and changing environment of the new economy. Compensation management explores the theoretical and practical approaches and strategies to compensation design and

management within an organizational framework, the external and internal environments of an organization, pay structures, incentive systems, benefits programs, and changing employment conditions and trends.

BU1133 Introduction to Business Management and Organizational Behaviour

Understanding organizational behaviour, defined as the behaviour of people in work situations, is essential for students who wish to work effectively within organizations. The new reality of the workplace is less direct management and a more independent team approach that gives employees more say in their own work. This course will give students the tools and knowledge necessary to work more effectively as managers or employees within any type of organization. Topics include: individual behaviour, individual and interpersonal processes, team processes and organizational processes, and an examination of the context of the Canadian business environment and the management decision making process as an important aspect of organizational behaviour.

BU1153 Recruitment and Selection

This course consists of a basic study is undertaken of the principles, issues, trends, and legislative requirements affecting recruitment and selection. Human Resources professionals need an understanding of how recruitment and selection fits into the broader organizational structure, processes, and goals of an organization and how this function is related to the other functions of Human Resources management. Students will acquire the knowledge and skills needed to successfully identify human resource requirements and attract and retain an effective workforce for an organization. The changing legal environment and the impact of laws on recruitment and selection are an important component of this course.

BU2003 Human Resource Management

This course addresses the most important asset in Canadian organizations - people - from a personal employee perspective and then from a manager's view. Students will investigate the skills necessary to find and hold long-term employment. These "soft" skills include establishing effective interpersonal relationships that enable employees to use their technical skills. The students will also be introduced to human resource management techniques within a company. Drawing on students' work experience, discussions will focus on ways of dealing with organizational problems they have encountered.

BU2023 Human Resource Planning & Development

Students will learn how to forecast the human resource needs of an organization within ambient socio-political situations.

BU2024 Small Business Management

Stressing and advancing the importance of small business within our existing business climate, the students will cover topics such as start-up, strategies and principles of small business, financing and operations management.

BU2054 Training and Development

Prerequisite: BU1074

The student will be introduced to the psychology of the learning process on which training and development is based and will gain an understanding of the design, implementation,

and evaluation of training programs within organizations. The course will include the four key elements of the training and development function: needs analysis procedures; program design/development; program administration; and measurement and evaluation.

BU2093 Industrial Relations

In this course students examine the labour-management relationship and the environment in which it operates, including the evolution and history of the labour movement in Canada, the corresponding legal framework, the influences of unionized and non-unionized employees in their various forms and structure; the roles of governments; collective bargaining and conciliation; and arbitration, and conflict resolution are studied within the framework of contemporary issues and change.

BU3002 Human Resource Management II

This course is a continuation of Management Principles I. Emphasis is placed on the necessary management skills required in the field of instrumentation. Topics include: Understanding Managerial Levels, Principles of Duties of First-Level Supervisors, Understanding Purchasing and Accounting Departments, Employee Time Schedules, Maintenance Work Orders, Employee Evaluations, Incident and Accident Reports, Supervision of a typical instrumentation crew and shop.

BU3013 Macroeconomics

Macroeconomics presents an overview of the Canadian economy focusing on national trends such as unemployment, inflation and monetary/fiscal policies. The course will provide students with a basis to analyze current activities for predicting future trends as a basis for business decision-making. Discussions will focus on helping students apply theory about macroeconomics to current events.

BU3024 Personal Finance

This course is for students who want to learn about money management in all the stages of one's life. The topics covered help students to establish budgeting habits which will enable the individual to enjoy a satisfactory lifestyle. Subjects covered include budgeting, credit uses, renting vs. buying a home, purchasing a new or used car, insurance, tax breaks, stocks and bonds, retirement planning and how to write a will.

BU3043 Purchasing and E-Procurement

Canadian businesses now search for suppliers using the internet. By focusing on goods from different regions of the world, students will learn not only the purchasing process, but how different cultural beliefs affect purchasing. Students learn about bidding, negotiating contracts, inventory management and international standards (ISO). Students will also discuss other purchasing functions such as quality control, specifications and inspection.

BU3053 Entrepreneurial Skills

Prerequisite: BU1133 Introduction to Business Management and Organizational Behaviour

This course will introduce students to the character, concepts and skills necessary to express their entrepreneurial spirit in the form of a business, social organization and/or a community project. An analysis will be conducted on what is necessary to become a successful entrepreneur by examining factual contributions of successful entrepreneurs to the economy and to their communities, their

role in both the changing workplace and the global business environment. Each student will complete an entrepreneurial business plan throughout the course covering practical topics such as market analysis, goal setting, business registration, financial and marketing planning, organizational layouts and legal issues.

BU3063 Business Law

Prerequisite or co-requisite: BU1133 *Introduction to Business Management and Organizational Behaviour*

In this course, students will be introduced to legal concepts and principles that are of importance to business and other organizations. Topics include: how law is created, how law is administered, the court system, civil rights and the constitution, civil and criminal procedure, general rules of tort law, and important aspects of contract law.

BU4013 Microeconomics

Microeconomics focuses on individual products and their prices. By studying the laws of supply and demand, students can see how prices are determined and be able to make wiser business decisions. The Canadian economy and individual commodities form the backdrop for the teaching of the laws of supply and demand, cost curve analysis, production and pricing. Students will track actual product prices and determine reasons for fluctuations.

BU4063 Introduction to Small Business

This course deals with the skills and knowledge required to set up a small, independent business. Topics include the entrepreneurial skills required to become self-employed, business registration, legal ownership, research and analysis, small business marketing, finance and business planning.

BU4303 Organizational and Operational Management

This course provides a basic introduction to concepts and techniques relating to the design and management of operating systems – both manufacturing and service-oriented. There is an emphasis on developing the students' problem solving and decision making skills as they relate to the operations function in the organization. Main topics include: systems design, facilities, planning, organization design, production processes, labour standards and measurement, production planning and control, and project management.

BU5003 Operations Management

This course comprises of a study of techniques to optimize the operations of a business. Topics include: financial analysis of net present value, minimization of transportation costs, aggregate production, planning, locational theory, CPM and PERT scheduling and graphical linear programming.

BU6003 Investments

Personal finance and securities investment are featured in this course. Students are required to enroll in the TD Investment Challenge game. Major emphasis of the course will be long-term portfolio accumulation through growth and conservative investments for retirement.

BU6021 Business Placement

Prerequisite: Graduation standing

This course consists of a six-week work placement that provides students with valuable practical experience and employment opportunities.

BU6074 Management of Non-Profit Organizations

Prerequisite: BU1133 *Introduction to Business Management and Organizational Behaviour*

This course explores the common management issues facing the staff and boards of non-profit organizations in any sector of society. Key topics include: board governance and structure, marketing, public relations and promotion, budgeting and financial control systems, volunteer management and development, leadership and project management issues, fund raising, and innovation in non-profit organizations. Discussion on alternative forms of governance and leadership will also be included.

BU6113 Small Business Management

Prerequisite: BU3053 *Entrepreneurial Skills*

This course deals with the skills and knowledge required to set up and manage a small, independent business. Topics include such new business start-up issues as: the entrepreneurial skills required to become self-employed, business registration, legal ownership, research and analysis, and small business marketing, finance and business planning. Stressing and advancing the importance of small business within our existing business and economic climate, the remainder of the course will deal with the strategies and principles of small business management required to ensure continued business success.

CH2033 Chemistry I

This is a course in general chemistry designed to provide a fundamental background for students to understand chemical concepts, to handle chemicals intelligently and safely, and to appreciate the applications and implications of chemistry in technology and society.

CH3043 Chemistry II

This course is designed to provide a fundamental knowledge of the principles underlying the methods used in quantitative analysis, to expose the students to laboratory manipulative techniques and the operation of instrumentation. Also covered is the need for proper sampling and attention to accuracy and to further the students' ability to evaluate such data and to prepare accurate solutions of various concentrations.

CM1054 Communications I

This course is a one-semester course designed to give students the tools required for technical communications, both oral and written, as required in industry today. Students will study the process of communications with its inherent problems and strategies for improvement. In addition, the course presents effective grammar and writing skills that are incorporated in oral presentations and written formats such as outlines, paragraphs, definitions and summaries.

CM1062 Communication for Emergency Health Workers I

Although change in health care has been dramatic, one thing has remained constant: effective communication is essential to every aspect of the health care delivery process. Knowledge of communication plays an important role in paramedic training. All aspects of pre-hospital care require effective, efficient communication. To this end, this course focuses on three areas: communication in the role of paramedic; communication in the academic setting; communication in a job search. An important aspect in all three areas is applying

correct grammar, punctuation and mechanics to written communication and writing concise, coherent and unified documents

CM1063 Technical Communications I

Communications I is a practical course designed to help students strengthen their basic writing skills while focusing on the conventions associated with professional technical writing. Students will engage in the writing process to develop effective technical reports, correspondence and other technical documents. Emphasis will be placed on the use of appropriate structure, writing conventions, tone and style.

CM1073 Communications I

A firm grounding in reasoning, problem-solving and literacy skills are necessary for success both in college studies and in the workplace. This course emphasizes hands-on development of these fundamental and essential skills in both speaking and writing. A "reading (or listening)/ thinking/writing" process provides students with a solid base before they progress to more sophisticated applications appropriate to their field in Communications. Word processing is used as a tool to facilitate the writing process.

CM1092 Comprehensive English

This course will assist the students in their ability to write clear, correct and complete sentences and compose unified and well-organized paragraphs of 200-250 words. Students will develop skills in editing their own work-i.e. reading to distinguish between main and subordinate points, analyzing subtleties and nuances in written text and to restate accurately what has been read, retaining the original meaning and emphasis.

CM1093 Communications I

Communications skills are an important component to any program of study. This first competency is a reflection of the value placed on these skills by employers. The ability to communicate effectively with others in the workplace is essential for an individual to succeed personally and professionally. Employers recognize that the effectiveness of their organization can depend to a large extent on the communication skills of the staff. Modules 1 to 5 of the Communications band begins with a description of the communication process, then examines the components of listening, nonverbal and speaking skills, which lead to the ability to work as part of a team.

CM1113 Communications I

This is a practical course designed to help students strengthen both oral and written skills, as well as provide a basis in business etiquette, procedure and protocol. Students will be introduced to theoretical and practical applications of business psychology as well as oral presentation strategies and grammar conventions.

CM1123 Technical Communications I

Technical Communications is a practical course designed to help students strengthen both oral and written skills. Students learn theory and practical applications of good business psychology and planning, as well as advanced sentence writing techniques. During the two terms, students apply the appropriate principles and formats to written and oral messages including memoranda, letters, and reports. Students also learn problem solving techniques which they apply to case analysis.

CM1124 Technical Communications

This is a one-semester course designed to give students the tools required for technical communications as required in industry today. Students will study the process of communications with its inherent problems and strategies for improvement. In addition, students will apply effective grammar and writing skills to oral and written technical messages including outlines, paragraphs, technical letters and memos, instructions and oral presentations.

CM1153 Communications I

This course focuses on the skills required for writing effective correspondence. Topics covered include the following: using words skillfully, developing tone and style, writing effective sentences and paragraphs, and writing memos and emails that inform, request and respond. Grammar principles are explained and reinforced throughout both semesters.

CM1163 Communications I

Communication skills are an important component to any program of study. This first competency is a reflection of the value placed on these skills by employers. The ability to communicate effectively with others in the workplace is essential for an individual to succeed personally and professionally. Employers recognize that the effectiveness of their organization can depend to a large extent on the communication skills of the staff. Course objectives include: describing the communication process, applying advanced sentence writing techniques, applying the "C" principles, organizing information, writing summaries, and speaking clearly and effectively in the workplace.

CM1173 Communications I

This is a practical course designed to help strengthen both oral and written skills. Students will be exposed to a variety of learning methods and communication formats including memos, business letters, structured meetings, and formal oral reports.

CM1183 Communications for Police I

This course is designed to assist potential law enforcement officers to develop good writing and speaking skills for the preparation of a policing career. It provides a practical, police approach to the fundamental writing and speaking conventions which must be understood in order to communicate effectively in investigation and prosecution work.

CM1193 Communications I

Communication I is designed to help acquire fundamental written communication skills required in today's world of work. Students review and develop the correct grammar and mechanics usage for writing effective workplace messages. Topics covered include: understanding the communication process, using words skillfully, developing tone and style, planning, composing and editing to produce effective sentences, paragraphs and messages.

CM1233 Trade Communications

This course is intended to simulate a practical work-related process: seeking a job, preparing a technical report, and presenting the technical report as a seminar. The course outline assumes continuous intake of students, various termination dates, and individually paced learning. The course is based upon performance objectives. That is, specific projects must be completed in order to complete the course.

CM1252 Communications I

This course is designed to assist prospective firefighters to develop good writing and speaking skills. The course provides a practical, firefighter-related approach to the fundamental writing and speaking conventions, which must be understood in order to communicate effectively.

CM1353 Communications and Research I

The legal communications and research course is designed to provide the law clerk student with the opportunity to improve their writing skills and to be come familiar with various forms of communication required of law clerks and legal assistants. Course material will focus on improving verbal and written skills with an emphasis on spelling, grammar, listening and speaking skills. The fundamentals of writing and formatting memos and letters will also be addressed.

CM1703 Essay and Report Writing

This course will introduce the student to the fundamentals of essay and report writing. Attention will be paid to researching pertinent information, critical thinking and organization of content and form. Students will be introduced to APA format and will be required to utilize APA in all course work submissions for this program.

CM1713 Integrated Communications I

Reading text, document use, writing and oral communication skills required for day-to-day living and the workplace are reviewed at an essential skill level 2 or higher.

CM2064 Communications II

Prerequisite: CM1054 Communications I
This one-semester course gives students the opportunity to apply effective grammar and writing skills to oral and written technical messages including job-search documents, technical letters and memos, instructions, problem-solving strategies and oral presentations.

CM2073 Communications II

Prerequisite: CM1073 Communications I
This is a one-semester course that applies the oral and written communication skills learned in the first semester to specific technical applications required in the workplace. During this term, students will produce technical letters and memoranda, descriptions of processes and procedures, instructions for both client teaching and technical manuals, short informational reports, and a scholarly paper. They will also make an oral presentation. Students will also be required to make an oral presentation.

CM2093 Communications II

Description unavailable at time of printing.

CM2113 Communications II

Prerequisite: CM1113 Communications I
This is a practical course designed to build on the methodologies and writing structures introduced in Communications I. Students will focus on grammar conventions and mechanics and apply the appropriate principles and formats to written and oral. Critical thought, attention to detail and effective writing techniques will be emphasized. An oral presentation component may be required if this course is a pre-requisite for further studies.

CM2123 Technical Communications II

Prerequisite: CM1123 Technical Communications I

Technical Communications II is a continuation of CM1123 and is a practical course designed to help students strengthen both oral and written skills. Students learn theory and practical applications of good business psychology and planning, as well as advanced sentence writing techniques. Students apply the appropriate principles and formats to written and oral messages including memoranda, letters, and reports. Students also learn problem solving techniques which they apply to case analysis.

CM2153 Communications II

Prerequisite: CM1153 Communications I
This course focuses on the skills required for writing effective business correspondence. Topics covered include the following: developing tone and style, writing effective sentences and paragraphs, and writing memos and letters that inform, request and respond. Grammar principles are explained and reinforced throughout the semester. Employment strategies are also developed.

CM2163 Communications II

Prerequisite: Communications I
Communications II follows logically from the work in Communications I, in that it builds on the students' recently acquired skills in writing and oral applications, but through various lessons, develops their skills a step further. Course objectives include: applying advanced sentence writing techniques, applying the "C" writing principles, writing memos and letters for the workplace, applying job search strategies, writing instructions and participating in meetings and presentations.

CM2173 Communications II

Prerequisite: CM1173 Communications I
This course is designed to develop technical writing skills to support professionals in a wide range of fields. Students will understand what technical writing is and acquire the basic skills required to write technical documentation. This course will concentrate on applying the mechanics of style and on teaching special skills that will help students in the following writing and speaking situations: writing paragraphs, essays, summaries, requests, responses, refusals, applications, public relations and social business letters, resumes, memorandums, and delivery of speeches.

CM2183 Communications for Police II

This is the second course in the Communications course series. It continues to provide a practical, police approach to the fundamental writing and speaking conventions which must be understood in order to communicate effectively in investigation teams and prosecution work.

CM2193 Communications II

Communications II is a continuation of Communications I wherein students apply the written skills learned in the first semester to specific applications as required in businesses and agencies. The students summarize work-related documents, compose job/employment documents, plan and write a major essay, and produce letters and memoranda. Students will also engage in an oral presentation.

CM2253 Technical Communications II

Communications II is a practical course designed to build on the methodologies and writing structures introduced in Communications I. Students will focus on grammar conventions and mechanics as well as be introduced to the basics

of oral presentations and job search techniques. Students will develop industry-specific resumes and prepare for formal interviews and applications. Critical thought, attention to detail and effective writing techniques will be emphasized as well as the use and consideration of effective use of tone and language elements. An oral presentation component will be a requirement for successful course completion.

CM2713 Integrated Communications II

A continuation of Integrated Communications I, this course expands the workplace applications, individualized to the student's career goal of essential skill level 2-3 (or higher) reading text, document use, writing, and oral communication.

CM3015 Report Writing I & II

The first part of this course covers a segment on researching pertinent information for report writing and develops skills in critical thinking, organization, and writing, enabling you to write complete, accurate and efficient reports. Then, in the second part, the first three units introduce basic report writing theory: five parts of a report definition, nine steps of the report writing process, and introduction-and terminal-section components of a basic report. A good understanding and appreciation of these three units will enable you to write just about any report. The next five units deal with the writing of specific reports: occurrence, progress evaluation, investigation, and the proposal. The first four follow the basic report writing pattern; however, proposals are unique and as a result follow a pattern of their own. Finally, the last unit shows how to "dress up" any of the report types to produce a formal report.

CM3025 Report Writing

The first part of this course covers a segment on researching pertinent information for report writing and develops skills in critical thinking, organization, and writing, enabling you to write complete, accurate and efficient reports. Then, in the second part, the first three units introduce basic report writing theory: five parts of a report definition, nine steps of the report writing process, and introduction-and terminal-section components of a basic report. A good understanding and appreciation of these three units will enable you to write just about any report. The next four units deal with the writing of specific reports: occurrence, progress, investigation, and the proposal. The first three follow the basic report writing pattern; however, proposals are unique and as a result, follow a pattern of their own. Finally, the last unit shows how to "dress up" any of the report types to produce a formal report.

CM3033 Report Writing

Prerequisite: Communications II (minimum grade of 60%)

This is a one-semester course, which builds on the skills acquired in Communications I and II. The course presents the theory and practice necessary for the planning and presentation of short oral and written reports, formal reports and proposals. In addition, the course introduces the techniques and dynamics of planning and participating in meeting situations.

CM3035 Report Writing

Prerequisite: Communications CM1124

This course, built on the skills developed in Technical Communications, concentrates on written and oral technical reports. The course presents the theory and practice necessary for the preparation and writing of

short informal reports. In addition, this course includes problem-solving strategies, job-search techniques, and meeting preparation and participation techniques.

CM3044 Report Writing

This course develops skills in critical thinking, organization, and writing, enabling you to write complete, accurate and efficient reports. The first three units introduce basic report-writing theory: five parts of a report definition, nine steps of the report-writing process, and instruction- and terminal-section components of a basic report. A good understanding and appreciation of these three units will enable you to write just about any report that lands on your desk. The next four units deal with the writing of specific reports: occurrence, progress, evaluation and investigation.

CM3064 Report Writing I

Prerequisite: A "C" average in Communications II
This course, built on the skills developed in Communications I and II, concentrates on written and oral technical reports. The course presents the theory and practice necessary for the preparation and writing of short informal reports, such as incident/accident, progress, evaluation and investigation reports. In addition, this course introduces students to the dynamics of planning, participating, and presenting in meeting situations.

CM3073 Technical Writing

Technical Writing is a practical course designed to help strengthen both oral and written skills for computer related work. Students will be exposed to a variety of learning methods and a variety of technical communication formats. While technical writing is distinguished from other forms of writing by a focus on factual, technical information, it is produced in much the same way as all other good writing.

CM3103 Report Writing I

Prerequisite: CM2173 Communications II or CM2113 Communications II

This course is an extension of Communications I and II, and concentrates on the writing of business reports. The course introduces students to the methodology of researching, organizing, compiling, analyzing and interpreting information to solve business problems. Students learn the theory and apply it to writing short, informal reports, proposals and a long formal report.

CM4102 Report Writing II

Prerequisite: CM3103 Report Writing I

This course is an extension of Report Writing I. As part of formal report preparation, students will study both primary and secondary research including the preparation of questionnaires, interviews and telephone surveys. In addition, this course introduces students to the dynamics of planning and participating in meetings. This course also includes an intensive treatment of job search techniques designed to help students prepare for the job market, participate in employment interviews and evaluate potential employees.

CM4353 Communications and Research II

Prerequisite: CM1353 Communications & Research I

This course is an extension of Communications & Research I. It will take the student through the research process step by step. Students shall identify client issues and shall be taught to search and use the correct research tools.

Both paper and computerized formats will be examined to find information about client issues. From the information gleaned through paper and computerized materials, the student will be able to read and understand the basic sources to which the research tools point to and then apply case-law and statutes so that the client's issues will be solved.

CM5032 Technical Report I

Prerequisite: CM3064 Report Writing or

Corequisite CM3035 or CM4102 Report Writing II

Satisfactory completion of Technical/Graduate Report is a requirement for graduation. Students develop a primary research project and conduct the work independently outside class hours. They are assigned a faculty advisor from their department. During the Fall semester, students develop the project proposal, complete all required research, tests, measurements, etc., and present the proposal and project schedule.

CM6034 Technical Report II

Prerequisite: CM5032 Technical Report I

During the winter semester, students complete all further development and present the project in an oral presentation and in a written presentation before the given deadline. The project must be presented in accordance with required industrial or engineering standards.

CR1002 Syllabic Keyboarding Lab

This course is designed to give the students the opportunity to improve their syllabic keyboarding with emphasis on speed and accuracy.

CR1004 Interpreting Skills

This course is designed to help students develop the skills necessary for interpreting: be it consecutive or simultaneous. These skills will include note taking, memory recall, paraphrasing, sight translation, active listening, interrupting the speaker, and oral presentation in front of an audience. Roles and responsibilities as well as courtroom interpreting procedures will be included. Consecutive and simultaneous interpreting exercises, with or without equipment, will be provided throughout the course.

CR1005 Syllabic Writing Lab

This course deals with the fundamental principles of the syllabic writing system used by the Mushkego Cree. Application and practice of reading and writing will enable towards complete literacy in the three writing systems of the Mushkego Cree.

CR1012 Translation Lab

Application and practice of translation methods will enable students to develop competency and accuracy in specific areas in the translation field. They will translate various textual materials and will increase their knowledge of specialized vocabulary. Students will also be expected to read and translate current events because being well informed is a requirement for an interpreter and a translator.

CR1015 Translation Skills I

Description unavailable at time of printing.

CS6001 Work Placement

This component of the Computer Science program gives the student an opportunity to apply many of the skills learned in class to a 'real world' environment. Students and faculty will work together to secure a suitable placement opportunity.

CV2005 Municipal Design I

Prerequisite: MA1015 Math I, AR2014 Statics
This course focuses on the principles of fluids mechanics and the practicality of a water distribution system and treatment. The principles of conservation of energy, Bernoulli's, Hazen-Williams and Darcy-Weibach equations will be fully explored. A hypothetical project of a subdivision water system design and treatment methodology is bound to stimulate students' enthusiasm. Students will also be introduced to Bentley's "WaterCAD", the computer water distribution analysis.

CV2015 Engineering Materials and Testing

Prerequisite: MA1015 Math I
This course provides a clear and concise introduction to civil engineering construction materials, including soils, aggregates and Portland cement concrete technology. Students will gain appreciable understanding in the theory and the laboratory test procedures of materials testing according to ASTM, AASHTO, ACI and CSA standards of soil and concrete testing.

CV2213 Plans Examination and Building Studies

Research and evaluation is an important part of the construction industry. Building studies uses existing structures to research construction materials and techniques and evaluate them against established standards.

CV3001 Soils Mechanics

Prerequisite: CV2006 Engineering Materials and Testing
This course provides fundamental soils theory covering stress distribution, consolidation of soil and settlement of structures, and shear strength. The theory of these topics will be reinforced by the laboratory work. This course, among others, is especially designed to assist in the facilitation of the seamless transition to Lakehead University for students that desire to pursue further education in engineering.

CV3005 Municipal Design II

This course is about sanitary and storm sewers. Sanitary sewers serve to collect and transport wastewater away from the source to a treatment facility before final effluent expulsion into the environment. Storm sewers are typically designed to carry a rainfall event away from areas where it is unwanted. Students will be introduced to the hydraulics for gravity portion of a sanitary and storm sewer by using Manning's principles and rational equation, SCS and HEC-2. The design projects in both sanitary and storm sewers will be accomplished with the aid of both Bentley's StormCAD and SewerCAD.

CV3006 Strength of Materials

Prerequisite: Statics AR2014
This is the study of the behaviour of materials (such as steel, aluminium, copper, wood) when subjected to various types of loads. Topics include concepts of stress and strain, tension and compression, bearing stress, deformation and thermal stresses, shear force and bending moment diagrams, flexural stress, horizontal shear, Mohr's Circle, deflection of beams, and analysis of statically indeterminate beams. Both analysis and design aspects are covered for the above topics.

CV3014 Highways

Prerequisite: SU1006 Surveying Principles
This is a theoretical and practical course in which students will perform several surveying functions in relation to highways. Students will be required

to layout a curve-a-linear roadway design to fit a set traverse. The theory and calculations for horizontal and vertical curves will also be included. Other topics include: classification of roads, design controls, sight distances, alignment elements and spiral curves. Students will also study cross-sectional elements, draft roadway cross-sections and calculate volumes using average-end-areas. The final project consists of the calculation and layout of a spiral-circular-spiral curve.

CV4004 Structural Design

Prerequisite: AR2014 Statics
This course is uniquely tailored to structural design with both steel and wood. Students will acquire a good understanding of limit states design of structural steel in accordance with CAN/SAC-S16.1-94 and CSA G40.21 grade 350 W, timber design in accordance with CSA Standard 086.1 (1994), engineering design in wood (LSD) and a significant section of Part 4 of the Ontario Building Code will be taught in parallel to the design principles.

CV4005 Reinforced Concrete/Foundation Design

Prerequisite: AR2014 Statics
The aim of this course is to give students essential understanding needed to carry out design of reinforced concrete. The concrete design is in accordance with CSA Standard A23.3.04 and Canadian Metric bar sizes. Students will be exposed to the behaviour of concrete elements, to the derivation of the design method, to practical design requirements and to completely worked-out design examples. The principles and design of shallow foundations will be explored in detail in the course.

CY1002 Activity Programming

The dual purpose of this course is to study the use of activity programming as a therapeutic tool and the importance of programming in the daily lives of children and youths. Specifically, the student will learn to design activity experiences that have a behavior-changing influence on its participants and encourage their healthy, emotional, social and physical development.

CY1003 Ethics and Current Issues in Child and Youth Work

The purpose of this course is to introduce students to the scope of practice of the field of child and youth work. Students will explore the various career options for child and youth workers, discuss the ethics of child and youth work, explore the current trends in the field of child and youth work and begin to develop an individual plan for lifelong learning that will keep them current as they grow in their profession.

CY2024 CYW Methodology I

This course will allow the student to examine the necessary characteristics and traits of a helping person. Students will investigate the forming of therapeutic relationships as well as the dichotomy of good and poor mental health. Methods of learning behaviour will be introduced as well as initial skills in modifying behaviour through reinforcement.

CY3013 Crisis and Behaviour Management

This course will further build upon behaviour management techniques introduced in CYW Methodology I as well as develop a framework for understanding and dealing with aggression and crisis. Students will explore theoretical bases for aggression as well as learn strategies for intervention during crises and aggressive

episodes. This course provides students with certification in Prevention and Management of Aggressive Behaviour (PMAB).

CY3018 Activity Group Lab I

This course provides the opportunity to plan, organize and implement various activity programs using concepts learned during preceding semesters. This experience is enhanced through a partnership with local school boards and mental health agencies which allow students to deliver these programs and activities to selected groups of clients.

CY4000 Fieldwork Placement I

Prerequisite: Fieldwork Seminar (concurrent)
Having completed one and a half years of academic study, the CYW student is now confronted with the challenge of putting what has been learned into practice. To this end, he/she is to apply theoretical knowledge to his/her day-to-day work with children and adolescents who may be experiencing behavioural and emotional challenges. Students will approach this experience by means of daily analytic exercises. This will help them to increasingly function as professional members of the care team.

CY4003 CYW and the Legal Environment

This course will serve to familiarize the student with the legal environments in which the CYW works. Course material will cover youth justice, child protection, child advocacy, children's rights and review prominent legislation. The Child and Family Services Act and the Youth Criminal Justice Act will be presented and reviewed. The role of the CYW during youth criminal court proceedings, child protection cases, and child advocacy will also be considered.

CY4011 Fieldwork Seminar (1day/month)

The student, at this point, has had a variety of experiences with children and youth in school settings, treatment facilities and residential service agencies. They will work to further solidify and practice a variety of critical skills, relationship building, professionalism, behavioural interventions, counseling approaches, self evaluation, self care and professional development. The seminars which will include presentations, will take place one day per month throughout the fieldwork placement

CY4053 Principles of Treatment

Child and Youth Worker graduates will find employment with a wide variety of agencies. Many of these agencies advocate very distinct therapeutic approaches, or parts of them, in their work with clients. Working off a solid base of behaviour management, this course develops knowledge and techniques in a variety of counselling modalities and the psychological theories behind them.

CY5003 Supportive Milieu Programming

This course breaks down the sub systems involved in program design and implementation. Students learn what makes programming effective and the power of communication in implementation. Functioning in a multi-disciplinary environment is addressed including facilitation of conferences and Plans of Care. Students address the issue of quality assurance and program evaluation as well as develop competence in qualitative performance measure.

CY6000 Fieldwork Placement II

Prerequisite: Fieldwork Seminar (concurrent)
Having completed all academic requirements,

the CYW student is now confronted with the challenge of putting what has been learned into practice. To this end, he/she is to apply theoretical knowledge in his/her day-to-day work with children and adolescents who experience behavioral and emotional difficulties. The student will be involved in all aspects of Child and Youth Work, and in so doing, will approach this experience by means of daily analytic exercises. This will help him/her to increasingly function as a professional and become a valuable member of his/her team.

CY6011 Fieldwork Seminar II (1day/month)

The student, at this point, has had a variety of experiences with children and youth in school settings, treatment facilities and residential service agencies. They will work to further solidify and practice a variety of critical skills, relationship building, professionalism, behavioral interventions, counseling approaches, self evaluation, self care and professional development. The seminars which will include presentations, will take place one day per month throughout the fieldwork placement.

DA1023 Concurrent Disorders

This course will provide the student with an introduction to basic concepts in mental health as they relate to the field of addiction. Learners will be introduced to the topic of concurrent disorders and the historical perspectives around the establishment of this area in addictions as a field of research and development. Areas of focus include screening, recognition, assessment and treatment.

DA1033 Introduction to Basic Concepts in Addiction Studies

This introduction to basic concepts in addictions course is designed to provide the student with a synopsis of the field of addiction. It will leave the learner with knowledge about current language, treatment philosophies and the population that they will be working with in the field. Students will know what a substance use disorder is and what types of substances people can and do become addicted to. The learner will gain an understanding of the person with the disorder and the factors leading to the problem.

DA1043 Theoretical Perspectives on Addiction Treatment

This course will enable students to explore various treatment models and theories in greater depth and promote the learner's ability to link theory with practice. Social learning theory, cognitive behavioural theory, solution focused theory as well as the Minnesota model will be discussed. Students will also be introduced to the relapse prevention model, the trans-theoretical approach, family systems theory and emerging perspectives such as Buddhism and Mindfulness meditation.

DA1053 Issues and Tools in Substance Use, Screening, Assessment and Case Management

This course focuses on screening, assessment and case management with an overview of the addictions/treatment system. Areas of focus are addiction assessment tools and strategies with emphasis on client/treatment matching and stepped care, withdrawal management, confidentiality/new privacy legislation, and documentation. Students will be introduced to an overview of the Ontario Addiction Treatment system.

DA2001 Fieldwork Placement - Addiction Counsellor

The fieldwork placement, an opportunity for applied clinical practice is key to helping students integrate knowledge and skills into the agency setting and to make theory/practice and research/practice linkages. Students will be provided with opportunities to learn agency procedures, to benefit from professional mentoring and supervision and to experience direct client contact.

DA2033 Treatment Approaches in Addiction

This course will build on the content covered in "Issues and Tools in Substance Use Screening, Assessment and Case Management" and will cover a continuum of treatment approaches, enriching student's understanding of how a stepped care model of treatment could be applied in a community practice context.

DA2043 Addiction Treatment with Diverse Populations

This course addresses the unique treatment needs and issues encountered in working across differences, and enables the students to recognize that many people experience intersecting diversities and resultant marginalization/oppression.

DA2053 Research Issues in Addiction

This course engages students in a discussion of how research and clinical practice inform one another. Students will develop an awareness that given the growing emphasis on evidence based practice, best or "better" practice, clinical accountability, and knowledge exchange; the ability to access, understand and critically reflect on the addiction literature is crucial.

DA2063 Addiction Treatment Approaches Practice Lab

The Addiction Treatment Approaches Practice lab allows students to reinforce their theoretical knowledge and skills taught in the classroom through simulated interviewing and counselling sessions, to develop an entry level competency in preparation for the field work placement.

DA3003 Community Organization

This course will focus on the theories and practices of community organization-the facilitation of meaningful change within communities to improve the quality of life for community members and to promote progressive social change. This course is intended to provide students with an understanding of the theories, concepts and methods of community work and opportunities to develop some practice skills.

DS1002 Fieldwork Orientation (Volunteer - 50 hours)

A student enrolled in the DSW program must accumulate 100 hours of volunteer service or work experience with individuals with developmental challenges in the first year of the program or have 100 hours volunteer/co-op or work experience prior to entering the DSW program. This orientation will provide the DSW student with the opportunity to interact with people with developmental challenges, gain experience in working in the developmental services field, and increase awareness of the role and responsibilities of a developmental services worker.

DS1013 Applied Health Care Skills

This course will introduce students to the knowledge and skills required to safely assist

individuals with developmental or intellectual disabilities with their personal care tasks and activities of daily living in a variety of community settings. Using a holistic, person-centered approach, students will learn to promote self-reliance and independence in the implementation of the personal assistance plan. The student will also be introduced to advanced health care tasks required by some clients as aspects of their daily routines of living.

DS1014 Introduction to Developmental Services

This course is designed to introduce students to the field of developmental services. A wide range of topics that relate to those interested in supporting individuals with special needs within various settings (home, school, workplace, community) will be discussed. Students taking this course will examine the philosophy, evolution and practice of providing person-directed support to individuals with developmental disabilities at various ages and levels of functioning. With a paradigm shift in service delivery, the present focus is on creating and providing supports that facilitate the participation, inclusion and self-determination of persons with diverse abilities and needs.

DS2000 Fieldwork Placement Orientation (Volunteer - 50 hours)

Prerequisite: DS1002 Fieldwork Placement Orientation (50 hours)

A student enrolled in the DSW program must accumulate 100 hours of volunteer service or work experience with individuals with developmental challenges in the first year of the program or have 100 hours volunteer/co-op or work experience prior to entering the DSW program. This orientation will provide the DSW student with the opportunity to interact with people with developmental challenges, gain experience in working in the developmental services field, and increase awareness of the role and responsibilities of a developmental services worker.

DS2033 Behavioural Support

This course of study introduces the student to behavioural principles that can be used to understand behaviour in everyday life. It focuses upon behavioural assessment, acquisitioned strategies and behavioural techniques that support a positive practice or model of behavioural intervention.

DS2043 Applied Health Care Skills Lab

In this lab class, skills necessary for the DSW student as a health care team member will be taught. The expectation will be that the student will then be able to demonstrate both the theory behind the skill, as well as the skill itself, through simulation. Time will be allotted to practice in order for the student to acquire the skill at a novice level.

DS2053 Supporting the Instructional Process I

Education is an integral part of life and provides us with the academic, social and work-related skills to facilitate success in daily living. Since Bill 82 and before, people with diverse abilities and needs have been able to access educational services with the support of families and special education personnel. This course provides the student with an overview of the latest philosophical and research-based methods and procedures for supporting the learning needs of diverse individuals. Students will be introduced to relevant teaching strategies to effectively deal with the wide spectrum and complexity of

learning disabilities, developmental disabilities and language acquisition.

DS2121 Fieldwork Placement (8 weeks)

Students must complete two, eight-week fieldwork placements in order to graduate. Some students who enter the program with DSW work-related experience may choose to complete their fieldwork experiences in one DSW-setting providing they have successfully worked with individuals with diverse developmental /functioning levels in varied living and working environments.

DS2131 Fieldwork Placement (7 weeks)

For students who wish a diversified fieldwork placement and learning opportunities, students may divide their placement time between two placement settings. In order to graduate, DSW students must have successfully displayed vocational competencies with individuals with diverse developmental/ functioning levels in varied environments.

DS3001 Developmental Service Support Skills Practicum

Co-requisite: Developmental Service Support Skills Theory

DSW II students collaboratively plan and carry out activities in partnership with participants of the C.T.R.C. Living Skills program within the College environment and/or community. These activities are creatively structured around the interests and needs of the group with a focus on community connection, community participation and the enhancement of interpersonal skills.

DS3003 Developmental Service Support Skills Theory

Prerequisite: Teaching Strategies

This course looks at various intervention strategies that may support families and individuals with a developmental disability in achieving personal goals across the lifespan. The focus will be on integrated activities within educational, vocational, personal management and leisure domains. The development of communication skills and appropriate socio-sexual skills will be emphasized.

DS3023 Working with Families and Teams

This course is designed to introduce students to the philosophy and practice of successfully engaging and working with families within a collaborative team approach in order to assist family members achieve optimal positive outcomes through partnerships and trust. The student will explore Wraparound, or individualized services which are rooted in the principles of individualized, community-based, strengths-focused services.

DS4053 Supporting the Instructional Process II

In 1997, the Ontario Ministry of Education and Training implemented a comprehensive curriculum that clearly defines what children are taught in Ontario public schools. The curriculum details the knowledge and skills that students are expected to develop in each subject at each grade level. By developing and publishing curriculum documents for use by all Ontario teachers, the Ministry has set standards for the entire province. This course provides the Educational Assistant with an overview of the elementary language arts and mathematics curriculum. Emphasis will be on providing the Assistant with the requisite knowledge and skills that will be beneficial in providing accommodations for children with special

learning needs.

DS4063 Health and Nutrition

Nutrition plays a significant role in promoting health and preventing disease. Major nutritional concerns facing Canadians of all ages and walks of life are obesity and chronic diseases influenced by diet. This course will introduce the student to basic health and nutrition principles that promote healthy food choices and positive lifestyles. Diet modifications that may be required by individuals across the lifespan will be discussed.

EA1003 Education and the Role of the Assistant

This course provides students with an overview of the educational services available in Ontario to persons with diverse learning needs from the primary to the secondary and post-secondary levels. Legislative Acts that influence the education of individuals with exceptionalities will also be examined. The role of the Educational Assistant will be studied to develop the knowledge, skills and attitudes necessary to effectively carry out the duties and responsibilities that this position requires. Particular emphasis will be on pedagogical assistant skills such as teaching and tutorial skills.

EA2033 Introduction to Learning Technologies

This course is designed to introduce students to a variety of learning technologies that assist students with disabilities. Assistive technology refers to any item, piece of equipment, or product system that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities. With the support of assistive technology, individuals with disabilities discover they can have control over their environment, allowing them to develop a sense of competence and independence. Throughout this course, you will learn about assistive technology and will develop the skills and knowledge required to implement assistive technology in the educational setting.

EA4001 Fieldwork Placement

This fieldwork placement in a school setting will provide opportunities for students to gain practical experience in working with special needs students. The placement will also provide diverse opportunities for learning as well as personal growth.

EC1001 Fieldwork Seminar

This weekly seminar is held in conjunction with ECE Field Work Practicum I. The purpose of this course is to prepare students for the one morning per week practicum in the lab school, and to guide development of their teaching skills. The Field Placement Manual and Student Teacher Handbook will be reviewed along with the reporting forms to be completed throughout the Practicum. Student experiences and ideas, in addition to suggestions for interacting effectively in the setting, will be discussed.

EC1010 Fieldwork Practicum I

Under the guidance of the Lab School staff, students will demonstrate in practice the theories and techniques studied in Principles of Child Care, Methods of Child Care I, and Creative Arts Workshop I.

EC1023 Principles of Child Care

The purpose of this course is twofold. The first part is designed to assist the student to develop skills for observing and assessing the

development and behaviour of young children. The second part focuses on developing skills for planning, implementing, supervising, and evaluating large and small group activities, both indoors and outdoors.

EC1033 Methods of Child Care

This course is designed to introduce students to the philosophy and practice of providing high quality care and education in an Early Childhood Education setting. The intent of this course is to equip students with techniques for guiding children as they move through the routines of the Child Care Centre day. Students will also become acquainted with the educational purposes and goals that underlie current practice.

EC1113 Creative Arts Workshop

In this course, the theory of creativity, the stages children pass through in developing skill in artwork, and the methods and techniques of planning, conducting, and evaluating various creative activities will be studied. The purpose of this course is to enable the student to plan and implement a creative arts program suitable for children aged one to twelve years.

EC1113 Creative Arts Workshop

In this course, the theory of creativity, the stages children pass through in developing skill in artwork, and the methods and techniques of planning, conducting, and evaluating various creative activities will be studied. Through participating in various workshops, students will plan and conduct a wide variety of painting, collage clay and dough, paper and drawing activities for the different age groups of children.

EC2001 Fieldwork (1 day/week)

Students are placed in day care centres/nursery schools for a one-day period for the duration of the semester. This placement will provide students with an introduction opportunity to apply theoretical knowledge and gain insight into a preschool teaching environment outside of the lab component.

EC2021 Fieldwork Practicum II

Under the guidance of the Lab School staff, students will demonstrate in practice the theories and techniques studied in Methods of Child Care II and Creative Arts Workshop II.

EC2036 Methods of Child Care II

This course is designed to enable the student to plan and implement child centered experiences and environments that promote individual children's development and contribute to the growth of self esteem. The student will acquire the necessary knowledge and skills to plan and carry out a Child Care curriculum.

EC2143 Creative Arts Workshop II

This course will introduce students' to children's literature. Students will learn to choose and present a wide variety of books to children. Storytelling techniques will be studied. By participating in workshops, students will learn the techniques and skills involved in developing and presenting flannel board stories, puppets, music and creative movement activities to children.

EC3003 School Age Programming

This course is designed to introduce students to school age children and their care as part of a childcare setting. The intent is to enable students to use their knowledge of school-age children in order to develop skills to plan, carryout and

evaluate a well-rounded program. Students will learn to arrange facilities to provide an environment for children, facilitate spontaneous experiences to meet children's needs, and understand the impact of the development of children on the planning of a school-age program.

EC3022 Fieldwork Practicum III

Under the guidance of the Lab School staff, students will demonstrate in practice the theories and techniques studied in Methodology of Child Care III and Creative Expression.

EC3036 Methods of Child Care III

During this course, students will study the history and philosophy of Early Childhood Education, as well as the various program models most commonly found in today's childcare settings. Students will learn to develop a philosophy, goals and objectives for a child care program in order to plan, implement and evaluate a developmentally appropriate curriculum for groups of children.

EC3053 Creative Arts Workshop III

This course is designed to enable students to develop skills plan, carry out and evaluate a well-rounded creative program in a Childcare or school setting. Topics include: field trips, cooking with children, bulletin board displays, picture films and homemade teaching games.

EC4000 Fieldwork (5 weeks)

Students are placed in three different day care centres/nursery schools for a five-week period in Semester IV. These placements provide students with an opportunity to apply theoretical knowledge and gain practical experience in preschool teaching. The placements will provide diverse opportunities for learning as well as personal growth. One of the five-week blocks may be at an alternate setting such as an elementary school class (JK – Grade 2), home child care environment or other related setting.

EC4001 Fieldwork (5 weeks)

Students are placed in three different day care centres/nursery schools for a five-week period in Semester IV. These placements provide students with an opportunity to apply theoretical knowledge and gain practical experience in preschool teaching. The placements will provide diverse opportunities for learning as well as personal growth. One of the five-week blocks may be at an alternate setting such as an elementary school class (JK – Grade 2), home child care environment or other related setting.

EC4016 Child Care Administration

This course is designed to introduce students to the skills needed to plan and administer a childcare centre.

EC4023 Infant Toddler Programming

This course is designed to familiarize students with the unique aspects of planning and implementing a program of care for infants and toddlers. Students will be able to plan activities that will facilitate growth and development and that are age appropriate. They will be able to create a responsive environment that promotes health and safety as well as guides behaviour.

EC4024 Children with Exceptionalities

The purpose of this course is to provide students with an overview of the conceptual issues, research findings, accommodations, instruction, clinical practices and treatment approaches relevant to children and youth

with exceptionalities. This course emphasizes the concept of inclusion on a continuum and challenges students to critically analyze philosophies and practices in order to emphasize a people first approach.

EC4051 Fieldwork (5 weeks)

Students are placed in three different day care centres/nursery schools for a five-week period in Semester IV. These placements provide students with an opportunity to apply theoretical knowledge and gain practical experience in preschool teaching. The placements will provide diverse opportunities for learning as well as personal growth. One of the five-week blocks may be at an alternate setting such as an elementary school class (JK – Grade 2), home child care environment or other related setting.

EC4061 ECE Fieldwork Seminar (1 day/month)

This monthly seminar is held in conjunction with ECE field work placement in the fourth semester. The purpose is for students to work to solidify and practice a variety of critical skills, relationship building, professionalism, behavioural interventions, counselling approaches, self evaluation, self care, professional development. Students will be expected to present on work related experiences, done in the context of skills applications and professional practices.

EE1034 Digital Circuits

This is an introductory course in logic circuit analysis. Simplification of logical expressions by Boolean Algebra, and truth tables are introduced. Two most popular logic IC families, TTL and CMOS with the production of flip-flops and their applications in shift registers and counters will be studied.

EE1055 Electrical Fundamentals I

This course is an introduction to electricity. Its purpose is to develop a foundation for future courses. A clear understanding of basic concepts and their applications to problem solving will be stressed. Lecture topics include electrical quantities, Ohm's Law, series circuits, parallel circuits, series-parallel circuits, magnetism, electromagnetism, alternating current and voltage.

EE1204 Residential Wiring and Methods

Prerequisite: EE1206 Electrical Fundamentals, GN1033 Health and Safety
This course introduces students to the installation and design of various residential circuits used in a common household. Students will be working on actual installations of basic household circuits and electrical services used in the workplace. Topics include: safety in the workplace, introduction to the electrical code, symbols, service calculations and installations, wiring methods, grounding, installations of electrical equipment, and circuit design. The lab portion of the course will include installation of residential services and various residential circuits using extensive actual print readings.

EE1206 Electrical Fundamentals

This course is an introduction to electricity. Its purpose is to develop a foundation for future courses. A clear understanding of basic concepts and their applications to problem solving will be stressed. Lecture topics include: Coulomb's Law, electric fields, potential, charge and current, resistance, resistivity and temperature effects, DC resistive circuits, electrical energy, power efficiency, alternating current, filters, reactance, impedance, and transformers.

EE2014 Electrical Machines I

Prerequisites: EE3114 Electrical Motor Control, EE3033 Three Phase Theory
course covers the fundamental principles of operations of DC and AC motors and generators. Topics include; DC generators, DC motors, efficiency and heating of electrical machines, electrical machine maintenance, three-phase induction motors, synchronous motors/generators, and single phase motors.

EE2024 Electrical Fundamentals II

Prerequisite: EE1055 Electrical Fundamentals I
Topics include: interpretation and application of simple wiring and elementary diagrams, standard electrical symbols, electrical control pilot devices, relays, contactors, motor starters, timing relays, float switch, flow switch, limit switch, proximity switch, temperature switch, two-wire control, three-wire control, hand-off automatic control, multiple push button stations, jogging control circuits, time-delay low voltage release relay.

EE2204 Installation Methods - CAD I

Prerequisite: IN1953 Computer Applications for Technology
This course provides students with the ability to completely read and apply residential electrical drawings. Students become acquainted with the skills and terminology required for a CAD environment.

EE2206 Electronic Fundamentals

Prerequisite: EE1206 Electrical Fundamentals
This is an introductory course in electronics in which students learn the operation of PN junction diodes, zener diodes, photo electric devices, bipolar and field effect transistors and their application in electronic power supplies, operational amplifiers and oscillators.

EE3033 Three-Phase Theory

Prerequisite: EE1206 Electrical Fundamentals
Topics include three-phase theory, ideal transformer, transformer losses and testing methods, special transformers such as distribution transformers, autotransformer, current and potential transformers. Also included are three phase transformers.

EE3044 Instrumentation

This is an introductory course in instrumentation and process control for third-year technology students. Various transducers and their applications are discussed for temperature, pressure and flow measurements. The basic elements of electrical, thermal liquid flow, gas flow and mechanical system components are introduced. The analog and digital signal conditioning circuits are discussed for data conversion analysis. The basic operation of A/D and D/A is explained. Analog and digital multiplexer and data sample/hold are discussed.

EE3114 Electrical Motor Control

Prerequisites: EE1204 Residential Wiring and Methods, EE2204 Installations Methods - CAD I.
This course will develop students' understanding of the principal operation of many control circuits components used by industry. Students will practice wiring industry standard circuits which operate at industry level voltages and will cover basic stop/start and fwd/rev circuits with interlocking devices used by industry standards. This course serves as the basis for the PLC course delivered in the winter semester.

EE3204 Measuring Instruments

Prerequisite: EE2206 Electronics Fundamentals.
This is a lab-oriented course designed to

familiarize the student with the operation, characteristics, maintenance, and the application of different measuring instruments. Equipment studied includes voltmeter (DC and AC), ammeters, recording voltmeters, current transformers, meggers, and oscilloscopes. This course will provide the technician with a sound knowledge of the concepts of measuring and the operation of electrical instruments.

EE4003 Industrial Electronics

Prerequisites: EE3114 Electrical Motor Control, EE3204 Measuring Instruments

The use of high-powered devices, such as SCR's, Triacs, relays and control or triggering circuits will be studied. Also covered are stepper and servo motors and the construction and operation of variable speed drives.

EE4043 Programmable Logic Control I

Prerequisite: EE3114 Electrical Motor Control

This is a basic course in motor and logic control using both relay logic and PLCs (Programmable Logic Controllers). Ladder and cabling diagrams are developed to meet the logic requirements for a variety of applications. These are then documented, programmed, wired and run using both actual and simulated equipment. Small PLCs with only discrete I/Os and limited capability are used in this course.

EE4074 Voice and Data Cabling

Prerequisite: GN1033 Health & Safety

This course is designed to provide the student with a basic understanding of communication networks, telecommunication cabling, communication standards, and how to properly install and test an F connector and RJ45 jack.

EE4103 Power Systems

Prerequisite: EE3033 Three Phase Theory, EE3114 Electrical Motor Control

This course introduces electrical power systems, and the generation, distribution and transmission of electrical power. Topics include: different types of generating stations, transmission lines, P.U. standards and its equivalent diagram, as well as the hydro one distribution systems in depth: different types of breakers, distribution transformers, metering devices, and all other devices used for low voltage distribution.

EE5003 Instrumentation

Prerequisite: EE3204 Measuring Instruments

This is an introductory course in instrumentation and process control for third-year technology students. Various transducers and their applications are discussed for temperature, pressure and flow measurements. The basic elements of electrical, thermal liquid flow, gas flow and mechanical system components are introduced. The analog and digital signal conditioning circuits are discussed for data conversion analysis. The basic operation of A/D and D/A is explained. Analog and digital multiplexer and data sample/hold are covered.

EE5043 Programmable Logic Control II

Prerequisite: EE4034 Programmable Logic Control I

This course covers the operation and applications of an advanced programmable logic controller. The course begins with an introduction to an advanced PLC and its capabilities and applications. Then as the course proceeds, these applications are expanded upon, providing students with skills in applying PLCs to monitor and control devices, such as motors, solenoids, lights, valves, and other output devices both discrete and analog for commercial and industrial

establishments. Advanced topics include multiplexing, arithmetic functions, data moves, networking and PID control. The PLCs used in this course are of the more advanced type permitting the operations as explained above.

EE5203 Protection & Control I

Prerequisite: Not available at time of printing.

This introductory course provides a basic overview to power system protection and specifically details such topics as current/potential transformers, protection fundamentals, grounding principles and symmetrical components, protection coordination, transformer protection, bus protection and HV line protection.

EE5213 Power Utility Systems

This core course develops an in depth understanding of the utility power systems. Fault calculation, load flow analysis, arc flash calculation, and stability of power systems will be discussed. Theoretical classroom training will be supported by practical lab work.

EE6003 Control Systems

Prerequisite: EE5003 Instrumentation

Topics include control system terminology, controllers, actuating devices, transfer functions, Laplace Transform, Bode plots, stability analysis of system performance using different methods including Nichols charts and Root Locus.

EE6203 Protection and Control II

Prerequisite: EE5203 Protection and Control I

This core protection and control course presents in detail the application and operation of different types of protective relays, instrument transformers, time-current characteristics of fuses and circuit breakers. Theoretical classroom training will be supported by practical lab work.

EE6204 Electrical Design – CAD II

Prerequisites: EE2204 Installation Methods - CAD I, EE4103 Power Systems.

The purpose of this course is to provide students with the necessary knowledge to design electrical installations for commercial and industrial establishments. Topics include: grounding, protection of feeders, branch circuits, motor circuits and motor control centers. Extensive use is made of the Ontario Electrical Code. All drawings will be done in, and used with, ACAD.

EL1003 Elective

Students may choose a post-secondary course from a program they are working towards or a regular General Arts and Science course as an elective. Note: Students cannot take post-secondary courses, which require prerequisites. A list of eligible elective courses will be provided for students in the BScN program by the program coordinator at the beginning of each semester in which an elective is required. Law Clerk students' elective: Introduction to Cree.

EL1003 Elective

Students may choose a post-secondary course from a program they are working towards or a regular General Arts and Science course as the elective. Note: Students cannot take post-secondary courses, which require prerequisites. A list of eligible elective courses will be provided for students in the BScN program by the program coordinator at the beginning of each semester in which an elective is required. Law Clerk students' elective: Introduction to Cree.

EL1120 Electrical and Electronics I

This course will provide students with the fundamentals of basic heavy duty equipment electrical and electronics systems. They will be instructed on the proper maintenance, cleaning and inspection procedures of those systems and components. Students will cover topics such as introduction to lead acid batteries and electrical system diagrams.

EN1582 Applied Communications I

The purpose of this course is to give students practice in the fundamentals of trades career-related applications of basic communication skills.

EN1592 Communication Fundamentals

This course allows students to develop independent learning skills and to review the fundamental conventions of standard English, appropriate to trades usage.

ET2004 Electronics

Prerequisite: EE1055 Electrical Fundamentals I

Topics include: capacitors, inductors, transformers, series RC circuits, parallel RC circuits, series RL circuits, parallel RLC circuits.

ET5003 Electronics Communications I

Prerequisite: EE2206 Electronics Fundamentals
This is the first of a two-semester course.

Topics include: the communication spectrum, types of modulation transmitter circuits, AM superheterodyne receivers, single sideband transmission, frequency modulation and testing and troubleshooting sections. There will be various lab projects to reinforce the theoretical concepts.

ET6043 Digital Communications

Prerequisites: EE2206 Electronics Fundamentals, MA2104 Mathematics II, ET5003 Electronics Communications I

This course involves a study on communication using digital signals. Topics include the different types of coding techniques, different forms of transmission, network communications and today's fibre optics systems.

ET6073 Voice and Data Cabling

This course is designed to provide the student with a basic understanding of communication networks, telecommunication cabling, communication standards, and how to properly install and test an F connector and RJ45 jack.

EV1001 Plant Design

This course offers a thorough introduction to the design of water and wastewater facilities. The necessary information for each of the four categories in the OIT Examination (Water Treatment, Water Distribution, Wastewater Collection, and Wastewater Treatment) will be covered.

EV1003 Environmental Mathematics I

This course gives students practice with those specific mathematical skills necessary to pass the OIT Examinations in Water Treatment, Water Distribution, Wastewater Collection, and Wastewater Treatment. Topics covered include basic arithmetic skills, the metric system, unit conversions, area, surface area, volume, and tabling/graphing of data.

EV1011 Plant Operations I

This course offers a thorough introduction to the operation of water and wastewater facilities. The necessary information for each of the four categories in the OIT Examination (Water

Treatment, Water Distribution, Wastewater Collection, and Wastewater Treatment) will be covered.

EV1013 Chemistry and Physics

This is a course in basic chemistry and physics for water and wastewater plant operations. Topics include chemical processes involved in water and wastewater treatment, the physics of water distribution systems and wastewater collection systems, and basic electricity.

EV1023 Instrumentation

Prerequisites: EV1001 Plant Design, EV1011 Plant Operations I

This is an introductory course in instrumentation for water and wastewater plant operators. It covers basic electricity, basic motor control relays, starters, switches, breakers, overloads, and float controls, instrument recorders, process loops, and the fundamentals of PLC.

EV2002 Drinking Water Operations

This is an entry-level course for drinking water operators.

Students who successfully complete this course will have met the requirements of the Ministry of the Environment's Entry-Level Course for Drinking Water Operators. This course is delivered by Northern College in partnership with the Ministry of the Environment and the Walkerton Clean Water Centre.

EV2003 Environmental Mathematics II

Prerequisite: EV1003 Environmental Mathematics I

This course is a continuation of EV1003 Environmental Mathematics I and as such, is designed to give students practice with more advanced mathematical skills of relevance to operators of water and wastewater treatment facilities. Topics covered include advanced graphing, formula rearrangement and derivation, and problem solving.

EV2004 Plant Operations II

Prerequisite: EV1011 Plant Operations I

This course builds on the knowledge from Plant Operations I (OIT) and expands on the operation of water and wastewater treatment facilities. Material is presented at a level necessary for successful completion of the Class I Operator Examination.

EV2013 Soil and Air Monitoring and Sampling

This is a course in basic soil and air sampling and analytical techniques for waste facility workers. Preliminary topics to be covered include soil characteristics, soil classification, soil monitoring and sampling, the composition of our atmosphere, air pollution, and air quality monitoring and sampling. Field and laboratory sessions will involve the application of these concepts as they are introduced in lecture.

EV2023 Millwright

This course introduces students to the basic knowledge of a millwright as it applies to the responsibilities of an operator/mechanic in a water or wastewater treatment facility. Topics covered include: pump and motor alignment, bearing and seal installation, pump repair and rebuilding, use of pullers and presses, rigging, confined space entry, chlorine handling, basic welding, and grading and using bolts and fasteners.

EV4001 Water Quality Analyst

This course prepares students to write the Water Quality Analyst Examination of the Ontario

Environmental Training Consortium (OETC).

Topics include applicable regulations, principles of water treatment and analyses, disinfection and microbiology, the laboratory, quality control, record keeping, lab safety, sampling, laboratory tests, and mathematics.

EV4002 Chlorine Maintenance

This course is a thorough introduction to the use of chlorine in the water and wastewater industry. Students will learn the theory of water disinfection using chlorine and chlorine handling. They will then learn the theory of operation of chlorinators, along with confined space rules and procedures, and SCBA training.

EV4003 Environmental Mathematics III

Prerequisite: EV2003 Environmental Mathematics II

This course offers further practice with mathematical aspects of water and wastewater operations at a level sufficient for success in the Class I Examinations. Concepts and techniques not directly pertaining to the Class I Examinations, but which will enhance students' employability in the industry, are also covered. Students are introduced to basic statistical methods as a means of describing trends in process data. Basic probability theory is applied to determining the reliability of a system based on the reliabilities of its individual components. Linear regression is introduced as a more reliable and accurate technique for plotting linear data. Students are additionally given practice with reading and interpreting maps, plans, and drawings, including plan view and section view, solving problems based on the information contained in maps, plans, and drawings, and creating their own technical sketches based on field dimensions and/or descriptions provided.

EV4004 Pumps and Motors

This course deals with the use of pumps and motors in water and wastewater plants, including the choice of pumps and motors for a given application, their installation, use, troubleshooting, and maintenance.

EV4011 Laboratory Analysis

This course prepares students for the laboratory aspect of a plant operator's responsibilities. Topics covered include laboratory technique, safety, hygiene, and the interpretation of laboratory results in a variety of formats.

EV4014 Process Control

This course teaches the importance of process control in water and wastewater operations. Students will learn the basics of measurement and control systems, process parameters, safety, the types of instrumentation found in plants, and the operation and maintenance of this equipment.

FF1001 Introduction to Fire Service

This module provides an overview of the Ontario fire services, the professionalization process for fire fighters in Ontario, fire and emergency services organizations, and the roles and responsibilities of employees. In particular, it focuses on the knowledge, attitudes and skills required of a professional fire fighter. In addition, legislation and fire fighter safety practices are emphasized. (18 hours)

FF1004 Fire Ground Operations I

This course provides an overview of fire ground operations within the structure of an incident command system. Common techniques, tools, equipment and their use are incorporated. Specific knowledge, attitudes and skills of

the fire fighter are emphasized. The final component of this course covers common ropes and knots used to raise and lower fire-fighter equipment in emergency and non-emergency situations. Types, sizes and uses of rope are highlighted. Practical experience focuses on tying common knots and raising and lowering fire fighting equipment. (60 hours)

FF1011 Fire Behaviour and Chemistry of Combustion

This module provides an overview of fire and its behaviour from ignition point to extinguishment as a result of lack of fuel or oxygen. Fire is studied from both a physical and chemical standpoint. Stages and classes of fire and recognizable events are studied as well as methods of heat/fire spread and the methods used to control and extinguish fire. (15 hours)

FF1012 Emergency Patient Care I

The emphasis of this course is placed upon developing assessment skills for use in planning the stabilization and management of patients in a variety of medical/trauma situations. Students will be introduced to patient assessment, pathological processes and the management of various medical and traumatic problems that may afflict pre-hospital patients. Assessment is taught using a "hands on" approach that involves demonstration, performance and practice to hone skills. Practical sessions will follow the same outline as theoretical components of the course to assist in reinforcing knowledge and skills.

FF1014 Fire Ground Operations I – Firefighter Practice and Testing

This hands-on component of Fire Ground Operations focuses on the integration of fire ground theory into practice. Students will be introduced to and practice with communications and dispatch systems utilized within the fire department. The purpose, process and operation of communications equipment will be emphasized. The inspection, operation and maintenance of personal protective gear, breathing apparatus, tools and fire fighting equipment will be practiced. Students will have the opportunity to implement the use of firefighting equipment, and practice with ropes and knots within emergency and non-emergency lab simulation exercises. (60 hours)

FF2001 Environmental Protection and Rescue Operations I and II

This module provides an overview of environmental hazards and rescue operations. The roles and responsibilities of the fire fighting team and cooperating agencies are highlighted, along with safety practices and risk management. Also emphasized are the importance of environmental protection and the impact of hazardous incidents on the community and the health and safety of fire fighters. The module is at an awareness level and provides a basic building block for safety. (15 hours Semester II; 60 hours Semester III = total of 75 hours)

FF2004 Fire Ground Operations II

Fire Ground Operations II focuses on fire suppression, search and rescue, and property conservation. Content focuses on fire ground operations such as suppression, ventilation, forcible entry, search and rescue, salvage and overhaul. Specific knowledge, attitudes and skills of the firefighter are included. The Fire Suppression module describes the use of foams as extinguishing agents in the suppression of various types of fire. Types of equipment and

methods of application are also covered. (60 hours)

FF2006 Education and Fire Prevention in the Community

This course focuses on the leadership and legislative roles of the firefighter as they pertain to performing public education, public relations activities, public fire and life safety activities. (100 hours)

FF2012 Emergency Patient Care II

The emphasis of this course is placed upon developing assessment skills for use in planning the stabilization and management of patients in a variety of medical/trauma situations. Students will be introduced to patient assessment, pathological processes and the management of various medical and traumatic problems that may afflict pre-hospital patients. Assessment is taught using a "hands on" approach that involves demonstration, performance and practice to hone skills. Practical sessions will follow the same outline as theoretical components of the course to assist in reinforcing knowledge and skills.

FF2014 Fire Ground Operations II – Fire Fighter Practice and Testing

This hands-on component of Fire Ground Operations II focuses on the integration of fire ground theory into practice. Students will be introduced to equipment and methods of application for fire suppression, ventilation, forcible entry, search and rescue as well as salvage and overhaul. The types, classification, propulsion methods and use of fire extinguishers are reviewed. Students will implement the use of firefighting equipment, extinguishing devices and equipment utilized in forcible entry, search and rescue, salvage and overhaul within emergency and non-emergency simulation exercises. (60 hours)

FF2022 Psychology – Human Behaviour and Crisis Intervention II

This course is designed to provide students with an opportunity to apply psychosocial principles of human behaviour to fire-fighter situations. Concepts of growth and development as they apply to abnormal behaviour will be explored. Students will have the opportunity to apply social psychological theory that is sensitive to the needs of a cultural and racially diverse Canadian society to crisis situations. An emphasis will be placed on learning strategies and techniques specific to the concepts and theory of crisis intervention. (30 hours)

FF3007 Environmental Protection and Rescue Operations II

See FF2001

FF3016 Practicum (Pre-Graduate Practicum Experience)

The student will be provided with the opportunity to consolidate theory and practice skills while being preceptored by a firefighter or captain at a local fire department. The pre-graduate experience will allow the student to observe and participate in the reality of the local fire service. The practicum will be located in regional Fire Departments where the student will be scheduled to work with designated personnel. (252 hours)

GN1033 Health and Safety

This course is an introduction to the Occupational Health and Safety Act and Regulations. Topics include the Act and several related regulations. The student will

also complete valid generic WHMIS and Fall Protection certification during the semester.

GN1062 Ethics

This course will deal with veterinary ethics as they pertain to the clinic staff and the field of veterinary science as a whole. The student will be encouraged to participate in discussions involving all aspects of veterinary ethics.

GN1063 Occupational Health and Safety

This course covers an inventory system for hazardous materials in the work place, worker's compensation boards, how to identify current and potential losses attributable to health and safety factors, joint occupational health and safety committees, corporate obligation to law, union involvement in health and safety, interaction with inspectors empowered by law, the corporate climate in relation to occupational health and safety issues, right to know (644-88), and EAP programs capturing health and safety concerns.

GN1082 College Success

This course will provide students with the opportunity to explore and understand the process of gaining a postsecondary education while developing required learning skills and personal management techniques needed to be successful in an educational environment and in the workplace. The course includes a strong emphasis on identifying and understanding individual learning styles as well as developing strategies to work effectively with those preferences. The students will become better prepared to work effectively with others who have differing learning preferences. This course is also designed to have the learner understand that conflict is a natural phenomenon, present in all relationships in one's life and work and community. With a strong emphasis on prevention by design, participants will learn how to assist individuals and groups in resolving their differences and lead in the establishment of a culture of collaboration and achieving common goals.

GN2013 Co-op Study

This course is intended to raise the awareness of the importance of experiential learning through the co-operative education process. The student is encouraged to actively identify and discuss the merits of a three-way partnership between the college, the employer, and the student. Various skills are introduced to help the student prepare himself/herself using self-assessment, career planning, and job search tools.

GN2133 Law and Ethics

This course provides a basis for legal and ethical issues of importance to graduates and specifically covers torts, professional liability and contract law. Its goal is to begin preparing the student for professional designations and/or examinations.

GN3033 Environmental Control

This course is designed to give students an appreciation of the interrelationships between man, industry and the environment. The goal is to encourage them to understand the importance of the environment and their vested interest in complying with government legislation and company environmental policy. A considerable portion of the course is aimed at pointing out environmental problems, then investigating the types of instrumentation used to measure, control or remedy those problems. Industrial hygiene --air contaminants, radiation,

are also studied in terms of occurrence, effects, regulations and safety procedures.

HD1146 Diesel Engines I, II

This course will introduce students to different types and classifications of diesel engines. Also included are the basic operation of the two- and four-stroke cycle engines, starting aids and the methods used to start those engines. Topics also include history, engine classification and the proper function and use of diesel engine starting aids. The course will also address the basic construction of internal combustion engines. Students will be instructed on the proper maintenance, cleaning and inspection procedures of diesel engines and components. Topics include the construction and repair of engine crankshaft and camshaft connecting rod, piston and piston ring, block cylinder, head, valves and valve train, air and liquid cooling system, lubrication systems and maintenance and testing of cooling and lubrication systems.

HD1166 Trade Practices and Applications I

This course will introduce students to the heavy duty equipment trade. Students will learn about safety procedures, responsibilities and hazards encountered in equipment shops. Topics covered will include: proper lifting practices, fire safety and suppression systems, hazardous fumes, carbon monoxide poisoning, the use and selection of various precision tools and testers used in the heavy duty equipment trade.

HD1223 Hydraulics I

This course is an introduction to hydraulic fundamentals for application in trade programs. Its purpose is to provide an understanding of the basic hydraulic system, the components, Pascal's Law and its applications. This course will be presented through lectures, class discussions, assignments, slides, tapes and hydraulic component cutaways. Topics include: safety, hydraulic principles and basics, symbols, fluids, reservoirs, pumps which include gear, vane and pistons, fixed and variable displacement, balance and unbalance and open and closed centre systems.

HD1230 Fuel Systems

This course will cover the basic fundamentals of fuel systems and their components. Testing procedures and design differences, fuel injected systems, fuel pumps and schematics interpretation will be included.

HD2223 Hydraulics II

Prerequisite: SK1023 Hydraulics I

This course is an introduction to hydraulics fundamentals for application in the trade programs. This course will be presented through lectures, class discussion, assignments, slides, CD-ROM and hydraulic cut away. Topics include: pressure control, directional control, volume control, hydraulic cylinders, accumulators and basic operation of proportional valves. Labs include disassembling and assembling different types of components.

IN1013 Computer Applications I

This is an introductory course in the study of computers and software. Software packages including Windows operating system, Microsoft Word, Microsoft Excel, PowerPoint and Internet Explorer will be taught at the beginner to intermediate level and supplemented with in-class assignments and tests. Examination of the Internet as an information vehicle and electronic mail are also covered. This course is common in many programs therefore students should expect

minor variations from the description presented here.

IN1014 Computer Fundamentals

This course is designed to give students a solid introduction to modern personal computer systems, their use, and system architecture. Broader issues including the ever-increasing popularity of the Internet, the use of computers in society, and careers in the computer industry are also discussed. Knowledge gained is reinforced through hands-on, real world experience with system and application software and the Internet.

IN1035 Networks I

This course is a study of the dynamic field of telecommunications/networking in today's computing environment. Communications fundamentals are examined and related to current communication standards. Current network types, standards, topologies, protocols and their relations to one another will be discussed. Other topics like the Internet, LAN switching, security and quality of service will be discussed.

IN1073 Digital Imaging

This course will focus on the tools (software) and technology (hardware like digital cameras, scanners, video cameras, web cams, etc.) required to capture and create digital content. Photographic techniques will be studied and employed in the rendering of high quality digital imagery. Students will explore various digital image file formats, learn the relationship between computer memory and image quality, as well as techniques in file conversion and compression, image manipulation, enhancements and special effects. Students will develop content that will be tailored to meet the needs of a variety of presentation applications.

IN1083 Graphics Applications I

This course provides a "hands on" look at the study of graphics design. Students will be introduced to type terminology and the characteristics of fonts, the principals of design, and the various types of layout techniques and their properties. Internet copyright and finding and using media will be explored. A professional attitude towards deadlines and the importance of craftsmanship and execution is also emphasized. This course is outlined as 3 integrated modules covering graphical design concepts & their application using popular software tools such as CorelDraw X3 and Adobe Illustrator Creative Suite.

IN1092 Computer Methods – Trades Software

Students will learn about trade software and how to use the Alldata system. They will also learn how to identify different vehicles by their VIN numbers, how vehicle warranties work, the different positions and responsibilities of workers in the automotive industry, how to complete work orders and how to deal with the public.

IN1104 IT Essentials I

The goal of this course is to lay a foundation for the basic information required to build a computer and to troubleshoot problems that occur. It is designed to prepare students to pass the CompTIA A+ certification exams and, when studied in conjunction with the IT Essentials II course, the Network Operating Systems course, the CompTIA Server + certification exam. The course is intended for students who want to pursue a career in information technology or

who want to have knowledge about how a computer works, and how to troubleshoot hardware and software issues.

IN1105 Introduction to Programming

This course provides an introduction to programming with an emphasis on object-oriented programming using the Java language. Students will learn core programming concepts such as algorithms, logic, data types, variables, control structures and operators. The course will also introduce more advanced topics such as arrays and strings, classes, inheritance and object-oriented design.

IN1124 Introduction to Programming I

This is an introductory course in computer programming using the Visual Basic 6 language. Program planning is emphasized through the use of such programming tools as flowcharts and pseudocode. This course covers the basics of handling objects, events, variables, functions, sub procedures, looping structures, decision making, control arrays, as well as Input and Output formatting standards. Structured programming techniques are emphasized throughout the course.

IN1174 Operating Systems I

An Operating System is an organized collection of programs and data designed to manage the resources of a computer system and provide a base upon which applications can be developed and run. This course familiarizes the student with the functionality provided by Operating System software. It also explores some of the theory and techniques used within operating systems to provide such functionality.

IN1193 Drawing I

This course is designed to give students a solid introduction to drawing techniques. It will help the students develop the skills needed to accurately translate what is seen to paper. This is a foundation course in drawing for the novice art students. The students will be able to apply the skills developed in creating computer graphics and multimedia in their other courses.

IN1224 CAD I

Prerequisite: IN1953 Computer Applications for Technology

This course provides students with the ability to produce two-dimensional drawings and details using computer-aided drafting. Students become acquainted with the skills and terminology required for a CAD environment.

IN1313 Software Applications I

Essential aspects of Word and PowerPoint are covered. Word's extensive menu, toolbar, and template features will be used to create formal reports, newsletters, resumes, and business documents that consist of tables, charts, and watermarks. Advanced topics will include desktop publishing, macros, online forms, and working with a master document, an index, and table of contents. Students will use PowerPoint to create presentations enhanced with visuals and animations.

IN1323 Introduction to MAC

This course will introduce the graphics design students to the Apple MAC computer platform. Features of the Leopard operating systems will be studied as well as file creation and manipulation, graphic file formats and MAC applications including the Adobe Creative Suite.

IN1623 Computer Skills

This course provides an introduction to: computers and common peripherals, common word processing software, email, and one-dimensional data base searches. Students will practice simple data entry and master the use of one or more common retail/service sector software packages used for a limited number of functions (essential skill level 2).

IN1953 Computer Applications for Technology

Students are introduced to more advanced concepts of the most commonly used microcomputer applications – MS Word, MS Excel, MS Access, MS PowerPoint, and MS Outlook and Intro. to ACAD. Basic computer skills are required as prerequisites. A series of lectures, projects, and exercises will take advantage of the Microsoft Office features. Project material is developed so that students will apply their software skills to course material throughout their program of studies.

IN1973 Programming For Technicians

This course is an introduction to programming for technicians. Using C++, students will learn the basics of programming with examples and assignments directed towards technology. The topics covered include variables, data types, operators, decision making, loops, stream I/O, arrays, functions, classes, and objects.

IN2005 Hardware Fundamentals

This is an introductory course in personal computer (PC) hardware. Students will learn the basic hardware components of a PC including microprocessors, motherboards and buses, the BIOS, memory, storage devices, I/O interfaces, input devices, output devices, and power supplies. Practical sessions will include hands-on familiarity with installing, configuring, and troubleshooting hardware devices.

IN2013 Computer Applications II

This course covers advanced computer applications including advanced Microsoft Office Word, Microsoft Office Excel, intermediate Microsoft PowerPoint and introduction to Microsoft Access. Topics include creating a web page from a Word document, form letters, merging to form letters, labels and envelopes, financial functions, amortization schedules, data tables, creating and querying a worksheet database, spreadsheet templates, linking worksheets, advanced animation, transitions and sound files for slide show presentations, and structuring databases. The lectures will be supplemented with in-class assignments and tests. This course is common in many programs therefore students should expect minor variations from the description presented here.

IN2035 Networks II

This course is a continuation of IN1035 Networking I.

The course is a study of the dynamic field of telecommunications/networking in today's computing environment. Communications fundamentals are examined and related to current communication standards. Current network types, standards, topologies, protocols and their relations to one another will be discussed. Other topics like the Internet, LAN switching, security and quality of service will be discussed. The labs will reinforce the theory by allowing students to practice setting up desktop PCs and networking them in a LAN. Students, working in groups, will configure servers using Windows 2000 Server and exchange

data between their different domains through switches, routers and by establishing trusts.

IN2042 E-Business and Web Research

This introductory course in e-business develops an understanding of the new knowledge-based economy and how businesses, non-profit organizations and governments are integrating e-business principles into their various functional areas such as finance & accounting, marketing, human resource management, production, sales and information technology. The student learns how different organizations are using internet and web research in their day-to-day operations to develop process efficiency

IN2065 Audio & Video Production

This course provides an introduction to multimedia content, digital video and digital audio preparation. Students will go through the planning and development process for multimedia productions. A professional attitude towards deadlines and the importance of creativity and execution are emphasized. Students will learn to research, plan, develop content, and produce creative products with an understanding of technical and economic realities.

IN2093 Graphic Applications II

This course will put into practice the skills achieved in the Graphics Applications I, Web Design I and Digital Imaging courses from the first semester. It will also include practical applications from skills acquired in the Audio & Video Production and Web Design II courses that students are taking this semester. Students will gain further knowledge of the graphics suite of applications from Corel as well as Adobe by developing several projects. Some tasks will be completed by the individual student other tasks will involve a group effort. Professionalism dealing with 'real' deadlines associated with client projects is emphasized throughout this course.

IN2094 Software Support

This course takes a more in depth look at configuring and using Windows XP and various software applications. Students will learn what is required for software installation, upgrades, maintenance and support.

IN2103 Electronic Spreadsheet

Essential aspects of Excel and the principal functions of the spreadsheet are covered. Students will be given an in-depth understanding of worksheet design, charting, what-if analysis, a worksheet database, and workbook creation. Students will learn to develop a template, consolidate data into one worksheet, link a worksheet to a Word document, automate tasks, validate data, and import data into an Excel workbook

IN2104 IT Essentials II

Prerequisite: IN1104 IT Essentials I

The goal of this course is to lay a foundation of the basic information required for network operating system administration and other network administration tasks. It is designed to follow the IT Essentials I course to fully prepare students to pass the Server+ certification exam. The course is intended for students who want to pursue a career in information technology or who want to have knowledge about how a computer works, how to administer Windows 2000 and Linux Red Hat Network Operating Systems, and how to troubleshoot operating system issues.

IN2105 Markup Languages

This course provides an introduction to markup languages and their use in web publishing. The focus will be on HTML, XML and XHTML with introductions to CSS and techniques for web publishing. In general, a markup language provides a way to combine text and information about the text. The most common example of a markup language is HTML which allows for text and multimedia elements to be displayed in a web browser. Through a combination of research and applied projects, students will learn advanced techniques for using the web as a data transfer and publication tool.

IN2113 Introduction to Computerized Bookkeeping

Prerequisite: AC1113 Bookkeeping I or AC1004 Accounting I

During this course, students will gain an understanding of computerized accounting concepts using Simply Accounting for Windows. The student will complete applications using the general ledger and receivable modules. Theory topics include adjustments and the ten-column worksheet, closing entries, post-closing trial balances, special journals, and accounts receivable and accounts payable ledgers.

IN2123 Presentation Techniques

This course provides an overview of the methods and techniques involved in preparing and delivering effective presentations. Students will learn and apply principles for effective writing and editing of content, design and create appealing visual aids for both PowerPoint and the Web, and learn to communicate their message clearly and effectively.

IN2124 Introduction to Programming II

This is a continuation of the "Introduction to Programming I" course. Further programming experience will be explored via the concepts and syntax already introduced in the prerequisite course. Additional concepts, structured program design considerations, troubleshooting tools, Controls and Objects, and the necessary code required to utilize these is the focus of this course.

IN2134 Computer Operations

This course explores the many roles of a system administrator, from planning and installing a computer system or network, to doing repairs, doing updates, performing maintenance, customer service and more. The various roles discussed will cover the different requirements of properly running a computing center and/or a network.

IN2184 Operating Systems II

This is a continuation of IN1174 Operating Systems I. Students will learn how to install, configure, network, and troubleshoot the Windows and Linux operating systems. Practical lab sessions will reinforce the concepts introduced in lecture.

IN2193 Drawing II

This is a continuation of IN1193 Drawing I. Students will continue to develop their drawing skills and get a solid introduction to using colour as a means of expression. Colour theory will be presented and practiced through various mediums: coloured pencils, pastels, watercolours and acrylic paints.

IN2254 Logic and Coding

This course involves a study of the different techniques and formats used to represent and

manipulate data in the memory of modern digital computers. Positional number systems are studied with special emphasis on the Binary, Octal and Hexadecimal systems. Related topics include arithmetic operations, conversion of numbers between bases, representation of signed data, 2's complement arithmetic, etc. Other topics include Floating Point notation, Binary Coded Decimal, several common data structures and expression representation in both Infix and Postfix notations. Also programming concepts and structured programming logic will be studied.

IN2304 CAD II

Prerequisite: IN1224 CAD I

This course prepares students for more applied CAD skills. With a combination of theory and applicable practice using AutoCAD and Architectural Desktop, students will learn the process of preparing architectural design presentation drawings, architectural construction drawings, civil site plan and grading and structural drawings. Design lectures will be given on preliminary architectural basic elements in order to familiarize students with design principles and procedures. Construction drawing lectures will be co-ordinated with the term project. Students will learn the step-by-step process for developing structural drawings for their term project.

IN2313 Software Applications II

Essential aspects of Excel and the principal functions of a worksheet are covered. The student will use formulas and functions to build and format worksheets and workbooks. Topics including using IF, financial, database, and lookup functions, as well as data tables and amortization schedules. A variety of charting techniques will be examined. Excel worksheets and charts are linked to Word documents and PowerPoint presentations.

IN2324 Typography

This course introduces graphic design students to the history, principles and use of letterforms in communication and covers such areas as typefaces, type families, and timesteps. Students bring to their lettering design solutions an understanding of such issues as letter formations and proportions, spacing, legibility, optical effects, and the accurate application of visual language skills.

IN3003 Database Management I

Prerequisite: IN1953 Computer Applications for Technology

This course is an introduction to database creation and management and is designed to give students the basic fundamentals of Access 2000. Topics include creating tables of data. Students are able to manipulate data using queries. Forms for easier viewing of information are designed. Students learn to general professional looking reports. Macros, for easier automation of repetitive tasks are also created.

IN3045 Intermediate Programming I

Prerequisite: IN1105 Introduction to Programming

This course provides an in-depth study of the Java programming Language. It is designed, together with Intermediate Programming II, to prepare students to pass the Sun Certified Java Programmer exam. Using object-oriented programming methodology, students will cover advanced class design, inheritance and polymorphism, advanced input and output and an introduction to Graphical User Interface (GUI) design.

IN3074 C++ Programming

This course teaches the basics of C++ programming. Emphasis is placed on problem solving, programming techniques, and the development of industry-standard, user-friendly programs that fully satisfy the user-defined requirements. Hands-on experience in a positive, collaborative learning environment is stressed throughout.

IN3093 Desktop Publishing

This course introduces students to the key concepts in effective desktop publishing, including colour theory, page layout, graphic design and font usage. Students will use software tools such as Microsoft Publisher, Corel Draw and Corel Photo-Paint to create a variety of documents for business and marketing. The focus of the course will be on techniques for creating effective and aesthetically pleasing documents for both print and electronic media.

IN3173 Web Design I

This course involves a study of HTML, a hypertext markup language used to publish documents on the World Wide Web. Students learn to create and format HTML documents that include: lists, anchors, links, tables, color, font formatting, graphics, animation, image maps.

IN3183 SQL I (Oracle)

This course will give students the opportunity to work "hands on" with a powerful relational database system that is very popular in industry. The Oracle 9i enterprise edition of the database, as well as the Developer Suite tools will be used. Students learn to create, modify and manage Oracle tables and data using SQL *Plus, the Oracle command-line SQL environment. Much attention is given to the Select statement as a tool for information retrieval. This course continues into a second semester course (SQL II) where the focus is on the PL/SQL programming environment and the forms and reports components of the Developer Suite.

IN3224 Microprocessor Programming

Prerequisite: IN4054 Intermediate Programming II
In this course, students will learn the basic programming language as applied to its use in programming a microprocessor used to control a small robot. Each student will be supplied with a robot kit and manuals with instruction on how to build programs to control the robot's actions.

IN3244 Operating Systems I

Prerequisite: IN1953 Computer Applications for Technology

This course comprises a study of the software that manages the resources of modern computing systems. Topics include: multiprogramming, timesharing, relocatability, system libraries, interrupt processing, system communications, memory management, spooling and formats of disk storage.

IN3253 Introduction to Operating Systems and Networks

Prerequisite: IN1953 Computer Applications for Technology

This course comprises a study of the software that manages the resources of modern computers, and introduces computer network technology and computer programming. Topics include a basic overview of computer/network equipment, computer/router operating system functions, administration, and backup as well as an introduction to basic programming concepts and structures.

IN3304 Systems Analysis

This course provides a complete examination of systems analysis as it applies to all phases of the Life Cycle of Systems Development. The concepts of database design are thoroughly introduced. Relational database organization, using Microsoft Access in a Windows environment, and the structured approach to system development are introduced and utilized in the design of a small business project. Such project choices include an inventory/order system, a video rental system, an online banking system, a cataloguing system, etc. The project analysis and design coverage includes Tables, Queries, Forms, Reports, and an introduction to the programming components of Microsoft Access, namely; Macros and Visual Basic for Applications.

IN3324 CISCO Networking I

Prerequisite: IN1125 Introduction to Programming I with a min. grade level of C.
A computer network is a collection of interconnected computers and network devices. The network provides a path for the communication of device control information and user data. This course is an introduction to computer networks with an emphasis on Cisco-supported networking technologies. This is the first course in a series of four courses designed to give the student all the material, information and hands-on experience required to write the Cisco CCNA exam. In this first course the student will be introduced to basic electronics, computer and network theory. The course material is delivered through both lecture and hands on lab work.

IN4002 Document Processing

Prerequisites: CM2153 Communications 2, OF2136 Word Processing/Keyboarding 2, OF2052 Transcription
This course continues to develop skills previously acquired through Word Processing/Keyboarding, Communications, and Transcription, and apply new knowledge acquired through the Medical and Legal Terminology courses. Language skills are challenged, and advanced documents (letters, memos, news releases, manuscripts, minutes, medical and legal documents) will be transcribed using transcription equipment. Grammar principles reinforced throughout the semester.

IN4003 Database Management II

Prerequisite: IN3005 Database Management I
This course is a follow up to Database Management I.
Previously, the student gained familiarity with Access as a Database Management System. This course will build on those skills and allow the student to create more complex forms, reports and queries. It will build on previously taught skills and will introduce the student to Structured Query Language (SQL). This will allow the student to access and extract data from files that would not normally be available to Access. Database administration concepts and practices will be introduced. Students will retrieve database information with SQL (Structured Query Language) commands.

IN4034 Assembler Programming

This course involves a study of the machine and assembly languages of the Intel 80x86 family of microprocessors. Topics include memory, registers, addressing modes, machine language formats, assembler instruction format, the Intel instruction set, assembler directives, manipulation of character and numeric data,

interrupts, procedure calls and macros.

IN4044 Web Design II

This course continues with the study of HTML, to develop & publish more elaborate documents on the World Wide Web. Creating and using Web Pages with Frames and Forms is the first objective. Secondly, the Macromedia FLASH MX graphics development software is explored as a tool to develop creative web pages with animation, video, and interactivity.

IN4045 Intermediate Programming II

Prerequisite: IN3045 Intermediate Programming I
This course will fully prepare students to pass the Sun Certified Java Programmer exam. It will introduce wrapper classes and packages, advanced topics in Graphical User Interface (GUI) design, exceptions and error handling and multithreaded programming.

IN4052 AutoCAD II

Prerequisites: IT2012 Drafting and AutoCAD I
This course first reviews the basic drawing, editing and display commands used in AutoCAD LT200. Advanced drawing, editing and display commands relating to blocks, Xrefs, attributes, tablet menus and hatching are learned. Practical assignments relate to site plans, drill hole plotting, geology cross-section and assay information, determination of area, etc., and a milling flow sheet or circuit diagrams.

IN4054 Systems Administration

Prerequisite: IN4254 Operating Systems II
Students will learn how to set up and manage a network environment. This course includes such topics as email servers, Web servers, FTP servers, backup procedures and system security issues in both the Windows and the Linux operating systems.

IN4073 Java Programming

This is an introductory course in Java programming. Students will become acquainted with Java syntax by writing procedural programs based on objects of the primitive data classes. Once a level of familiarity has been achieved, they will expand on this knowledge by creating object-oriented programs containing user-defined classes and class hierarchies. Graphical programming is introduced early on, culminating in an entire module devoted to designing graphical user interfaces (GUIs). Additional topics covered include arrays, exception handling, file I/O, and data structures.

IN4105 Internet Programming

This course provides a hands-on introduction to web application development. Students will design and implement a series of projects that reflect the current trends in web applications. Sample projects include shopping cart systems, blogs and content management systems. Students will gain experience with web scripting languages and enabling database-driven content.

IN4143 Database

Prerequisite: IN1013 Computer Applications I, or IN1313 Software Applications I, or OF1136 Word Processing/Keyboarding I

This course will introduce the student to the many features and applications of Access. Access terminology and characteristics of a database will be covered. Students will learn to create, query, maintain, and present a database. Instructions will be provided on converting an Excel worksheet to an Access table and merging a Word form letter with an Access database.

IN4153 Algorithms

This course is designed to introduce students to common algorithms used in programming. Students will study a variety of data storage and representation techniques such as stacks, queues, lists, binary trees, heaps, graphs, sequential files, random access files and indexed files. As well, various algorithms will be studied: sort routines, searching techniques, string and pattern matching, data conversion, compression and encryption.

IN4163 Introduction to GIS

Prerequisites: IN1013 Computer Applications I; IN1224 CAD I

This course introduces the basic principles of geographic information systems. Emphasis will be placed on the theory, uses and applications of GIS today. There is a highly practical component to this course.

IN4173 SQL II (Oracle)

This course is a continuation of SQL I offered in the previous term. The Oracle 9i enterprise edition of the database as well as the Developer Suite tools will be used. The course focuses on retrieving data from multiple tables, exploring the PL/SQL programming environment, developing forms, triggers, and reports using the Developer Suite of applications.

IN4194 Systems Design

This course is a continuation to the Systems Analysis course. It provides further examination of the concepts associated with the System Development Life Cycle activities. The database design from the first term project is completed with such tasks as improving the user interface, setting up a 'front' and 'back' end version of the database to allow multiple user access, controlling the start up look and behavior of the final application, as well as error handling. Further exploration of VBA will be made to support these activities. In the second part of this course this project will be developed using the Visual Basic 6 language environment. The MS Access tables will serve as a "back end" for the final compiled VB application that will include the development of forms, reports, help files, and final setup distribution media.

IN4254 Operating Systems II

Prerequisite: IN3244 Operating Systems I

This course expands on Operating Systems I by configuring Windows 2000 and Red Hat Linux v8.0 to be both network servers and clients. Installation and configuration of the system utilities required to allow these two operating systems to be able to interconnect on the same LAN will be covered in both lectures and hands on labs.

IN4324 CISCO Networking II

Prerequisite: IN3324 - Cisco I with a min. grade level of C.

This is the second course in a series of four courses designed to give the student all the material, information and hands-on experience required to write the Cisco CCNA exam. CISCO II expands upon the material in CISCO I by covering WAN technologies in more detail. Router hardware, set-up and configuration are covered in depth. IP addressing, routing / routing protocols and network troubleshooting will also be explored. The course material is delivered through both lecture and hands on lab work.

IN4403 MS Project Management

This course will introduce students to the basic skills of Microsoft Office Project. Students will plan a project, create a project schedule, communicate project information, assign resources and costs, track progress and close the project, and share project information with other people and applications.

IN5106 Advanced Programming

Prerequisite: IN4045 Intermediate Programming II

This course will tie together various programming techniques and languages the students have studied previously. Students will focus on analyzing, designing and implementing solutions for large scale, real-world programming problems. The projects in this course will vary according to current trends in programming, but could include such subjects as developing an enterprise level web server application, advanced interface design, and programming for hand-held devices (Blackberries, PDAs etc.).

IN5303 CAD II

Prerequisite: IN1224

CAD II is a continuation of CAD I. Students will further develop skills increasing and editing drawings, creating prototype drawings, creating and using symbol libraries, proper dimensioning of drawings and plotting of drawings to a printer.

IN5324 CISCO Networking III

Prerequisite: IN4324 - Cisco II with a min. grade level of C.

This is the third course in a series of four courses designed to give the student all the material, information and hands-on experience required to write the Cisco CCNA exam. CISCO III expands upon the material in CISCO II by covering the OSI model and how routing relates to the models various layers. LAN switching, VLANs and LAN design will also be introduced in this course. More information regarding routing protocols will be studied as well as Access Control Lists (ACLs), Novell's IPX protocol and general network management tasks. The course material is delivered through both lecture and hands on lab work.

IN6003 Systems Analysis

Prerequisite: IN4254 Operating Systems II

This course provides an examination of systems analysis as it applies to all phases of the life cycle of system analysis. The actual components of each of these phases, in theory and practice, are explored in relation to completing an assigned project. This course provides for further study, design, and development of a project assigned and partially designed in the prerequisite course Introduction to Systems Design. Considerable class time will be devoted learning more about the Microsoft Access applications as well as its interface with Visual Basic in order to complete the assigned project.

IN6044 Systems Scripting

Prerequisite: IN4054 System Administration

Students will learn and develop administrative, server-, and client-side scripting projects in both the Windows and Linux environments.

IN6108 Systems Security

This course provides an introduction to the topic of security in the context of computer networks. It is intended for students who have some understanding of networks, but not necessarily any background in security. The goal of the course is to provide students with a foundation allowing them to identify, analyze, and perhaps

solve network-related security problems in computer systems.

IN6324 CISCO Networking IV

Prerequisite: IN5324 - Cisco Networking III with a min. grade level of C.

This is the final course in a series of four courses designed to give the student all the material, information and hands-on experience required to write the Cisco CCNA exam. CISCO IV expands upon the material in three previous courses with more in depth information regarding WANs and WAN design. The WAN technologies such as Point-to-Point Protocol (PPP), Integrated Services Digital Network and Frame Relay will be covered in depth. Additional material regarding network management is also offered. Finally, a Network Certification Exam review and CCNA Exam review will be completed. The course material is delivered through both lecture and hands on lab work.

IN6334 Information Systems

People in every line of work and in every type of organization make use of information systems. Chances are, regardless of their future role, students will need to understand what information systems can and cannot do, and be able to use them to help them accomplish their work. Students will be expected to discover opportunities to use information systems and to participate in the design solutions to business problems employing information systems. Students will be challenged to identify and evaluate IS options. To be successful, students must be able to view information systems from the perspective of business and address their impact on fellow workers, customers, suppliers, and other key business partners. For these reasons, a course in information systems is essential for students in today's high-tech world.

IT1002 Instrumentation Physics

This course introduces concepts of metric and British systems of units, conversions, measurement, vectors, force, inertia, hydrostatics and hydraulics. The majority of the course involves calculations based on the aforementioned theoretical concepts of physics, and the emphasis is on the physics of fluids in order to supplement concepts learned in Instrumentation labs. Several lab exercises are included to reinforce theory.

IT1004 Basic Techniques

Topics include: instrument symbols, calibration, pneumatic control mechanisms, safety, tools, loop diagrams, regulators, pipe and tube fittings, soldering, test equipment (meters, calibrator, deadweight tester, etc.), recorders, transducers.

IT1014 Measuring Principles I

Topics include: pressure measurement manometers, pressure elements, gauges, pneumatic pressure transmitters, electric pressure transmitters, differential pressure transmitters, flow measurement, differential pressure transmitters, flow measurement, differential pressure elements, integral orifice meters, flow calculations, mechanical flowmeter, electric flowmeter, weirs and flumes.

IT2004 Control Principles

Topics include: control terminology, control valves, valve actuators, positioners, booster relays, regulators, solenoid valves, pneumatic controllers, electric controllers, on-off dampers and feeders control, proportional control, controller tuning.

IT2012 Drafting and AutoCAD I

The course focuses on the basic drawing, editing and display commands for AutoCAD. Practical assignments relate to process loop drawings and dimensioning. AutoCAD LT2000 is used for this course.

IT2024 Measuring Principles II

Topics include: level measurement-pressure and differential pressure, floats, displacers, sight glasses, bubble tubes, conductivity probes, capacitance probes, ultrasonic, nuclear, paddle wheels, diaphragm boxes, radar, laser. Temperature measurement-thermometers, bimetallic, filled systems, RTDs, thermistors, thermocouple, pyrometers, vibration photo electrical devices, flame detectors, speed sensors.

IT3001 Co-op Apprenticeship Work Term I

Description unavailable at time of printing.

IT3002 Analytical Principles

Topics include: instruments and methods of measuring process and combustible gases, humidity and dew point, application to air conditioning, instruments and methods of measuring chemical composition for both laboratory and process control, specific gravity, acid and gas strengths, radiation measurement and applications, on stream x-ray analyzers.

IT3005 Control Techniques

Topics include: loop troubleshooting, cascade control, radio control, feed forward, microprocessor terminology, microprocessor controllers.

IT3013 Digital Principles

Prerequisites: EE1055 Electrical Fundamentals I, ET2033 Electronics

Topics include: binary number systems, binary, decimal, hexadecimal, Boolean algebra, logic gates including truth tables, combination logic, relay logic, programmable logic controllers including principle of operation and programming techniques, Modicon 984, Allen Bradley SLC 500.

IT3023 Industrial Electronics

Prerequisites: EE1055 Electrical Fundamentals I, ET2033 Electronics

Topics include: motor nameplate data and wiring interpretation, three phase and single phase motor connections, DC motors, DC motor starting circuits, DC generators, three phase power, transformers.

IT4003 Statistical Process Control

Prerequisites: MA3033 Mathematics III, IT2004 Control Principles

This is an elementary course in SPC with applications relevant to the process industries. Topics include: introduction to quality concepts, measurement and variation concepts, special-cause and common-cause variation, measures of the tendency and spread, organization of data by different graphical techniques, normal probability distribution, variables control charts and attributes control charts and interpretation, gauge capability, operating characteristic curve, selection of the best of curve, and process capability analysis.

IT4008 Control Systems

Topics include: distributed control, furnace control, boiler operation and control, concentrator controls. Other topics include: roaster controls, acid plant controls, pulp mill controls, nuclear power plant controls, control panels, maintenance scheduling, weighing,

pump control, and closed circuit television.

IT4024 Electronic Circuits

Prerequisite: IT3023 Industrial Electronics

Topics include: Single Phase AC motors, Wound Rotor Induction motors, Reduced Voltage Starters, three-phase multi-speed controllers, Motor Drives, and Motor Maintenance.

IT4044 Advanced Digital Principles

Topics include: architecture of a basic microprocessor system, data acquisition systems, data address, and control Bus, memory interfacing, multiplexing analog signals, networking, communications, advanced programmable logic controllers.

IT6001 Co-op Apprenticeship Work Term II

Description unavailable at time of printing.

LC1003 Business Law I

This introductory course will focus on a brief history of common law, Canada's political system, constitutional law, torts, contract and property. Students will learn how court cases affect legislation.

LC1013 Law Office Management and Client Relations

This course will focus on interviewing techniques and office etiquette. Specifically, the student will learn how to help the lawyer structure the interview, create a positive environment for the client during the interview, avoid interview inhibitors, and emphasize client empowerment.

LC2003 Business Law II

This is a course that will assume the student has previous knowledge of contracts, torts and property. It will focus on legislation and case law governing sole proprietorships, partnerships and corporations.

LC2013 Legal Ethics

This course will provide students with a framework within which to analyze the legal dilemmas that lawyers face. Case studies and the Law Society of Upper Canada's guidelines will be used to focus on lawyer-client confidentiality and expectations, conflicts of interest, client perjury and how lawyers choose and refuse clients.

LC2023 Civil Litigation

This course will focus on the civil court process in Ontario. Specifically, it provides an overview of a civil law suit, procedures proper to the commencement of proceedings, client management and interviewing, an introduction to the Ontario Rules of Civil Procedures and the Courts of Justice Act, the drafting of pleadings, service of court documents, motions and summary judgment.

LC2033 Legal Software

The course exposes students to software beyond applications of Microsoft Office. Specialized software used for docketing, time management, invoicing and payroll will be examined.

LC2043 Family Law

This course will provide the student with a background in the history of family law in Ontario and an overview of marriage breakdown, spousal and child support, financial disclosure, child access and custody, the Family Law Rules, separation agreements and equitable property rights.

LC2053 Introduction to Real Estate

This course will guide the student through

standard transactions involving the role of the law clerk, the agreement of purchase and sale, registration of interests in land, surveys, plans and legal description, title searching, charges and mortgages and standard documentation.

LC3003 Introduction to Corporate Procedures

This practical course focuses on the process of incorporation, its organization, shareholder agreements, reporting letters, routine management, corporate finance and the differences between asset and share purchases and sales.

LC3013 Introduction to Wills and Estates

This course will introduce students to will clauses and interpretation, intestacy, power of attorney for property, and powers of attorney for personal care.

LC3023 Civil Litigation II

This course assumes students possess a basic knowledge of the Ontario small claims court and superior court systems. Students will be introduced to discovery, pre-trial conferences, trial, judgments and costs. Students will practice their skills through the use of role playing exercises.

LC3033 Debtor-Creditor Procedure

This course exposes students to the steps undertaken during the debt collection process. Topics include judgment enforcement at the small claims court and Superior court levels, construction liens, bankruptcy and residential tenancy rights and remedies.

LC3053 Advanced Real Estate

This course will introduce the student to daily practical application in the law office. The Terraview system will be examined along with analysis of taxes affecting a real estate transaction, requisitions and responses, documentation, closing and post-closing procedures and title insurance.

LC4003 Advanced Corporate Procedures

This course assumes a background in basic corporate procedure. The student will learn to prepare for shareholders and directors meetings, draft annual corporate resolutions, corporate reorganization and amalgamations, tax rollovers and due diligence.

LC4013 Advanced Estates

This course focuses entirely estate administration and estate litigation. Topics include common forms of proof for an estate trustee, applying for a certificate of appointment, estate administration tax, asset collection, notifying and paying creditors, accounting to beneficiaries and procedures used to challenge the validity of a will.

LC4023 Criminal Law, Civil Law and Federal Statutes

This course will introduce students to practical application of Ontario's court structure and the Canadian Charter of Rights and Freedoms within a criminal context. Other topics include the structure of the Federal Criminal Code, police powers, pre-trial issues and defences, sentencing and appeals.

LC4033 Preparation for ILCO Examinations

This course will guide the student towards the four tests offered by the Institute of the Law Clerks of Ontario. Preparation exercises will focus on real estate, civil litigation, corporate

procedures and wills and estates.

MA1004 Mathematics of Finance I

This course is divided into several building blocks. The primary focus is to start with fundamental arithmetic and algebra and apply the learned techniques to common business problem solving. In tandem, students will also learn several business mathematics techniques and their application.

MA1015 Mathematics I

This course covers basic algebra properties, graphing the straight line, basic geometry and trigonometry, factoring and solving a system of equations algebraically with applications. It also covers vector addition by components and by the cosine and sine laws.

MA1033 Mathematics I

This course emphasizes the technical applications of high school algebra, geometry and trigonometry. Topics include; units and analysis of measurements, significant digits, two and three dimensional geometry, basic algebra, functions and graphs, solving linear equations in two and three unknowns, elementary trigonometry, and right triangles.

MA1064 Mathematics I

This course is designed to give Welding Engineering Technology and Waste Facility Management Technician students an introduction to college technician-level mathematics. The topics include basic algebraic operations, geometry, functions and graphs, trigonometric functions and systems of linear equations.

MA1072 Mathematics I

Topics include: whole numbers, common fractions, measuring instruments, decimal fractions, percentages, ratio and proportions. This course also consists of trade-related mathematical problems.

MA1100 Mathematics I

This course covers basic algebra properties, graphing the straight line, basic geometry and trigonometry, factoring and solving a system of equations algebraically and by determinants.

MA1713 Integrated Math I

This course reviews mathematical concepts and basic arithmetic skills commonly used in day-to-day living and in the workplace at an essential skill level 2 or higher in numeracy, money math, scheduling or budgeting, measurement and calculation, data analysis and numerical estimation.

MA2005 Mathematics of Finance

Mathematics of Finance is intended for use in introductory mathematics of finance courses in business administration programs. In more general application, it also provides a comprehensive basis for those who wish to review and extend their understanding of business mathematics. The primary objective of this course is to increase the student's knowledge and skill in the solution of practical financial and mathematical problems encountered in the business community. It also provides a supportive base for mathematical topics in finance, accounting and marketing.

MA2013 Mathematics II

Prerequisite: MA1033 Mathematics I

This course extends the study of technical applications of algebra and trigonometry. Topics

include: factoring, fractional equations, solving quadratics, trigonometric functions of any angle, use of radian measure, circular motion, resolution and addition of vectors, oblique triangles, exponents and radicals, ratio and proportion.

MA2016 Math II

Prerequisite: MA1015

This course covers exponents and radicals, the quadratic equation, ratio and proportion, exponentials and logarithms, graphing algebraic and trigonometric functions, trigonometric identities, and properties of the straight line and conics.

MA2033 Mathematics of Finance II

Prerequisite: MA1004 Math of Finance I

This course begins with an introduction to common arithmetical techniques used in the world of finance. As the course progresses, students will progress to the more advanced techniques followed in financial problem solving. Students will also become proficient in the use of various financial calculators.

MA2063 Mathematics II

This course is designed to give students the necessary math skills to solve problems involving factoring, fractions, quadratic equations, exponents and radicals. The course will also visit some trigonometric laws for oblique triangles.

MA2072 Mathematics II

Prerequisite: SK1082 Mathematics I

Topics include: pulleys and gears, graphs, basic algebra, geometry of squares, rectangles, triangles and circles, work and power, and completing repair orders by hand and with Excel. Applications will be presented in trade-related topics.

MA2104 Mathematics II

Prerequisite: MA1100 Mathematics I

This course covers exponents and radicals, the quadratic equation, ratio, proportion and variation, exponentials and logarithms, and vector addition by components and by the cosine and sine laws.

MA2713 Integrated Math II

This course is a continuation of Integrated Math I. This course expands the workplace applications individualized to the student's career goal, of essential skill level 2-3 (or higher) in numeracy, money math, scheduling or budgeting, measurement and calculation, data analysis, and numerical estimation.

MA3014 Mathematics III

Prerequisite: MA2016

This is a basic applied course in Calculus. Students learn the 'language' of calculus and apply the rules to simple engineering problems. The course includes the concepts of limits, curve sketching, the instantaneous rate of change and the derivative of algebraic functions with applications including trajectory and optimization problems. An introduction to integration is also taught with applications to area under a curve and volume of revolutions

MA3033 Mathematics III

Prerequisite: MA2013 Mathematics II

This course further extends the study of technical applications of mathematics. Topics include: exponential and logarithmic functions, empirical equations, graphs of trigonometric functions, trigonometric identities, solutions to different systems of equations, and plane analytic

geometry.

MA3064 Mathematics III

This course is designed solely for Welding Engineering Technology students in order to provide them with the ability to solve exponential and logarithmic functions. Students will also study methods for solving equations of higher degree as well as expanding their knowledge of trigonometry. The course ends with the study of variation and an introduction to statistics.

MA3105 Mathematics III

Prerequisite: MA2104 Mathematics II

This course covers topics such as: graphs and functions of trigonometric ratios (i.e.: sin, cos, tan) and exponential and log functions; trigonometric identities and equations; the study of analytic geometry including the properties of the straight line, the circle, the parabola and the ellipse.

MA4004 Business Statistics I

Prerequisite: MA2004 Mathematics of Finance II

This course begins with descriptive statistics including frequencies distributions, histograms, percentiles, measures of central tendency (mean, median, mode), measures of dispersion (range, variance, standard deviation). Following descriptive statistics is an introduction to the theory of probability, probability distributions including the binomial distribution and the normal distribution. Finally, sampling distributions and interval estimation are covered.

MA4013 Mathematics IV (Statistics)

Prerequisite: MA3033 Mathematics III

This is an introductory course in statistics with applications to mining and geology. Topics include: construction of frequency distribution, tendency of variation measures, descriptive statistics, probability rules and distributions, sampling and estimation, hypothesis testing, analysis of variance, regression and correlation analyses, non-parametric tests and basic geostatistics.

MA4015 Math IV

Prerequisite: MA3014

This course begins with the derivative of trigonometric, exponential and logarithmic functions with applications. The student will learn integration of trigonometric, inverse and exponential functions. With the use of integral tables, applications to arc length, distributed loads, centroids and moment of inertia will be covered. The last part of the course is an introduction to differential equations. Topics include: solving separable, exact and first-order differential equations, with applications to mixture problems, as well as second-order differential equations with applications to beam deflection and spring-mass systems.

MA4204 Calculus I

Prerequisite: MA3105 Mathematics III or MA3064 Mathematics III

This is a basic applied mathematics course in elementary calculus. The emphasis is on the use of calculus both as a method of thinking and as a problem solving system for technological problems. The student learns the "language" of calculus, studies the concept of rates of change, differentials, integrals and applies these to simple engineering problems. The course also integrates a review of functions, geometry, curve sketching, limits, rates of change, the delta process: derivatives of algebraic functions, differentials and integration; applications to geometry; maximum and minimum problems related to

rates of change; differentials and applications of integrals.

MA5204 Calculus II

Prerequisite: MA4204 Calculus I

This course is a continuation of Calculus I. The course expands the concepts of differential and integral calculus including derivatives of trigonometric, logarithmic and exponential functions, methods of integration and applications of integration in technology. Topics covered include: derivatives of the trigonometric, logarithmic, exponential functions and applications of derivatives in technology; methods of integration, use of integration to find areas under a curve, volumes of revolution, as well as other technical applications.

MA6013 Differential Equations

Prerequisite: MA5204 Calculus II

This course is a continuation of Calculus II where students learn the following: solving simple differential equations graphically or numerically; solving first-order differential equations that have separable variables or that are exact; solving homogenous first-order differential equations; solving first-order linear differential equations and Bernoulli's equation; solving applications of first-order differential equations; solving second-order differential equations that have separable variables; using the auxiliary equation to determine the general solution to second-order differential equations with right side equal to zero; using second-order differential equations to solve RLC circuits, solving first- and second-order DE using Laplace Transforms.

MA6022 Statistics

This course will cover such topics as: classification of data using Excel, x-y graphs, bar graphs and pie charts, organization of data into frequency distributions, calculation of the mean, weighted mean, the median and the mode, variance and standard deviation, calculation of the probabilities for frequency distribution (binomial and normal), estimation of population means, standard deviation and proportions within a given confidence interval, control charts for statistical process control.

MA6033 Business Statistics II

Prerequisite: MA4004 Business Statistics I

This course begins with a review of sampling distributions and interval estimation, followed by an introduction to hypothesis testing for means and proportions. Also covered are simple linear regression, multiple linear regression, and time-series analysis.

ME2004 Mechanics/ Statics

See AR2014

MF2002 Materials and Process Quality – Block B

Prerequisite: Welding Quality- Block A (WA1002)

The course discusses the properties of metal and effect of forming and welding on the characteristics of ferrous and nonferrous metals. The course also discusses methods used to control distortion as well as the function and application of destructive and non-destructive testing methods.

MF2005 Layout and Fabrication – Block B

In this course, students will plan and perform practical fitting projects. Students will plan and setup a workspace, select materials and demonstrate structural fitting techniques. Projects include various structural steel shapes. Students will also develop the ability

to layout template and patterns, through the interpretation of drawings, using common layout and measuring tools, perform shop calculations to ensure the accuracy and functionality meet tolerances specified in engineering drawings and specifications.

MF2012 Trade Practices – Block B

This course involves the use of fabrication equipment for forming plate and structural shapes. Students will describe and perform the safe operation and maintenance of common fabrication machinery (plate shears, iron worker, drill, portable punches, band saw, roll benders and press brake).

MF2022 Gas Tungsten Arc Welding – Block B

Prerequisite: Welding and Cutting – Block A (WA1010)

In this course, the student will describe and perform the safe equipment set-up and operation of the Gas Tungsten Arc Welding (GTAW) process. The student will perform both fillet and groove welds on mild, stainless and aluminum plate material.

MF4002 Installation – Block D

This course explains the process of site installation. Students will review erection drawings and diagrams, locate site installation area, evaluate possible workplace hazards, select and safely operate lifting and rigging equipment utilizing fall protection procedures.

MF4003 Pattern and Template Development – Block D

Prerequisite: Layout and Fabrication – Block B (MF2005)

This course is a continuation of Layout and Fabrication – Block B. The student will develop patterns and templates using the triangulation method. Students also use mathematical problem solving techniques to support the development of patterns.

MF4006 Fabrication – Block D

Prerequisite: Layout and Fabrication – Block B (MF2005)

In this course students will demonstrate the safe operation of fabrication machinery, operate thermal cutting processes to generate shapes, assemble components and sub-assemblies, and develop jigs and fixtures.

MF4013 Project Planning and Shipping – Block D

In this course, students develop the working knowledge involved with carrying a project to completion. Students will study engineering drawings and specifications, determine workspace requirements, identify labour availability, identify equipment requirements, develop the process including quality control and identify workplace hazards. The course also looks at explaining the appropriate actions required for the preparation and shipping of final products.

MI1003 Geology - Mineralogy I

Students are quickly introduced to fieldwork via a series of field trips throughout the fall. The geology of the Precambrian, Palaeozoic and Cenozoic eras is introduced in this outdoor laboratory. Students are introduced to mapping techniques and the "art" of visualization. They are also responsible for hands-on assignments based on their fieldwork. Complimentary classroom topics include basic geological structures, historical geology and physical processes such as glaciation. Mineralogy is

introduced through the physical properties of minerals.

MI1013 Surveying I

Co-requisite: MA1033 Mathematics

This course introduces students to the fundamentals of mining surveying. Basic measurement and calculation techniques are introduced along with hands-on applications of platform technologies like levelling and the optical measurement of angles. Principles of measurement theory, error propagation and error analysis are also introduced. The course objective is to give students transferable generic surveying skills and concepts that have application no matter what technology they encounter.

MI1032 Mining Physics

Prerequisite: MA1033 Mathematics I

This course introduces concepts of metric and British systems of units, conversions, measurement, vectors, statics, motion, force, inertia, work, and energy. The objective of this course is to familiarize students with the basic principles of physics that have application in many of the technologies associated with mining, geology and metallurgy.

MI1033 Introduction to Mining

The student is introduced to basic mining terminology, mining company names and locations, importance and responsibility of mining to the Canadian economy, uniqueness of mining, mineral commodities and uses, metal pricing, net smelter return, claim staking and assessment work, sampling and evaluation, and diamond drilling.

MI2002 Effective Supervision I

This course introduces students to the fundamentals of contemporary supervision. Students are introduced to various concepts and techniques proven to both control production and improve the supervisor's interactions with the workforce. Emphasis is placed on human relations skills. Course segments also introduce administration techniques, such as quality and loss control. The technical skills segment of the course introduces students to some of the legal obligations and risks that generally accompany a supervisory position. Techniques for personal and professional development are also introduced throughout the course.

MI2004 Geology - Mineralogy II

Prerequisite: MI1004 Geology - Mineralogy I

This course is the continuation of the study of minerals including native elements, sulphides, arsenides, and some oxides. Also physical geology is studied with topics including maps, an introduction to air photos, mineral exploration, processes affecting and forming the earth, and some qualitative geochemical analysis.

MI2013 AutoCAD I

This course first introduces conventional drafting equipment (T-square, set-squares, scales, etc.), and proper lettering and 3-view drawing techniques. The majority of the course focuses on the basic drawing, editing and display commands for AutoCAD. Practical assignments for mining students relate to plotting survey plans, digitizing mine plans and drill-hole layouts. AutoCAD LT 2005 is used in this course.

MI2043 Mining II

Prerequisite: MI1033 Introduction to Mining

This course is designed to give students an introduction to common open pit terminology, operations and equipment so that they can

be trained in a supervisory/technical role or be acclimatized to a pit in order to have an understanding of engineering decisions if working as an operator.

MI3033 Mining III

Prerequisite: MI2043 Mining II

The objective of this course is to acquaint students with terminology, underground mine access methods, stoping methods, advantages and disadvantages of these, and methods and applications of vertical development.

MI3043 Surveying III

Prerequisites: MI1013 Surveying I,

The survey course is project oriented with the objectives of making the student familiar with differential levelling, the operation and care of optical theodolites, as well as the application of basic underground surveying procedures and calculations.

MI3053 Mining Economics

This course begins with the basic concepts of mining economics, such as time value, capital cost, discounted cash flow, rate on investment, net present value, sensitivity analysis, risk analysis, amortization, taxation and operation cost. Students will learn how to evaluate a mining project and to make a decision based on economic criteria and calculate results for the alternatives. Several case studies will be included.

MI3083 Mining Environmental Principles

This course reviews environmental issues and remedial actions that are associated with surface and underground mine development, operation, reclamation and closure. Students are also introduced to environmental reporting, monitoring, the Canadian and Ontario Environmental Protection Acts and Regulations.

MI3163 Geology - Mineralogy III

Prerequisite: MI2003 Geology - Mineralogy II

This course extends the study of fundamental mineralogy as learned in the first year, into the systematic study of the principal mineral families (especially silicates), as well as introducing crystallography and petrology. Students are also introduced to graphical methods in structural geology. A course in hydrology will be covered concurrently.

MI4004 Geology - Mineralogy IV

Prerequisite: MI3064 Geology - Mineralogy III

This course is designed to continue field mapping techniques, specifically on a detailed grid, as well as traverse mapping. Concurrently, students will cover a course in Exploration Geochemistry (concepts, practical computer exercises and limited field work), as well as be introduced to GPS systems. Advanced topics in Plate Tectonics will also be introduced.

MI4033 Mining IV

Prerequisite: MI3034 Mining III

This course introduces students to concepts and calculations of mine hoists, shaft equipment, explosives and blasting, ground support, mobile equipment and drilling equipment.

MI4043 Mineral Processing II

Students will work for approximately two weeks as helper in the operation of a 300 TPD precious mill in Cobalt belong to SMC (Canada) Ltd. Students will become familiar with all components of a crushing plant, mill and tailings disposal system.

MI6044 Mine Ventilation

Prerequisite: MI3033

This course begins with air quantity estimation, resistance calculation of airway and determination of fan and system capabilities. Air quantity control is also introduced. Other topics include: operation and maintenance of ventilation systems, auxiliary ventilation systems, instrumentation techniques, dust, fume and temperature controls.

MI6053 Ground Control

Prerequisites: MI3163, MI3033

This course covers intact rock properties, rock mass characteristics and classification. Other topics include: geo-technical data collection, rock stress distribution and failure, induced stresses around openings, underground opening and pillar design, rock reinforcement and support, ground support systems, such as mesh, bolt, cable and shotcrete, and ground system design.

MM1156 Technical Drawings and Schematics

This course will enable students to interpret commonly used technical drawings and will familiarize them with information typically found in manufacturers' manuals. It will also enable them to determine specifications and identify drawing symbols, as well as draw and sketch using orthographic, isometric and sectional views. There will be an introduction to schematic symbols and logic and flow diagrams to prepare them for later courses in electric and fluid power.

MM1160 Precision Measuring Equipment

The course covers the care and use of commonly used precision measuring and alignment equipment and instruments that are used for measuring, moving, setting up and maintaining machinery to manufacturers' specifications and prescribed tolerances.

MM1166 Industrial Indoctrination and Safety/Rigging and Hoisting

This course will enable students to protect themselves and others, comply with safety legislation under the Occupational Health and Safety Act, Workplace Hazardous Materials Information System (WHMIS), wear and maintain safety clothing and equipment, report all hazards, apply confined space safety procedures, apply machinery and equipment lock-out procedures, use correct body mechanics when lifting loads, communicate with fellow workers, report all accidents and respond to emergency situations. In addition, topics will include: planning lifts, performing calculations using load charts, estimating load weights, selecting and using correct rigging/hoisting equipment, inspecting and maintaining rigging/hoisting equipment, using hand and radio signals, controlling, balancing and directing loads, and disassembling equipment safely.

MM1176 Millwright Machining/Tools and Materials

Students will learn the principles of metal cutting and the relationship between speeds and feeds during various machining operations including benchwork, drill press operations, bandsaws, engine lathes and pedestal grinders. They will become familiar with the care and use of various precision measuring instruments when measuring, setting up and manufacturing projects to specifications and prescribed tolerances.

MM1246 Bearings, Seals and Lubrication

This course will enable students to identify and apply bearing materials, fits and tolerances, fit

and maintain plain, journal, sleeve, radial and axial bearings, install and maintain bearing housings, fit and maintain anti-friction axial, radial, ball, roller, needle, taper and spherical bearing, inspect and lubricate bearings, fit and maintain gasket, labyrinth, and mechanical seals, fit and maintain "O" ring and lip seals, select, install and remove packing, ensure that maintenance and installation procedures to the prescribed standards. This course will enable students to select and apply lubricants and greases for specific applications, identify characteristics of lubricants, select and use oils and greases to manufacturer's specifications, select and use special purpose lubricants, install and maintain manual and automatic lubricant systems, handle and store lubricants safely, and maintain record systems.

MM1251 Power Transmission Systems

This course will enable students to install and maintain power transmission systems, perform trade calculations on horsepower, torque, speed ratios, install and align belts, VY belts, and pulleys, chain drives and sprockets. They will install, align and perform maintenance functions on shafts, speed reducers, gears, brakes, clutches and harmonic drives. They will install and perform maintenance tasks on cams and followers, demonstrate the correct use of keys, splines and bushings to ensure installation and maintenance to specifications.

MM1265 Electric and Electronic Controls I

This course will introduce students to the basic principles and knowledge of Electrical circuits and fundamentals. The scope and purpose of the Canadian Electrical Code will be explained. Basic electrical installations will also be introduced to the student.

MM1275 Millwright Machining II

Students will continue to apply the theories and practices taught during MM1177 while furthering their knowledge of conventional machine tools such as engine lathes, drilling machines, saws, pedestal grinders and various hand tools. They will learn the parts, various operations, cutting tools and the relationship of speeds and feeds applied to milling machines. They will manufacture parts to specified tolerances which reflect field operations.

MP1003 Trade Practices and Applications I

Students will be introduced to the motor vehicle trade and will learn about safety procedures, SHMIS and responsibilities and hazards encountered in equipment shops. Topics include proper lifting practices, fire safety and suppression systems, hazardous fumes, carbon monoxide poisoning, and the use and selection of various precision tools and testers used in the motor vehicle trade. Students will gain hands-on experience in what they have studied in Theory classes.

MP1005 Engines I

Students are introduced to the basic construction of internal combustion engines. They will learn the proper maintenance, cleaning and inspection procedures of gasoline engines and components. Topics will include the construction and repair of engine crankshaft, connecting rod, piston and piston rings, cylinder block, air and liquid cooling systems, lubrication systems and maintenance, testing and repair of the above systems.

MP1006 Drive Train Systems I

Students will explore the different types of

components including the following modules: clutch systems, manual transmissions and transaxles, drivelines and differentials. They will learn the basic construction and functions of these components, as well as their proper maintenance, cleaning and inspection procedures.

MP2004 Engines II

Students are introduced to the basic construction of internal combustion engines, and will learn the proper maintenance, cleaning and inspection procedures of gasoline engines and components. Topics will include the construction and repair of valve trains and camshafts, cylinder heads, engine testing and start-up procedures and engine component failure analysis.

MP2005 Air Intake, Exhaust and Fuel Systems

Students are introduced to different types and classifications of gasoline and diesel engines, the basic operation of the two- and four-stroke cycle engines, the different types of automotive fuels and their properties, intake and exhaust systems used on motor vehicles, carburetor systems and electronic fuel injection systems and emission control systems.

MP2016 Steering, Suspension and Brakes I

Students will explore the different types of components including the following modules: brake systems, steering and suspension systems. They will learn the basic construction and functions of these components, as well as their proper maintenance, cleaning and inspection procedures.

MP3001 Co-op Placement

This is a sixteen-week, paid co-op placement.

MR1005 Marketing I

This course will introduce the student to current marketing principles and concepts, their function and application. Related topics will include the marketing mix, product life cycle, market segmentation, market research and consumer behaviour.

MR1033 Introduction to Marketing I

Modern marketing involves much more than selling and promoting – marketing is the process of determining and satisfying the needs of customers. This means that students' everyday lives are touched by one or more aspects of marketing. Students will learn how to be better consumers and then apply their understanding of marketing to analyze different marketing approaches used by actual businesses.

MR2005 Marketing II

Prerequisite: MR1005 Marketing I

This course will introduce the student to current marketing principles and concepts, their function and application. Related topics will include pricing strategies, distribution, sales promotion, advertising, and not-for-profit marketing.

MR2014 Introduction to Marketing II

Prerequisite: MR1033 Introduction to Marketing I

In this second Marketing course, students structure the 4Ps of marketing (price, product, place and promotion) into a feasible and justifiable marketing plan. Students will use data from real business situations obtained from websites and other sources.

MR2024 Advertising

This course covers the role of advertising in

the marketing mix, basic media strategies, the advantages and disadvantages of various media in the creation of a complete advertising campaign. The five modules in this course include topics such as: advertising today, advertising planning, creating a message, media planning and specialized forms of advertising.

MR3003 Retailing and Electronic Commerce

Prerequisite: MR2014 Introduction to Marketing II

This course aims at a practical focus of the retail function and an understanding of the development within Canadian retailing of new occurrences such as electronic commerce, electronic data interchange and e-tailing. A broad perspective of retail strategic planning, its competitive environment, and merchandise and inventory management will be covered. Knowledge of markets and research methods will be applied to assist in the learning aspect of retail businesses. This course is recommended by the Retail Council of Canada.

MR3034 Salesmanship and Sales Management

This course includes fifteen study guide units on the subject of personal salesmanship. The "presentation" and/or "demonstration" approach to handling the heart of sales process is typical of most sales courses. "Go to Sell" handles these subject areas under the broader heading of "establishing the problem." This approach is much more in line with today's professional selling.

MR3043 Advertising in the New Economy

Prerequisite: MR2014 Introduction to Marketing II

This course covers the role of advertising in the marketing mix, basic media strategies, the advantages and disadvantages of various media in the creation of a complete advertising campaign. The five modules in this course include topics such as: advertising today, advertising planning, creating advertisements and commercials, media planning and specialized forms of advertising.

MR3053 Internet Marketing

Prerequisites: MR2014 Introduction to Marketing II ; IN2042 E-Business & Web Research

This course focuses on the use of e-commerce practices in the firm's marketing efforts. Learners will study the best practices of both organizational and consumer marketing as they relate to the use of e-commerce. Students will learn how to evaluate the firm's current marketing strategies, and then how to develop and implement e-business marketing strategies and solutions.

MR4043 Market Research

Prerequisites: MR2014 Introduction to Marketing II, and CM3103 Report Writing I

This course will develop the understanding of the linkage between an organization and its marketing environment. Students will utilize hands-on web site locations to carry out some marketing research functions regarding secondary sources in the application of an actual market research study. Each student will experience the complete steps involving the process of designing and implementing the analyses of a study and will inform and update an actual client through a variety of methods including electronic mail.

MR4114 Sales and Salesmanship

Prerequisite: MR2014 Introduction to Marketing II

This course deals with the nature of career

opportunities in the selling and related fields, as well as the importance of building and maintaining quality partnerships with prospects and established customers. It will encompass the need to develop strong knowledge of the company, competition and products through the use and application of the internet and sales training. Students will have the opportunity to apply concepts and practices that relate to basic theories of human motivation through the use of persuasive communication strategies and electronic management principles and presentations that relate to the selling process. Students are given practical selling experience in the areas of industrial, non-profit, and retail selling in selected business organizations in the community. This course is approved by the Canadian Professional Sales Association and meets the Sales Institute's requirements for sales training. Students successfully completing this course may be eligible to pursue the professional designation of CSP (Certified Sales Professional).

MR4724 Consumer Behaviour

Prerequisite: Marketing I, II or other marketing course

This course is an introduction to the application of concepts of the behavioural sciences, principally psychology and sociology, to the study of why consumers buy (or don't buy) products and services. The approach covers market segmentation, environmental influences, individual determinants and the consumer decision process.

MR6053 E-Business II & International Marketing

Prerequisite: MR3053 Internet Marketing

The student is exposed to the global marketing scenario and understands the concepts of international trade, exports & imports, free trade zones, economic agreements and cross-cultural marketing. Students examine various examples and cases of companies from Northern Ontario, who are involved in international marketing. Marketing practices of Canadian companies having a global presence as well as foreign companies operating in Canada are discussed. The student learns the practical use of various e-business models used by real-life companies in the international market. The student does a final project, which ties up the concepts learned in the course.

NA1403 Social Work and First Nations Peoples

This course will increase knowledge and awareness of the historical overview, the importance of traditions, values, and issues in the Aboriginal cultures of Canada. The legal status of Aboriginal people will be explored along with the Aboriginal rights and self-determination. Other critical issues relating to land claims, justice and social services will be studied. The course will provide students with a basic introduction to the Native "ways of being" in an effort to better understand the challenges that face Native peoples today.

NR1002 Environment and Job Search Strategies

The course will examine job opportunities in the natural resource field in both the private and public sector. This course will also examine preparation of resumes and interview techniques to maximize opportunities for obtaining successful employment.

NR1003 Environmental Science I

This introductory course will introduce students

to various aspects of the natural environment and the relationships of humankind to the natural environment. Topics covered include biomes and ecozones, climate, hydrology, soils and nutrient cycling, population ecology, non-renewable and renewable natural resources, environmental damages, and endangered species. Principles of sustainable resource management are stressed throughout.

NR1024 Resource Calculations I

Students will develop a basic literacy in algebra, geometry and trigonometry and will become familiar with analysis in the areas of resource and environmental sciences. Students will develop the ability to solve technical problems related to resource assessment, management and associated environmental effects using simple mathematical techniques.

NR1043 Dendrology and Plant Identification

This course will introduce identification of major forest trees, shrubs, and major forest understory plants found in northeastern Ontario. Students will develop the ability to identify the wood from commercially important hardwood and softwood trees. Students will be introduced to site classification using the Forest Ecosystem Classification.

NR1044 Outdoor Skills

This course is designed to teach the fundamental concepts of navigation, mapping and survival techniques that are important for fieldwork. The theory and practical aspects of compassing, basic map reading and orienteering are covered with classroom sessions and field exercises. In addition, considerable emphasis will be placed upon the powers of observation, and common sense thinking.

NR1054 Wildlife Identification, Ecology and Inventory I

This course presents material on the identification, ecology and inventory of wildlife species (aquatic and terrestrial invertebrates, amphibians and reptiles, fish and wetland birds) in the Great Lakes – St. Lawrence and Boreal Forest Regions. The course will also cover topics such as biological diversity, aquatic habitats, and wetland habitats. Field labs will focus on practical training in wildlife inventory and sampling.

NR 2023 Equipment Operation and Maintenance

The course covers the safe operation and maintenance of equipment commonly used in natural resource applications including chain saws, outboard motors, all terrain vehicles, and snowmobiles. Topics include the basic theory and operating principles of 2-stroke and 4-stroke, air-cooled and liquid cooled gasoline, and diesel engines. In addition, students will become familiar with the maintenance and operation of heavy equipment that is used during forestry operations.

NR2034 Wildlife Identification, Ecology and Inventory II

This course presents material on the identification, ecology and inventory of wildlife species (mammals and forest birds) in the Great Lakes – St. Lawrence and Boreal Forest Regions. The course will also cover topics such as landscape ecology, forest succession, old growth forests, bear safety, and traits and ecology of raptorial birds. Field labs will focus on practical training in wildlife inventory and sampling.

NR 2054 Resource Calculations II

Students will continue to develop skills in algebra, geometry and trigonometry by solving technical problems related to resource assessment, management and associated environmental effects using additional mathematical techniques.

NR2063 Animal and Plant Biology

This course examines the basic biology of vertebrate animals, woody and herbaceous plants, and microbiology. Topics covered include anatomy, structure, growth, reproduction and general laboratory skills and techniques.

NR2083 Silviculture

This course focuses on silvicultural techniques and prescription setting in the Great Lakes – St. Lawrence and Boreal Forest Regions. Considerations for silvicultural prescription setting, assessment of stands for commercial value, silvicultural systems, methods of harvesting, choices of site preparation, types of regeneration, methods of reforestation, and production of replacement stock are covered. The types of equipment used in harvesting and site preparation, and operating techniques to maintain productivity and efficient operations will also be highlighted. Students will apply their knowledge through the production and presentation of a silvicultural plan for a forested area in northeastern Ontario.

NR 2093 Environmental Science II

Natural Resource Technicians require an understanding of a number of fundamental chemical concepts in order to apply them to their workplace environments. This is a course that is designed to provide the students with many of these chemical fundamentals, to teach them how to handle chemicals intelligently and safely, and to develop an appreciation for the applications and implications of chemistry in technology, in society and in the environment. The course will include laboratory exercises exploring tests on soil and water.

NR 3000 Field Camp

Students will take part in field exercises and tours of forestry, environmental and fish and wildlife management projects to supplement the field-based content from other courses in the program. Students will participate in applied research projects that are active in northeastern Ontario.

NR 3001 Student Work Placement

Students will spend two weeks on work placement where they will apply knowledge associated with natural resources.

NR3024 Forest Protection

This course will build on the materials covered in Silviculture and will introduce the various agents affecting forest growth and condition (including the role of fire, insects, and disease). Students will gain a general knowledge of forest fire behaviour and management, including the use of fire as a tool in forest management. The principles of forest maintenance including spraying, thinning and pruning will also be discussed.

NR3033 Resource Management Project

This course is designed to give the student in depth experience in defining a natural resource issue and producing a comprehensive consultant report. The student chooses a natural resource issue at a site located in Ontario for detailed study. Requirements include basic and applied

research on the site and associated issues, and gathering information through a literature review and other sources. A consultant progress report describing the site and situation in detail, with supporting documentation, is submitted to a simulated management review board.

NR3054 Integrated Resource Management

The general principles of managing wild populations of fish, mammals and birds will be covered (topics include carrying capacity, population growth, population manipulation, habitat improvement and management techniques). Emphasis will be placed on the management of provincially important species of fish, mammals, game birds and furbearers. Instruction will be given on the various forms of licensing, legislation and compliance relative to managing fisheries and wildlife.

NR3064 Parks Management and Interpretation

This course is designed to introduce the student to the management of parks with emphasis on the Ontario Provincial Parks system. The student will also become familiar with municipal and National parks. Topics include the development of the parks system, park operations, protection issues, policies, management and employment opportunities. Practical exercises will develop the student's ability to deliver interpretive presentations to a variety of audiences. Topics include communication skills, interpretive program development, and heritage interpretation.

NR 3074 Geographic Information Systems I

This course is an introduction to the structure, data, concepts and use of a Geographic Information System. Students will become familiar with acquiring and manipulating geographic information, building and modifying datasets, in addition to becoming familiar with working with a geospatial database.

NR3084 Soils and Hydrology

The examination of sampling and analytical techniques used for soil classification and the methods to determine the various characteristics of differing soil types will help the student build the skill sets needed to understand the role of soil as a medium for ground water movement and supporting tree growth. The principles of hydrology will be discussed and applied to techniques used to evaluate natural site characteristics for ground water quality, soil conditions and contamination, site stability, erosion control and watershed management. The course will be based on classroom and field laboratory activities and will use this information as a basis for discussion of resource management planning.

NR3094 Advanced Field Techniques

This course will cover advanced techniques for fieldwork and natural resources management including choice of equipment for forest management operations, use of Global Positioning Systems (GPS) receivers, interpretation of aerial photography, techniques for management of species at risk, and general field skills.

NR 4012 Human Relations

This course will provide insight into understanding self-behaviour, the behaviour of others and interaction. This information will allow the student to have a better understanding of human behavior in both work and social settings. Course content will include discussion

of effective communication and leadership.

NR 4013 Resource Law and Regulations

This course will introduce students to legislation, legal aspects, and legal terminology relevant to the practicing resource technician. The course will include an overview of the history and process for law in Canada and Ontario, and compliance and enforcement. Students will gain an understanding of land tenure and interpretation of land documents.

NR4044 Experimental Design and Analysis

Students will develop an understanding of fundamental concepts, strengths and limitations of statistics essential to the appropriate design of experiments. Students will develop an understanding of statistical tests by gathering and analyzing data in practical activities.

NR4053 Reclamation and Remediation

This course introduces the risks associated with land and groundwater contamination to effectively understand and adequately manage wise stewardship of the natural environment. Students will learn to classify hazardous substances for site characterization and for the development of conceptual models. Risk management techniques including analytical strategies, site investigation designs and results reporting will be discussed. Students will learn various treatment methodologies including biological approaches, techniques exploiting physical and chemical processes, monitored natural attenuation, permeable reactive barriers, thermal processes and procedure employing solidification or stabilization. The industry and regulatory requirements that necessitate remediation will be covered.

NR4063 Geographic Information Systems II

This course will build on the Geographic Information Systems I course. Course content will include acquiring and manipulating digital landscape data, creating digital maps, creating personal geodatabases, and applications of GIS for management planning decision-making. The student will also be introduced to geodatabase behaviour and topology rules.

NR4083 Forest Management Planning

This course builds on material from Silviculture, Forest Protection, and Integrated Resource Management. Topics covered include the considerations for forest management planning in Ontario and real-world examples of silvicultural decision-making. Course content will include field tours and production of a forest management plan.

NR 4093 Environmental Assessment

This course covers the theory and technical aspects of evaluating environmental conditions through environmental impact studies (EIS) using ecological benchmarks for determining the impact on natural habitats and ecosystems. The principles of experimental design, data collection and analysis will be integrated into a complete assessment process. The roles and responsibilities of consultants and the impact of Federal and Provincial Acts and Regulations will be covered.

OF1023 Office Procedures I

This course of studies is designed to cover topics ranging from human relations to administrative procedures in an office environment. Emphasis is given to the topics of effective communications and efficient office practices when managing information, handling mail, keeping records, and preparing minutes of meetings. The element of

teamwork is emphasized.

OF1136 Word Processing and Keyboarding I

This course introduces file management using Windows concepts and provides applications that introduce and reinforce word processing skills. It focuses on techniques that enable students to produce a variety of documents using current word processing software. Keyboarding speed and accuracy will be reinforced through document preparation, practice sessions, and timed drills.

OF2023 Office Procedures II

Prerequisite: OF1023 Office Procedures I
This course is a continuation of Office Procedures I and is designed to cover topics ranging from human relations to administrative procedures in an office environment. Emphasis is given to the topics of effective communications and efficient office practices. The element of teamwork is emphasized.

OF2044 Placement

Prerequisite: G.P.A. 2.0 and with passing grades in all Office Administration courses.
Graduating students will participate in a two-week work placement.

OF2052 Transcription

Prerequisites: OF1136 Word Processing and Keyboarding I; CM1153 Communications I
This course gives the student a chance to combine and enhance machine transcription, word processing, and communication skills. The student will listen to dictated material and transcribe letters and memos to acceptable business standards. Grammar principles will be covered throughout the semester.

OF2136 Word Processing and Keyboarding II

Prerequisite: OF1136 Word Processing and Keyboarding I
In this course, advanced features in word processing will be examined. A variety of documents incorporating word processing features will be introduced. The students will develop timesaving skills and techniques when completing applications. Keyboarding speed and accuracy will be reinforced through document preparation, practice sessions, and timed drills.

OF3002 Legal Terminology

In this course, students will be introduced to legal terms and documents they may encounter in the workplace when working in a legal office or facility. The study of various areas of law will enhance this knowledge by explaining the legal terms in the context of the related legal subject area.

OF3012 Administrative Procedures

The course analyzes the tasks and responsibilities of an administrative assistant in an electronic office environment. Technology and procedures that affect the role of the administrative assistant are examined. In addition, guidelines are provided for using the library and the Internet to do research and collect information and plan business travel. Employment strategies are also discussed.

OF4004 Medical Terminology

In this course, students will be introduced to the structure of medical terminology - how terms are formed, pronunciation and meanings. This will be accomplished through simple, non-technical explanations of medical terms, word analysis (combining forms, suffixes and prefixes), phonetic spellings, practical applications and exercises.

OF4024 Work Placement (1 day per week)

Prerequisite: Cumulative GPA 3.0 after Semester 3 and a passing grade in all subjects up to and including Semester 3.

In the final semester, students will be placed in a local office one day per week.

PF1001 Fitness and Lifestyle Management I

This course will address healthy lifestyles, nutrition, stress management, team building, and occupational health and safety.

PF1013 Provincial Offences

This course will provide students with information that relates to the Provincial Offences Act, as well as a number of other Acts including the Mental Health, Landlord – Tenant Protection, Trespass to Property, Liquor License Act and Regulations, Child and Family Services, Coroners, Family Law, acts, and additional provincial laws.

PF1023 Police Powers I

This course will address arrest authorities, police terminology, search and seizure authorities, warrants, implications of police discretion, foreign warrants and extradition. The course will also provide students with information relating to the Police Services Act, police governance and accountability, police management and labour relations, Police Service Board, police complaints, First Nations policing, the theory of the use of force, the law and legal issues relating to the use of force, and the theory of officer safety.

PF1033 Interviewing, Investigation

This course will provide students with information that relates to the theory of interviewing and investigation, the legal issues related to investigating, the basic steps in investigating, listening and observation skills.

PF1053 Canadian Criminal Justice System

This course will provide students with information that relates to the law and legislative policy, the courts, the history, role and function of policing, as well as to the theory and practice of corrections. In addition, First Nations and contemporary issues will also be addressed.

PF1063 Traffic Management I, II

This course will provide students information that relates to traffic law and issues related to traffic law. Students will cover areas including licensing, rules of the road, accident investigation, common criminal related driving charges and the Highway Traffic Act.

PF1073 Community Policing I, II & Group Studies

This course addresses the issues of policing in communities as well as the importance of involving citizens in meeting community policing needs. The Group Studies component of this course will assist students in understanding the need for, and process of forming groups to achieve goals.

PF2002 Fitness and Lifestyle Management II

This course is a continuation of Fitness and Lifestyle Management I. It will address healthy lifestyles, nutrition, stress management, team building, and occupational health and safety.

PF2004 Criminal Code, Civil Law and Federal Statutes

This course will provide students with information that relates to the Controlled Drug and Substances Act, Youth Criminal Justice Act, Interpretation Act, the Charter of Rights and

Freedoms, as well as other Federal legislation.

PF2012 First Nations People

This course will provide students with information that relates to First Nations history, sovereignty, land titles, legal issues, cultural history and current issues.

PF2013 Investigation and Evidence

Through this course, students will study evidence gathering, rules of evidence, as well as court protocol. Current case law and recent trends in evidence gathering will be explored.

PF2023 Police Powers II

Prerequisite: PF1023 Police Powers I

This course will address arrest authorities, police terminology, search and seizure authorities, warrants, the implications of police discretion, foreign warrants and extradition. The course will also provide students with information relating to the Police Services Act, police governance and accountability, police management and labour relations, Police Service Board, police complaints, First Nations policing, the theory of the use of force, the law and legal issues relating to the use of force, and the theory of officer safety.

PF2032 Career Employment Preparation

This course will prepare students for the job search including preparing for interviews, as well as preparing for the testing process involved in police officer recruitment.

PF3001 Fitness and Lifestyle Management III

This course will address healthy lifestyles, nutrition, stress management, team building, and occupational health and safety.

PF3003 Issues of Diversity

This course will provide students with information relating to racial, ethnic composition of Canadian society, history of ethnic and race relations in Canada, concepts of culture, ethnicity and race, sensitivity training, cultural/social organization of minority groups.

PF3013 Principles of Ethical Reasoning

This course focuses on ethical issues faced by individuals as citizens and professionals. It helps students to clarify their values and establish a framework for ethical decision-making. Ethical issues that relate to a wide variety of concerns are examined. Students will examine a variety of professional ethical codes and apply ethical decision making models to dilemmas in their personal and professional lives.

PF3023 Youth in Conflict with the Law

This course will provide students with information relating to the history, Youth Criminal Justice Act, law and jurisdiction, courts, sentencing and corrections, and the Child and Family Services Act.

PF4001 Fitness and Lifestyle Management IV

This course will address healthy lifestyles, nutrition, stress management, team building, and occupational health and safety. This course includes the required P.R.E.P. Testing (on-site at the Kirkland Lake and Porcupine campuses). Before students graduate they must pass the P.R.E.P. to Provincial Standards.

PF4003 Criminology

This course will provide students with information that relates to theories of crime and criminality, deviant behaviour, statistics and trends in crime analysis, crime in Canadian

society, as well as correlates of criminal behaviour. In addition, the psychological/social impact of crime and violence will also be addressed.

PF4023 Conflict Management

The theory of tactical communication, mediation, conflict resolution, adaptive skills, interpersonal and group dynamics as well as problem solving will be addressed in this course. Use of force will also be discussed in detail.

PF4043 Contemporary Social Issues

This course will address the theory of social problems, poverty, child abuse, domestic violence and social problems related to the elderly, youth and homeless.

PF4053 Politics and Public Administration

Organizational theory, the theory of public administration and public sector management, as well as the structure and function of government and the public administration and political processes will be addressed in this course.

PH1113 Human Biology I

This course involves the study of cells under the headings of structure, function, replication and energy production. Students will investigate the fundamental molecular principles and mechanisms that govern energy transforming activities in all living matter. Students will demonstrate an understanding of the relationship between cell functions and their technological and environmental applications related to the regulation of internal systems. Applications to health and disease are included throughout the course. Building this essential knowledge will support further courses dealing with specific topics in anatomy and physiology. An introduction to the principles of heredity concludes the first semester.

PH1123 Chemistry I

This course emphasizes the molecular view of chemical principles: measurement, elements and atoms, periodic table, chemical bonding, shapes and polarities of molecules, chemical reactions, the mole concepts, and states of matter, gases and atmospheric chemistry, PH, buffers and an introduction to nuclear chemistry. Examples from inorganic, organic, industrial and biological chemistry will be used to illustrate these underlying principles as well as applications to the various Health Science programs.

PH1133 Mathematics for Health Sciences

This course is designed to provide students with the necessary mathematical skills for solving problems in the Health Sciences programs. Beginning with a review of basic mathematical concepts including ration and proportion, percentage, and scientific notation, the learner will then be able to manipulate numbers within the metric system through practical healthcare applications.

PH1143 Introduction to Essay and Portfolio Building

This course offers an integrated approach to enhancing writing skills. Students will read, analyze, discuss and write about a variety of health care related issues and will be introduced to the APA format in writing. Development of personal and professional portfolios is part of this course.

PH2103 Critical Thinking / Problem Solving

Critical Thinking/Problem solving will enable the

learner to assess the arguments of others by equipping them with the skills to assess the truth claims put forward in support of a conclusion and to assess the structure and consistency of the argument itself. The learner will discover how to effectively construct arguments to advocate for their own positions. As a result, the learner will hone their ability to critique the claims of others, to understand and articulate their own opinions, and to make the best decision in a given set of circumstances.

PH2113 Human Biology II

Human Biology II will enable the learner to build upon the foundation of the fundamental concepts of Biology covered in the Human Biology I. The learner will apply the concepts from Human Biology I to the study of anatomy, physiology and social biology. The emphasis will be on understanding the underlying concepts and principles, and applying them to a diversity of practical systems.

PH2123 Chemistry II

Chemistry II will enable the learner to build upon the foundation of the fundamental concepts of chemistry covered in Chemistry I. The learner will apply the concepts from Chemistry I to the study of organic chemistry and biochemistry. The emphasis will be on understanding the underlying chemical concepts and principles, and applying them to a diversity of practical systems.

PH2133 Physics (elective)

This course develops student's understanding of the basic concepts of physics. Students will qualitatively and quantitatively study and explore the fields of classical mechanics, waves and optics, and matter. The emphasis will be on understanding the underlying physical concepts and principles and applying them to a diversity of practical systems.

PH2143 Mediation / Conflict Resolution

This course is designed to help students look at conflict in a theoretical and critical manner and then to recognize and apply systemic methods of resolving disputes ranging from interpersonal conflict to analyzing more complex global issues. Students will learn to identify, avoid, and resolve their own personal conflicts as well as assisting others as a neutral third party, to do so in an efficient and effective fashion.

PN1002 Mathematics for Practical Nursing

Mathematics for Practical Nursing will enable the learner to develop proficiency in the fundamental concepts of mathematics regularly encountered in the nursing profession. This course will ensure that the learner has the mathematical skills necessary for success in math oriented Practical Nursing courses such as Pharmacology. The learner will study the following areas of mathematics: fractions, ratio, proportion and percent; and systems of measurement. The emphasis will be on understanding the underlying concepts and principles, and applying them to a diversity of typical health care situations.

PN1003 Nursing Theory I

This course will introduce the learner to the theoretical and conceptual frameworks of health and healthy lifestyles. The dimensions of human needs will be explored with an emphasis on the significance of self-responsibility, culture and the change process. The evolution of Canada's health care delivery system will also be examined.

PN1004 Nursing Practice I

This course will provide learners opportunities to apply concepts and knowledge gained in the classroom environment to practice settings. The emphasis will be on health promotion of well individuals throughout the lifespan. Learners will be exposed to individuals in selected age groups, through simulation, practice in laboratory and community facilities.

PN1013 Professional Growth I

In this course, learners will explore personal learning styles, providing the base from which they can develop skills, strategies and resources that will enhance their success. The concept of teaching/learning and its place in the practice of the practical nurse will be introduced. The learner will acquire the knowledge to read and understand research reports and apply nursing researching findings to their practice. The concept of caring will be introduced. Standards of Nursing Practice will be introduced and journaling will be used to enhance the learners' understanding of reflective practice.

PN1014 Pathophysiology I

Students will be introduced to the processes of human disease: human disease defined as structural or functional changes within the human body that are judged to be abnormal. The focus of this course is on the pathophysiology of acute episodic and complex health challenges. The learner will study the structural and functional changes that occur in the human body, the causes that lead to the challenges and the manifestations that result.

PN1022 Pharmacology I

Using the nursing process, this course introduces the learner to the concepts of pharmacology as selected drug groups are studied. The course will emphasize the role and responsibilities of the practical nurse in the administration and monitoring of client medications. This course is also designed to allow the learner to apply basic skills to safely calculate drug dosages.

PN1023 Health Across the Lifespan I

This course will expose learner to theories of growth and development. Selected age groups will be examined with an emphasis on health promotion and health protection requisites based on current research findings.

PN1033 Human Relationships

Using an experiential approach, this course will focus the learner on the skills necessary to communicate effectively on a personal and professional level. The concepts of caring will be used as a basis to explore the helping relationship, interviewing skills and group dynamics.

PN1043 Introduction to Sociology

Some view sociology as a compendium of ideas while others see it as the key to solving pressing social problems. Many refer to it as the scientific study of people in groups. This course focuses on sociological concepts; theories and principles to enable a student to better understand the social forces that affect his/her life on a daily basis. This course will appeal to a wide range of students.

PN 2002 Professional Growth II

In this course the standards, legislation, regulations and professional nursing organizations governing the practice and education of practical nurses will be examined from the perspective of the evolution of nursing. This course will also examine the use of information

technology in nursing practice, education and research. A variety of theoretical nursing models will be explored. The learner will be offered the tools that assist nurses in identifying, understanding, and working through ethical dilemmas and challenges. By the conclusion of this course, the learner will have developed personal values about nursing.

PN2003 Health across the Lifespan II

This course is a continuation of Health across the Lifespan I and will examine the developmental stages of the remaining age groups. The concepts of growth and development, health promotion and health protection will expand to encompass to include families and groups.

PN2004 Nursing Theory II

This course will focus on assisting the learner to develop a holistic approach to nursing. A variety of approaches to learning will be utilized and critical thinking strategies will be emphasized as the learner explores the care of individuals and families experiencing and/or predisposed to acute health challenges in a variety of life situations.

PN2012 Nursing Practice II

This course further explores the concept of health promotion and health protection with well individuals. Learners will gain basic assessment and nursing skills required to care for the individuals in selected age groups. The course will consist of three components: independent learning, laboratory practice and clinical experience within community agencies.

PN2013 Pathophysiology II

The focus of this course is on the pathophysiology of chronic health challenges. Basic pathophysiological concepts of chronic health challenges will be explored. Common chronic health challenges and their effect on the body will be examined. Diagnostic testing for these conditions will also be discussed.

PN2022 Pharmacology II

This course is a continuation of Pharmacology I. More selected drug groups are studied. The focus of this course is still on the role and responsibilities of the practical nurse in the administration and monitoring of client medications. The mathematical skills to safely calculate drug dosages are still required for this course.

PN2023 Health Assessment

This course will provide the learner with the skills required to conduct a holistic health assessment for a normal healthy individual during all stages of the lifespan. The concepts of wellness, health promotion, health protection and client teaching will be integrated throughout the course.

PN3002 Professional Growth III

This course will prepare the learner for the entry into the workplace through exploration of leadership, conflict resolution, advocacy and job search skills. Leadership and management roles within health care agencies will be examined with a focus on the nurse as a change agent. Inherent in this course will be preparation for the pregraduate experience.

PN3003 Nursing Theory III

In this course the learner will continue to develop a holistic approach to nursing. A variety of approaches to learning will be utilized and critical-thinking strategies will be emphasized. The learner explores the care of individuals,

families and groups experiencing common chronic health challenges requiring rehabilitative, restorative and palliative care. The learner will also explore the care of individuals experiencing mental health challenges.

PN3016 Nursing Practice III

This course will provide the learner with opportunities to examine the role of practical nurse when caring for individuals with health challenges. The learner will utilize critical thinking skills to plan and implement holistic nursing care. The experience will take place in the laboratory setting and in a variety of medical-surgical areas.

PN4016 Nursing Practice IV

This course will provide the learner with opportunities to examine the role of practical nurse when caring for individuals who require supportive, rehabilitative and palliative care. The learner will also be exposed to individuals with mental health challenges. Critical thinking skills will be refined to plan and implement holistic nursing care. This experience will take place in the laboratory setting and in a variety of medical-surgical settings.

PN5010 Nursing Practice V and**PN6010 Nursing Practice VI**

This experience will take place in nursing practice settings that will be selected through a collaborative approach to meet the students' learning needs. The experience will consist of two, five-week experiences; one in an acute care setting, and the other in a chronic care setting. The focus will be to consolidate learning and to function independently when caring for clients and their families in situations where the number of variables is limited and the outcome tends to be predictable. During this practicum, students will work with a preceptor. Upon completion, learners will be ready to graduate as a beginning, caring, competent practitioner.

PR1002 Medical-Legal Aspects of Care

This course is designed to provide the student with the ability to apply relevant legislation and regulations enacted by provincial and federal governments. The student will focus upon the accountability and responsibility of his/her own behaviours, by concentrating upon the legalities governing his/her professional duties. The student will understand his/her role as an advocate for patient rights to dignity, privacy, confidentiality and consent/non-consent to treatment.

PR1014 Patient Care Theory I

This course emphasizes the development of assessment skills and the utilization of them to manage and transport patients in a variety of situations. Students will learn the assessment, patho-physiological processes and management of various medical and traumatic problems that may afflict pre-hospital patients.

PR1020 Focus on Fitness I

The purpose of this course is to provide students with general and job-specific knowledge of fitness, enabling them to improve and maintain their life-long personal and occupational fitness level. The majority of course time will be practical gym instruction and participation. Class theory will also be presented with an emphasis on wellness as a concept, comprised of individual dimensions (emotional, physical, etc.). The practical component will focus on development of physical fitness. Emphasis will be placed on health as it relates to the whole

individual. Importance will be placed on strength conditioning, cardiovascular conditioning, psychological well being and nutrition. Special considerations will be given to areas that relate to the physical demands of a paramedic (i.e. abdominal/back care, safe lifting practices, flexibility).

PR1024 Patient Care Procedures I – Laboratory

In this course, the student will acquire the skills necessary to perform basic assessment and pre-hospital care interventions on victims of trauma or on the critically ill. The student will apply those selected laboratory skills for the provision of basic pre-hospital emergency care in various simulated laboratory settings. At the end of this course, the student will be able to demonstrate his/her ability to lift, transfer, position, and transport patients in the pre-hospital setting.

PR2003 Ambulance Operations

This course emphasizes techniques necessary to ensure driver and vehicle readiness for emergency service. Utilizing both classroom and in-vehicle situations students will acquire the skills required to: maintain emergency vehicles, prepare and safely operate an emergency vehicle, drive defensively avoiding hazards and control skids. In addition to these skills, students will also develop the ability to extricate victims from scenes, interact with Emergency Response Aircraft and respond to hazardous material and multi-casualty situations. The techniques required to work effectively with other emergency response personnel will be emphasized throughout the course.

PR2014 Patient Care Theory II

This course is a continuation of Patient Care Theory I. The major emphasis of this course is placed on the responsibilities of the student in assessing, managing and transporting patients in stabilized conditions, emergency situations and situations that may become emergencies. Students will learn the assessment, pathophysiological processes and management of various medical and traumatic problems that may afflict pre-hospital patients.

PR2016 Ambulance Field Experience I

Practical experience will be provided in a number of health care settings-in pre-hospital and acute and long-term care. Students will apply the theoretical content and practice from previous courses through observation and participation in both pre-hospital, and agency settings. Students will gain an understanding of the role of both paramedics and hospital staff in providing continuity of care for the ill or injured client.

PR2022 Crisis Intervention II

This course is designed to provide students with an opportunity to apply psychosocial principles of human behaviour to emergency and crisis situations. Students will have the opportunity to apply theory to crisis situations in a manner that is sensitive to the needs of a cultural and racially diverse Canadian society. An emphasis will be placed on learning strategies and techniques specific to the theory and concepts of crisis intervention.

PR2024 Patient Care Procedures II – Laboratory

In this course, the student will acquire the skills necessary to perform specific assessment and pre-hospital care interventions to victims of trauma or to the critically ill. He/she will also learn how to recognize complications and

minimize them, either at the scene or during transport by ambulance. The student will apply those selected laboratory skills for the provision of specific pre-hospital emergency care situations in a variety of simulated laboratory settings. At the end of this course, the student will be able to demonstrate his/her ability to lift, transfer, position, and transport patients in the pre-hospital setting (patients weighing up to 86 kg).

PR2026 Focus on Fitness

See PR1020 Focus on Fitness.

PR3002 Advanced Skills for Primary Care Paramedics – Laboratory

In this course, students will acquire the skills necessary to perform advanced assessment and care interventions on victims of trauma or on the critically ill. This includes starting and monitoring IVs, administering Symptom Relief drugs and defibrillation (SAED) to EHSB standards. They will also learn how to recognize complications and minimize them, either at the scene or during transport by ambulance. Students will apply those selected laboratory skills for the provision of specific pre-hospital emergency care situations in a variety of simulated laboratory settings.

PR3003 Professional Issues, Research and Leadership

This course is designed to develop students' critical thinking skills in identifying issues surrounding the application of skills, professionalism, and the development of technology, to name a few, that are relevant to the field of pre-hospital care. This will encompass the development and use of strategies to be able to locate, select and discriminate pertinent information, to support decisions and assist in the growth of their personal and professional role as a paramedic. Ultimately, students will appreciate their responsibility as leaders and/or agents of change in the future of pre-hospital care.

PR3006 Ambulance Field Experience II

This course provides the opportunity for students to receive practical experience in Emergency Health Services (E.H.S.) in true emergency patient care situations within the community. Under the direct supervision of a paramedic crew, students will review, participate in, and analyze emergency situations, which will form a basis for professional practice in the future.

PR3012 Advanced Skills for Primary Care Paramedics –Theory

This course provides students with a framework of knowledge surrounding the general principles of pharmacology at a level, which is appropriate for the paramedic. Also, students will gain a working knowledge enabling them to deliver the Ministry of Health EHSB protocols for Symptom Relief (administration of medication), Semi-Automatic External Defibrillation and Intravenous Therapy –(starting and monitoring an IV). The students will also become familiar with the equipment and drugs used by Advanced Care Paramedics.

PR3013 Patient Care Procedures III – Laboratory

This lab course presents students with tutorial materials, which require problem solving. The emphasis is on hands-on learning using demonstration, performance and practice to hone skills. It follows the same outline as the theory course to assist in the reinforcement of knowledge into praxis.

PR3014 Patient Care Theory III

This course is a continuation of Patient Care Theory II. The major emphasis of this course is placed on the responsibilities of the student in assessing, applying the pathophysiological processes, managing and transporting patients in stabilized conditions, emergency situations and situations that may become emergencies. Students will learn the assessment and management of various medical and traumatic problems that may afflict pre-hospital patients.

PR3043 Pathophysiology for Pre-Hospital Care

This course continues the journey that began in Anatomy and Physiology I and II. Students will learn the processes of human disease: human disease being defined as structural or functional changes within the human body that are judged to be abnormal. The causes that lead to such changes and the manifestations that result will be discussed. Available treatment options with an emphasis on symptom relief interventions will be explored.

PR3053 Fitness Maintenance

This course is a continuation of the paramedic fitness courses offered in the first and second semesters. This course is a practical application of the key elements of fitness, namely, cardiovascular fitness, muscular endurance, strength and power, flexibility and balance. Emphasis will be placed on a strength component focusing on safe lifting protocols. Students will receive instructions on how to begin a fitness progression program leading to a maintenance program in all components of physical well being. Additional elements include body composition and weight management.

PR4002 Paramedic Comprehensive Review

As the concluding component of the program, students enrolled in this comprehensive course will consolidate key concepts of pre-hospital care. Utilizing a student-centred approach, course participants will relate and integrate theoretical concepts previously learned in clinical situations. Challenges to the student-to-paramedic's transition will be thoroughly discussed. Students will receive individualized feedback following a comprehensive evaluation of their theoretical and practical skills.

PR4003 Ambulance Field Experience Analysis and Presentation

In this course students will be asked to demonstrate the relationship and application of prior classroom and lab learning and practice to their individual ambulance field placement experiences. Through the use of client case studies and class presentations, students will be required to demonstrate the link between theory and praxis. This course is delivered at 40 hours/ week in a week long concentrated format at the end of the Ambulance Fieldwork consolidation experience.

PR4022 Ambulance Field Consolidation

The emphasis of this course is placed on gaining practical experience related to the skills and theory taught in the previous courses. Students will gain an understanding of the roles of allied agencies involved in the care and continued care of pre-hospital patients. Students will also gain communication skills required when dealing with allied agencies, peers, patients and their families.

PS1003 Understanding the Child

The purpose of this course is to introduce the student to the fundamental stages of human

growth and development from conception to adolescence. The focus of this course is on physical, intellectual, social and personality development.

PS1004 Introduction to Psychology

This course is an introduction to the broad field of psychology. The student will study topics such as: biology and behaviour, sensation and perception, states of consciousness, learning, memory, intelligence, cognition and language, human development, motivation and emotion, personality theory and assessment, health and stress and social psychology. Human behaviour is very complex. This course will assist the student in better understanding his/her behaviours as well as those of others. The student will be able to apply basic psychological principles, which will help him/her in solving every day real life problems.

PS1015 Introduction to Social Psychology

Social psychology is the scientific study of how people think about, influence and relate to one another. Students will study the various ways in which individuals influence individuals and the ways in which individuals influence groups. Social psychology deals with cognitive psychology, personality psychology, and sociology. The essence of social psychology is its focus on perception.

PS1044 Introduction to Psychology

This course is an introduction to the broad field of psychology. The student will study topics such as: biology and behaviour, sensation and perception, states of consciousness, learning, memory, intelligence, cognition and language, human development, motivation and emotion, personality theory and assessment, health and stress and social psychology. Human behaviour is very complex. This course will assist the student in better understanding his/her behaviours as well as those of others. The student will be able to apply basic psychological principles which will help him/her in solving every day real life problems.

PS1153 Growth and Development

This course emphasizes the continuity of development from conception up to and including adolescence. It will focus on the interrelationships among the different states in this part(s) of the lifespan and among the physical, cognitive, social and personality development.

PS1163 Developmental Psychology

This course emphasizes the continuity of development throughout the lifespan. It will focus on the interrelationships among the different stages of the lifespan and among physical, cognitive, social and personality development. The course will cover the lifespan from the crucial prenatal period through late adulthood, as well as death and the grieving process.

PS2005 Child and Adolescent Psychopathology

This course outlines the various emotional and psychiatric disorders in children and adolescents. The focus of the course includes a discussion of the characteristics, treatments and causal factors of behavioural disorders of childhood and adolescence.

PS3023 Abnormal Psychology

This course examines various perspectives of abnormal behaviour. We seek to understand the nature, causes and treatment of abnormal

behaviour. Several theoretical viewpoints will frame our discussion of abnormal psychology. The patterns of abnormal (maladaptive) behaviour examined are: behaviour and emotional disorders of childhood and adolescence, anxiety disorders, dissociative and somatoform disorders, personality disorders, mood disorders and schizophrenia. There will also be a focus on mental illness/health intervention and prevention. Students will study treatment strategies and the rights of the individuals involved under the Mental Health Act of Ontario.

PS3033 Abnormal Psychology

This course examines various perspectives of abnormal psychology. Students will explore the nature, causes and treatment of abnormal behaviour. There will also be a focus on mental illness/health intervention and prevention. Students will study treatment strategies and the rights of individuals under the Mental Health Act of Ontario.

PS3043 Abnormal Psychology

This course allows students to understand reactions in the crisis situations they will face. Students will investigate the reactions of Emergency Services Personnel as well as reactions of patients, victims, bystanders etc. Common psychological disorders will be discussed as they pertain to Emergency Services and the course will conclude with theories of aggressive behaviour and how Emergency Services personnel can deal with aggressive patients, victims, bystanders. This course provides a solid basis for specific techniques taught in Crisis Intervention II.

PT2205 Power Train I, II

This course will explore the different types of power train systems. Students will learn the history and basic functions of clutch assemblies, manual transmissions, drive lines, and differentials. This course will introduce the student to the basic construction of clutches, transmission, drive lines and differentials including single and double clutch assemblies and manual transmissions. Students will be instructed on the proper maintenance, cleaning and inspection procedures of those components.

PW1001 PSW Practice I – Theory

This course provides the knowledge, skills and ability to assist clients in the provision of personal hygiene and personal care to meet activities of daily living. Students will be introduced to the care/service plan to assist them and direct them in providing support services to the client. Body mechanics will be reviewed and client mobility/safety issues will be discussed.

PW1002 Introduction to Community Care Theory

This course provides the theoretical background for the delivery of practical skills that the personal support worker will require for client care in the community environment. Emphasis is placed on home management, home assessment, safety interventions and personal care in the private residence setting. Principles of nutrition and meal preparation will be addressed. Also covered will be home mobilization and client assistive devices and their application in the home/community setting.

PW1003 Human Body Structure, Function and Basic Maintenance

This course introduces the PSW student to the normal structures and functions of the human

body as well as basic maintenance requirements. Themes in this course are: health promotion and age-related changes, including basic nutritional needs, body alignment and mechanics, infection control and stress.

PW1013 Legislation, Ethics and Principles of PSW

In Canada, legislation helps to make sure that all clients in the acute, long-term care and community settings get safe and competent care. Legislation protects not only the rights of the client but the rights of the caregiver as well. This unit will examine legislation that is relevant to the personal support worker and discuss ethical issues related to client care.

PW1023 Human Relationships I

Understanding the messages of others and expressing oneself so as to be understood by others is central to the personal support worker's ability to function. Using an experiential approach, this course will focus the learner on the skills necessary to communicate effectively on a personal and professional level. The concepts of caring will be used as a basis to explore the helping relationship, interviewing skills and group dynamics. Problem solving and conflict resolution skills will be presented. Students will be provided with opportunity to practice these skills. Use of written materials, including documentation will be covered.

PW1053 Introduction to Community Care – Lab

This course is offered in a community lab setting to provide students with opportunities to apply knowledge and skills acquired in the classroom to the clinical practice setting through simulation. The student will be able to perform basic support skills required for community care and to effectively care for individuals in selected age groups and with a variety of medical conditions.

PW1063 PSW Practice I – Theory

This course will provide the theoretical background for the delivery of practical skills that the Personal Support Worker will require for client care in the institutional setting. The areas addressed are: institutional safety, infection control, mobility, personal hygiene, bowel and bladder elimination, specimen collection and vital signs. Within the lab setting, theory will be applied and practiced in order to develop required skills.

PW2001 Clinical Practice I

This course will provide students with opportunities to apply knowledge and skills gained in the classroom environment to the practice setting under the direct supervision of a clinical instructor in a long term care setting. The emphasis of this course is on the demonstration of knowledge, skills and attitude required to assist clients with personal routine activities of daily living.

PW2002 Introduction to Medication Administration

This course will inform students of the purpose of medication, how various medicinal preparations affect the body and on how to assist their clients in taking the medications they have been prescribed.

PW2003 Mental Health and Dementia

This course introduces the PSW student to a variety of common psychiatric and cognitive disorders. The relation between behaviour

and/or changes in behaviour to pathology is emphasized. Students will be able to identify factors which can increase the risk of depression and recognize signs of possible suicidal behaviour. Concurrent conditions will be examined and the role of the family care giver will be reviewed.

PW2007 Clinical Practice II

This course will provide students with opportunities to apply knowledge and skills gained in the classroom environment to the practice setting under the direct supervision of a community preceptor. The emphasis of this course is on the demonstration of knowledge, skills and attitude required to assist clients with personal routine activities of daily living in their home environment.

PW2013 Common Health Challenges and Care Needs

This course introduces the PSW student to the impact of the aging process on normal body function. Attention is paid to pathological processes that impact on the normal anatomy and physiological processes in the body.

PW2017 Preceptorship

This clinical experience will provide students with the opportunity to consolidate skills and knowledge at a level approaching that of a beginning personal support worker. Partnered with either a registered practical nurse or a personal support worker as a preceptor, the student will gradually increase skills within the personal care giver role. This experience will take place in the long-term care setting.

SB2104 Suspension/Steering/Brakes

This course introduces students to different types of suspension, steering and brake systems. It will introduce students to the history and basic function of suspension, steering systems, hydraulic brakes, air brakes, and air-over-hydraulic brake systems found in heavy equipment. Students will also be instructed on the basic construction of different suspension, steering and brake systems encountered in heavy duty equipment, as well as the proper maintenance, cleaning and inspection procedures of those systems.

SE1003 CESD Topics – Leadership

This course will provide the foundation for an introductory but meaningful inquiry into the complex nature of leadership. It discusses the major theories, approaches, and concepts of leadership and explores how leadership theory can inform and direct the way leadership is practiced. Students will be challenged to critically evaluate these theories and practices and begin to develop their own personal philosophy or framework of leadership. This personal framework will serve as a fundamental foundation for community and social development work and further studies in leadership.

SE1004 Community Economic Development I

This introductory course will provide students with a working knowledge of economic development strategies and practices. While discussing traditional approaches to local economic development and the role of economic development officers, the course will also introduce the concept of broader grassroots, or community-based, economic development and its application to the unique challenges faced by smaller communities. The primary focus

will be on the initial research, planning, and advocacy stage of development. Students will learn how to identify and measure the strengths and weaknesses of their own communities, and formulate a feasible plan to help foster economic revitalization.

SE2004 Community Economic Development II

Prerequisite: SE1004 Community Economic Development I

This course will introduce students to the use of business plans and related research as a community economic development tool. Access to some form of invested or borrowed funds is as essential for economic development projects as it is for business. This course will provide students with a working knowledge of business and organizational structure, as well as business plan creation, research, and analysis as an essential first step in securing financing. A wide range of types and sources of private and public financing will then be studied, including those specific to First Nations people and communities. Students will then develop a business plan in support of a request for financing from one or more of these sources.

SE3004 Community Social Development I

This course will introduce the social side of community economic and social development, and will assist the student in understanding the forces that drive social action and social production within the context of community development. Students will learn how to: identify various communities of interest, mobilize communities to build capacity for community development, empower organizations to create positive change, and drive the development process and accomplish projects that will have a beneficial impact on communities. The course will also examine the role of the community economic development professional in working with local groups and organizations to achieve positive results.

SE3013 Interpersonal and Group Dynamics

This course is an introduction to the theory and practice of working in small groups in an intercultural context. Students will explore group processes and dynamics, while developing their interpersonal communication skills and learning strategies for taking and supporting leadership, solving problems, making decisions, and managing conflicts. These skills provide the basis for an introduction to the types of specialized group facilitation skills essential to community development work.

SE3023 CESD Topics – Asset Based Community Development

CESD Topics are a sequence of courses designed to address current issues and developments in the field of community-based, grassroots community economic and social development. The topic for this CESD Topics is Asset-Based Community Development, development achieved by focusing on the skills and resources that already exist in the community (i.e., what's already there). This is in contrast to more traditional approaches that focus on addressing the needs and deficiencies in the community (what's missing or lacking in the community). A major focus will be on application of this method to smaller, remote or rural communities.

SE4003 Government Funding and Community Resources

Prerequisite: SE2004 Community Economic Development II

This course explores in detail the various community resources that can be mobilized in support of community economic and social development, and serves as an introduction to the form and content of professional funding proposals for new or ongoing programs and organizations. Most community workers find themselves working with non-profit organizations that provide services and programs for a variety of diverse communities. In this course students will gain the knowledge and skills necessary to make productive use of those resources, and to prepare a funding proposal for submission to, or on behalf of, those organizations.

SE4004 Community Social Development II

Prerequisite: SE3004 Community Social Development I

This course will focus on the integration of community social development and community economic development principles and practices necessary for communities to achieve sustainable socio-economic revitalization at the grassroots level. Students will learn how social development strategies can be used in support of economic development strategies to build more resilient communities. This integration will be illustrated in such topic areas as: the role of the community development professional, community quality of life, business incubators, entrepreneurial support, and new types of business and social enterprises such as non-profit businesses, cooperatives, and new generation cooperatives.

SE4012 CESD Topics – Social Entrepreneurship

CESD Topics - Social Entrepreneurship is the second in a sequence of courses designed to address current issues and developments in the field of community-based, grassroots community economic and social development. Social Entrepreneurship is most broadly defined as the civic entrepreneurship of the rising citizens' movement concerned with improving the quality of life of communities around the world. As much as possible, there will be a focus back on the potential application of the material covered in this course to the development of smaller, remote or rural Northern communities.

SE5004 Municipal Administration, Law and Finance

Prerequisite or corequisite: AC4053 Financial Management I

This course begins by examining the nature of municipal administration as compared to public administration at the senior level of governments. It examines the machinery of municipal government, council, committees and staff. The legal framework behind this level of government, particularly the Municipal Act, will be discussed, followed by an overview of the financial administration of municipalities. These topics will be discussed in the context of the growing responsibility that municipalities have for initiating and sustaining local economic development. The skills and knowledge acquired in this course will be especially useful to those graduates hired by municipalities, in various positions of responsibility, to do community development work.

SE5008 Social and Economic Development I – Project / Seminar

Prerequisites: SE2004 Community Economic Development II and SE4004 Community Social Development II

In this course, students will apply what they have

learned so far in the CESD program to the design or implementation of community development projects in areas that interest them. The seminar portion will be used for further exploration or discussion of related conceptual issues or practical problems, and will facilitate student learning through consultation with fellow students, faculty members, and community partners. Final evaluation will be based on a student presentation and technical report at the end of term.

SE5023 Project Planning and Management

Prerequisite or corequisite: AC4053 Financial Management I

This course provides the student with an overview of the field of project planning and management, particularly as it is applied to community economic and social development. The basic principles of general project management that are covered include: creation of work breakdown structures, using network diagrams and Gantt charts, preparing budgets, controlling resources and project termination. The techniques are based on a study of the typical project life cycle. This course will include material on topics specific to community development projects, such as community impact analysis, business plans, and needs assessments.

SE5033 Aboriginal Social and Economic Development I

This course will provide the students with information that relates to First Nation history, sovereignty, land titles, cultural history and current and critical issues. This information will be used as background for an introduction to such topics as: the content of aboriginal rights, economic and social development, community and political processes, and business law and policies, justice and social services.

SE5043 CESD Topics – Rural Development

CESD Topics – Rural Development is the fourth in a sequence of courses designed to address current issues and developments in the field of community-based, grassroots community economic and social development. Rural Development addresses development principles and practices of particular usefulness for the unique challenges faced by smaller remote or rural communities. This course will focus mostly on lessons learned in Europe where a concerted effort has been made to promote community economic and social development at the local level. The applicability of these lessons to the Canadian rural context will be critically assessed as the course progresses.

SE6003 Development Research and Statistics

Prerequisite: SE5023 Project Planning and Management

This course is an introduction to needs assessments and other research tools, including designing and administering interviews and questionnaires, used as the basis for program planning. This course will provide students with a user-oriented approach to the acquisition and analysis of research information for decision-making purposes. Students will be involved in all aspects of research including problem definition, research design, sample selection, data collection, computer data reduction, analysis, formulation of recommendations, and presentation of results for management action.

SE6008 Social and Economic Development II - Fieldwork / Placement

Prerequisite: SE5008 Social and Economic

Development - Project / Seminar

This course will provide an opportunity for the student to either work for an existing community economic and social development organization, or to pursue the actual implementation of a project of the student's own design. The emphasis will be on process rather than on product, in that course evaluation will not be based on the success of the project but rather on the process used to get there. Assessment of successful completion will be the responsibility of the faculty supervisor in consultation with all parties involved in the project or placement, and the criteria will be agreed upon at the beginning of the fieldwork or placement period.

SE6013 First Nations Social and Economic Development II

Prerequisite: SE5033 Aboriginal Social and Economic Development I

This course will further explore the context of aboriginal economic and social development, with a focus on contemporary aboriginal economic development approaches and issues in modern aboriginal communities.

SE6023 Conflict Management and Dispute Resolution

Prerequisite: SE3013 Interpersonal and Group Dynamics

This course surveys the major methods currently in use by organizations for resolving disputes by situating dispute resolution in its historical, social and legal context. Various techniques and models will be examined and compared, and participants will be provided with an overview of dispute resolution mechanisms, their advantages and disadvantages, and recognize the appropriate situations in which to apply them. Special emphasis will be placed on developing consultation and mediation skills.

SU1006 Surveying Principles

This course is an introduction to the basic principles of Plane Surveying. The theory and use of theodolites, steel tapes and levels will be covered. Basic surveying calculations for direction, coordinates and area will be included.

SU2003 Plane Survey I

Prerequisite: SU1006 Surveying Principles

This course is a continuation of Surveying Principles. The use of total station field instruments will be covered. Emphasis will be placed on practical field applications.

SU3010 Municipal Engineering

Prerequisite: SU1006 Surveying Principles

This course includes the study of engineering surveys, construction surveys, as well as the study and preparation of municipal services, plans and profiles. Students will perform necessary calculations and fieldwork required for grade control for sewers, roadways or residential structures and interpret necessary survey information from architectural working drawings.

SU3023 Plane Surveying II

Prerequisite: SU2003 Plane Survey I

This course is a continuation of Plane Surveying I. Emphasis will be placed on the advanced features of total station instruments including resections, remote elevation determination, setting out, and the acquisition of electronic data and transfer to an AutoCAD drafting environment. Electronic drafting using AutoCAD Land Development software will be included.

SW1023 Introduction to Social Welfare

This course explores the past, present and future of the Canadian welfare state. The intent of this course is to critically explore the belief and value systems that structure the role and function of social welfare institutions and social work practice in society. The course provides a general introduction to the theoretical foundations, value orientations, settings and methods of social work within the broad field of social welfare. This course is designed to complement the theoretical knowledge acquired in Social Work practice I and II. As such it focuses on further application of knowledge, values and skills relevant to building and maintaining a helping relationship and facilitating positive action.

SW1053 Social Work Practice I

This course is designed to provide a foundation for students to develop the human relation concepts, values and skills they need to build effective helping relationships. Students will be introduced to the following core skills required for formal and structured helping: a) the development and use of the professional self; b) relationship/interactive skills; c) evaluation skills for each of the above. This course is a prerequisite for Social Work Practice II and Social Work Practice Lab II. This course is a co-requisite to Social Work Practice II.

SW2004 Sociology of the Family

This is the study of the contemporary Canadian family. The course examines the meaning of the concept "family" as well as the historical and cross-cultural perspectives of family. Further, the course examines such topics as changes in the family, love and marriage, parenthood, the domestic division of labour, work and family life, stress and violence, divorce, one-parent families, remarriage, step-families, and empty nests. The course ends with a study of future Canadian family trends based on current trends.

SW2013 Social Work Practice II – Lab

This course is designed to complement the theoretical knowledge acquired in "Social Work Practice I and II. As such it focuses on further application of knowledge, values, and skills relevant to building and maintaining a helping relationship and facilitating planned change efforts. The student must involve him/herself in a LEARN, PRACTICE, REFLECTION, process to optimize professional development.

SW2023 Conflict Resolution/Mediation

This course is designed to help students look at conflict in a theoretical and critical manner and then to recognize and apply systemic methods of resolving disputes ranging from interpersonal conflict to analyzing more complex global issues. Students will learn to identify, avoid, and resolve their own personal conflicts as well as assisting others as a neutral third party and to do so in an efficient and effective manner.

SW2033 Crisis Intervention

This course is designed to provide students in the human services field with fundamental crisis theory that will serve as a basis for assessment, intervention and evaluating resolution of a crisis event. A six-step model of intervention is presented along with specific helping objectives in order to guide the student in the practice of crisis intervention. Recognizing that suicide risk often accompanies a crisis, students will learn to recognize suicide lethality, and acquire specific techniques involved in interrupting a suicide attempt. Ultimately, the intention of this course is to prepare the student to help turn the clients'

crisis (danger) into an opportunity for personal growth and development.

SW2036 Community Resources

This course provides both a historical and a current view of social welfare in Canada. As well, it provides a view of the resources found in Canadian communities to ensure social welfare is provided in a timely and adequate manner.

SW2053 Social Work Practice II

Co-requisite: Social Work Practice II - Lab
This is a theoretical course designed to complement and augment concepts and techniques acquired in Social Work Practice I. The student will further acquire interviewing and counselling skills along with assessment and intervention concepts and skills relevant "interviewing and counselling" and the "Planned change process."

SW2063 Introduction to Children's Resources

This course takes the concepts of case management, case conferencing, wraparound and treatment planning and applies these skills to local community services for children. Topics include wraparound, accessing services, referring, case planning, case conferencing, networking, and the role of the case manager. Specific types of conferencing such as telepsychology, IPRC, court conferences and mobile crisis will be explored.

SW3003 Group Processes

This course aims to provide the theory of group processes and structures as these develop and change throughout a group's existence. It will enable students to understand the basic elements of group process, with a focus on stages of group development, including coverage of introduction to group work; guidelines for multicultural practices; ethical and professional issues in group practice; group leadership; early stages of groups which include forming a group or the pre-group phase; initial stage; transition stage; working stage; and ending a group including final and follow-up stages.

SW3011 Social Work Fieldwork Placement I

While on placement, students in the third semester of their Social Service Worker program will work to further develop a keen sense of self-awareness to aid them in identifying and avoiding personal biases while considering the service needs of clients in their care. Students will also work to solidify and practice a variety of clinical skills: relationship building, professionalism, behavioural interventions, counselling approaches, self evaluation, self care, and professional development.

SW3013 SSW Reflective Practice

This course is designed to prepare students for fieldwork placement in the third and fourth semesters of the Social Service Worker program. The Fieldwork Placement Manual will be reviewed and specific competencies for placement will be examined. Students will examine the role of the worker in relation to field placement expectations. Policies, processes, roles, responsibilities, and expectations relating to fieldwork placement will be examined and discussed. This course will introduce students to the concept of reflective practice and the process of self-assessment. Self-assessment will be used as a means of enabling students to bring together a wide range of their learning to reflect on their achievements and to examine the implications for further learning. This course will

help students clarify expectations and prepare for the fieldwork placement experience.

SW3023 Interviewing Skills I

This course intends to provide the student with a foundation of knowledge, values and skills necessary to conduct an effective helping interview. Theoretical and experiential learning will be combined.

SW3033 Fundamental Family Concepts

This course is designed to introduce the student to theoretical concepts supportive of family assessment. The emphasis is on understanding the family as a social unit, appraising the family functioning and determining intervention objectives. Students are encouraged to study their own families of origin in order to learn concepts and to explore how their own experiences and beliefs affect their practice in human services.

SW3053 Gerontology

This course will present Social Service Worker students with the ability to address the physical, psychological and social elements of care for the elderly and to provide comprehensive, coordinated services that not only treat illness but also promote health and optimum function. The Social Service Worker student will acquire the knowledge to assist them in meeting new challenges and to provide high quality services to older adults.

SW4011 Fieldwork Placement II

This is a cooperative endeavour between the College's SSW program and various community social services agencies. Students are placed in agencies under supervision for a 15-week/600 hour duration. The objective is to provide students with a practical opportunity to integrate and apply entry-level knowledge, values and skills.

SW4021 Fieldwork Seminar II – Seminar

Students while on work placement will have a number of experiences to solidify and practice a variety of clinical skills, professional relationship building, interventions, counselling approaches, self-evaluation, self-care, and professional development. Students will take part in Fieldwork Seminars one day per month throughout the placement. The content of the Fieldwork Seminar will include presentations of work-related experiences done in the context of skills applications and professional practices.

VA1012 Client Relations I

This course will assist students to develop skills they may use when dealing with the general public. Students will learn to greet clients, admit and discharge patients, answer and direct phone calls, recognize and respond appropriately to veterinary medical emergencies and notify appropriate personnel. Students will develop effective client communication skills, demonstrate professional ethics and describe the roles and responsibilities of each member of the veterinary health team and the important part that each plays in the delivery of excellent animal care.

VA1013 Hospital Procedures

Hospital procedures prepares the student for front office responsibilities. These include hospital appearance, inventory control, appointment scheduling, handling emergency calls, following standard operating procedures, maintenance of surgical and radiology logs and retrieval of medical records. By understanding

the legalities that impact on veterinary practice, while at the same time appreciating the need to conserve costs and to increase practice income, the veterinary assistant will be better able to contribute to the effective operation of the practice. The student will be expected to apply communication skills developed in the Client Relations course.

VA1022 Animal Structure and Function

This course is designed to teach the student the required knowledge necessary to understand the basics of anatomy and physiology. The function of each organ of the body will be described and related to common diseases that may be encountered in the clinic.

VA1023 Grooming I

This course will deal with the grooming of various companion animals both large and small. This course will prepare the student to work in a grooming facility. All areas of care will be discussed and practised; these will include bathing, nail trimming, scissor cuts and conditioning of the coat.

VA1033 Clinical Procedures

This course will deal with animal husbandry and the principles of restraint of dogs, cats, birds, laboratory animals, and reptiles. The basic function of radiology equipment, safety concerns and precautionary procedures in radiology will be discussed. Students will learn the principles of triage and discuss emergency situations and how to deal with them. Aspects of pharmacology are covered, including drug categories, over the counter versus prescription drugs, drug laws and regulations and their application in clinical practice. The student learns about prescriptions, labeling, packaging and dispensing regulations

VA2012 Client Relations II

Prerequisite: VA 1012 Client Relations I

This course will continue to aid students to develop skills they must use when dealing with the general public, placing extra emphasis on the veterinary technician/assistant role as a member of the veterinary team. These skills will be practised in the class and different scenarios will be role played. This semester will also concentrate on pulling skills from the core program and understanding the technician/assistant's role in the situation.

VA2022 Large Animal Studies

This course will deal with the general needs of the large animal practice. The veterinary technician will develop an appreciation for livestock medical and surgical techniques, and commonly encountered conditions. The student will acquire general understanding of reproduction, biosecurity, safe handling and restraint, and sample collection.

VA2023 Animal Handling I

This course teaches students how to handle companion animals safely.

VA2023 Animal Handling II

See VA2043 Animal Handling II.

VA2032 Feeds and Feeding of Companion Animals

This course covers the basic concepts of nutrition and provides students with sufficient understanding to advise clients on the nutritional needs of large and small animals at various life stages. While the major focus of the course is on feeding the healthy animal, the dietary needs of dogs and cats with specific organ diseases

are also covered. Students are introduced to common dietary toxicities and deficiencies encountered in small companion animal medicine.

VA2033 Grooming II

Prerequisite: VA1023 Grooming I

This course will build on the skills learned in the first semester. All areas of care will be discussed and practised. A professional style portfolio will be developed to show the skills and cuts each student has completed. This may be used as a demonstration tool for a potential employer.

VA2043 Animal Handling II

Prerequisite: VA2023 Animal Handling I

This course will enhance the material covered in Animal Handling I. Special attention will be placed upon changing behaviour patterns and training companion animals. Large animal handling and behavior will be observed and will be based upon availability.

VO1003 Career Planning and Life Skills

Focusing on essential skill development at a minimum of level 2 in: problem solving, decision making, critical thinking, job task planning and organizing, finding information, and continuous learning, this course culminates in the development of a complete personal and career portfolio.

VO1013 Job Shadowing

Three to six different job shadowing opportunities (one to two days duration) will be provided to students based on their individual career direction.

VO1023 Supported Individualized Instruction I

This course is designed to provide individualized instruction to students in their core courses and to provide additional support based on their career choice.

VO1033 Effective Use of Learning Technologies I

Description unavailable at time of printing.

VO2003 Work Skills lab

This course is designed in modular format allowing students to complete various job skills labs, simulations, and workshops, such as WHMIS, First Aid and CPR, retail sales simulation, food preparation and safety lab, vehicle care lab, homemaking lab, and others.

VO2008 Job Placement

One or two job placements (two to four weeks in duration) will be provided to students based on their individual career goal.

VO2013 Customer Service and Workplace Relations

Beginning with basic interpersonal relationships, this course provides the student with Super Host training and certification, and Service Excellence training and certification, as well as workplace coordination/integration requirements and an understanding of roles and responsibilities in working with others at an essential skill level 2-3.

VO2023 Supported Individualized Instruction II

Based on the outcomes of students' first semester in course work students may be provided with further support for their individual career choice.

VO2033 Effective Use of Learning Technologies II

Description unavailable at time of printing.

VT1002 Clinical Calculations I

This is the first calculations course focusing on mathematical principles, dimensional analysis including unit conversions and the fundamentals of solutions and concentrations. Applications from nursing and the veterinary sciences are explored to show where and how mathematical techniques are required in a lab setting.

VT1003 Animal Nutrition and Digestion

Prerequisites: VT1019 Anatomy and Physiology I; VT1002 Clinical Calculations I

The comparative anatomy and physiology of the digestive systems of domestic animals will be studied. The nutritional requirements of the animal in health and disease with respect to proteins, carbohydrates, fats, water, vitamins and minerals will be discussed. The course will cover feeding procedures and feeds for dogs, cats, cattle and horses.

VT1005 Laboratory Procedures and Techniques I

This course is an introduction to laboratory procedures and practice. Students will become familiar with tests commonly and most frequently used in the veterinary laboratory. Students will acquire the proper techniques to perform tests and learn the significance of test results. An understanding of what is considered normal or abnormal will become clear. A large segment of time will be used to become familiar with quality control and the significance of its use. Hematology, sterilization, disinfection and aseptic techniques will be of special focus.

VT1013 Clinical Studies I

The course is an introduction to the responsibilities of a veterinary technician working in a clinic. It begins by emphasizing safety for both the animal and the handler in applying appropriate physical restraint. These concepts are reinforced in the concurrent first semester courses, Kennel Duty I and Clinical Exercises I. Students are alerted to other common hazards of the profession, such as those found in anaesthesia, radiology and zoonoses. Further areas of study include: taking the history, conducting a physical examination, keeping medical records, animal identification, skin and coat care, vaccination and parasite control. In this course students learn veterinary terminology so they can communicate with other members of the veterinary team and understand the literature of the profession. The course delineates the different roles for veterinarians, technicians and assistants on the veterinary team and discusses professional organizations that determine the scope of practice for each. Students are made aware of continuing education opportunities open to graduate technicians.

VT1019 Animal Anatomy and Physiology I

This introductory course begins with the basic principles of living matter and evolves to consider the mammalian body and how it works. While the focus is on the domestic dog and cat, comparative differences between small animals and livestock are covered. By the end of the course, the student has covered the following body systems – integumentary, skeletal, muscular, nervous, cardiovascular, lymphatic, respiratory and digestive.

VT1123 Kennel Duty I

Kennel Duty offers the student access to the

colony animals. Husbandry will be practised during this time. The students will experience all areas of nutrition, exercise, animal's life style enhancement and sanitation. Students from the Veterinary Assistant, Veterinary Technician and Animal Grooming programs participate in this teamwork environment.

VT2002 Clinical Calculations II

Prerequisite: VT1002 Clinical Calculations I

This is the second calculations course focusing on drug dosage calculations. The learner will perform calculations to reconstitute drugs, determine dosages based on body weight and body surface area and in the administration of intravenous drugs. Applications from nursing and the veterinary sciences are explored to show where and how mathematical techniques are required in a lab setting.

VT2003 Clinical Studies II

Prerequisites: VT1013 Clinical Studies I, VT1019 Anatomy and Physiology I, VT1005 Laboratory Procedures I

Clinical Studies II is a continuation of the introduction to veterinary technology that began with Clinical Studies I. It begins with the topic of canine and feline behaviour and continues with the detailed study of anaesthesia. These subjects prepare students for work they will encounter in their placement and future profession.

VT2008 Animal Anatomy and Physiology II

Prerequisites: VT1019 Anatomy and Physiology I

This course is a continuation of Animal Anatomy and Physiology I. Together, these courses are designed to give veterinary technician students a fundamental understanding of the parts of the body, how the parts are assembled into body systems and how these systems are controlled and relate to each other. This course completes the study of the body by examining special senses, as well as endocrine, renal, reproductive and immune systems.

VT2016 Laboratory Procedures and Techniques II

Prerequisites: VT1019 Anatomy and Physiology I; VT 1005 Laboratory Procedures and Techniques I; VT1002 Clinical Calculations I

This course is a continuation of Laboratory Procedures and Techniques I. Students will study clinical chemistry, urinalysis and cytology while practising the techniques taught in the first semester. Special care will be placed on understanding the consequence of failure to report accurate results. Confidence limits will be stressed. The final exam for this semester will include material from the first and second semesters

VT2032 Clinical Exercises I

Prerequisites: Anatomy and Physiology I; Clinical Studies I; Clinical Calculations, Lab Procedures and Techniques; Radiology;

This course is designed to give students the practical skills required to function as veterinary technicians in a clinical environment. Each student will be part of a group that has the responsibility of monitoring hospitalized patients on a daily basis. Frequent examinations and careful detailed record keeping are emphasized. Each student will take part in physical examinations, intravenous fluid administration, and intravenous, intramuscular and subcutaneous injection techniques, as well as the restraint of both small and large animal patients, surgical preparation, surgical nursing assistance and sterilization techniques.

VT2033 Clinical Studies II

Prerequisites: VT1013 *Clinical Studies I*; VT1019 *Anatomy and Physiology I*; VT2002 *Clinical Calculations I*; VT1005 *Laboratory Procedures and Techniques I*

The role of veterinary professionals in managing behavioural problems of dogs and cats will be examined. The course includes discussion of ways to prevent and treat behavioural problems, as well as the appropriate procedure for referring clients who desire resolution of their animal's behavioural problems. Common problems such as housetraining, destructive scratching in cats and destructive chewing in dogs are covered. An in-depth discussion of anaesthesia and analgesia completes the course.

VT2043 Management Technology

The purpose of this course is to develop the skills necessary to effectively use computer programs specific to the veterinary environment. The student will learn to navigate through programs such as Impromed and Vetware.

VT2083 Radiology I

Prerequisite: VT1019 *Anatomy and Physiology I* VT1019

In this course, students study the parts and function of x-ray machines, the formation and properties of x-rays, the principles of image formation, radiographic techniques and radiographic processing. Standard views and basic radiographic anatomy are studied. Students will be provided with the knowledge required to obtain quality diagnostic radiographs of small animals. The dangers of radiation and how to avoid radiation injury will be outlined..

VT2123 Kennel Duty II

This course offers the student the opportunity to interact with other students of the School of Veterinary Sciences. Animal husbandry will be practised with emphasis on lifestyle enhancement.

VT3001 Veterinary Technician Surgery

Prerequisites: VT2008 *Anatomy and Physiology II*; VT2033 *Clinical Studies II*; VT3073 *Clinical Exercises II*; VT2002 *Clinical Calculations II*; VT2016 *Laboratory Procedures and Techniques II*

Under the supervision of a supervising veterinarian, students anaesthetize and carry out minor surgical procedures as directed

VT3004 Clinical Studies III

Prerequisites: VT3073 *Clinical Exercises II*; VT2033 *Clinical Studies II*; VT208 *Anatomy and Physiology II*

The veterinary technician student will learn to learn how to prepare patients for surgery, and describe how to utilize surgical instruments and equipment. The student will understand the theory of setting up and controlling the surgical suite and its environment. The student will review the theories learned last semester in anesthetics. The students will learn the theory of how to scrub in and assist the veterinarian. The student will learn how to properly open and handle surgical packs, and suture material. The student will learn the theory of maintaining a sterile environment without causing contamination. The student will learn how to carry out postoperative care, monitoring and final client instructions.

Students will learn how assess, treat and stabilize an emergency situation on the phone and in the clinic. The student will study how to talk to the client and what procedures are to be carried out in specific emergency situations. The students will learn bandaging procedures, wound care

and when to apply various bandages, splints, casts and other external supports.

VT3013 Laboratory Procedures and Techniques III

Prerequisite: VT2016 *Laboratory Procedures and Techniques II*, VT3073 *Clinical Exercises*

This course is a continuation of Laboratory Procedures and Techniques I and II. A review of health and safety standards will help to ensure students' well being and safety. Parasitology, virology and immunology will be stressed this semester. Abnormal haematology and chemistry cases will be reviewed to provide continuing development of laboratory expertise. The final exam for this semester will cover material from the first two semesters as well as the third semester.

VT3033 Veterinary Hospital Management

Prerequisite: VA2012 *Client Relations II*

This course orients veterinary technicians to practice management with emphasis on marketing, communications, business operations, inventory control, appointment scheduling, emergency calls, standard operating procedures and maintenance and retrieval of records. By understanding the legalities that impact on veterinary practice, while at the same time appreciating the need to conserve costs and increase practice income, the graduating technician will be better prepared to contribute to the effective operation of the practice. The student will be expected to apply communication skills developed in the Client Relations course.

VT3053 Surgical Exercises I

Prerequisites: VT2008 *Anatomy and Physiology II*; VT2033 *Clinical Studies II*; VT3073 *Clinical Exercises II*; VT2016 *Laboratory Procedures and Techniques II*; VT2002 *Clinical Calculations II*

This course is a practical training session for veterinary technicians to become familiar with anesthesia and surgical procedures. There is a heavy emphasis on supervised hands on experience. The class is divided into small groups for better supervision and learning. Each group is responsible for taking a patient from the preoperative examination and laboratory evaluation through to patient recovery and return to the owner.

VT3063 Pharmaceutical Principles I

Prerequisites: VT2008 *Anatomy and Physiology II*; VT2003 *Clinical Studies II*; VT2002 *Clinical Calculations II*

This is the first of two courses which together provide a comprehensive review of important groups of drugs used in veterinary medicine. The course begins with general aspects of pharmacology, such as the sources of drugs, their modes of action, dosage forms and pharmacokinetics, but progresses to discuss in detail those drugs which are used to correct disorders in specific body systems. In this first course, drugs affecting the gastrointestinal, cardiovascular and respiratory systems are covered. In addition, the student is required to calculate doses accurately and understand the components of a prescription. The student is introduced to specific legislation affecting the storage and dispensing of pharmaceuticals. Through this knowledge, the technician is able to help a veterinary practice meet its legal responsibilities.

VT3073 Clinical Exercises

Prerequisites: VT2032 *Clinical Exercises I*; VT1005 *Laboratory Procedures and Techniques I*

In this competency-based course, students build

upon previously acquired skills and increase their efficiency and understanding. While functioning as part of a group, students participate in physical examinations, intramuscular, subcutaneous and intravenous injection techniques, restraint of small animal patients, surgical preparations, anal gland expression, enema administration and taking blood. Students are marked on skill and willingness to participate.

VT3083 Radiology II

Prerequisites: VT2083, *Radiology I*; VT2002 *Clinical Calculations II*

This course offers students the opportunity to put into practice the knowledge obtained in Radiology I. Students will be placed in small groups and be expected to take x-rays using all safety techniques and guidelines as demonstrated by the professor. Students will be evaluated on their professionalism and the quality of the x-ray produced.

VT3113 Laboratory Animal Studies

Prerequisites: VT3073 *Clinical Exercises II*; VT2033 *Clinical Studies II*; VT2002 *Clinical Calculations II*

Students will explore the world of the laboratory animal. Students will learn nursing care and husbandry theory and apply this knowledge to the following species: rats, mice, hamsters, gerbils, guinea pigs.

VT3123 Kennel Duty III

This course is a continuation of Kennel Duty I and II. The student will be responsible for the administration of medications, care and where required, bandaging of the kennel animals.

VT4000 Field Work Placement

Prerequisites: All course in Semesters I, II and III must be completed successfully prior to placement.

Students will be expected to spend four weeks at the clinic where they have arranged placement. The clinic must be able to provide the necessary work experiences. It is expected that students will perform the duties regularly expected of a new graduate with the same experience level. This will give students the opportunity to experience clinic life, then return to school to apply the newly gained knowledge and expertise to their schoolwork.

VT4003 Clinical Exercises III

Prerequisites: VT3073 *Clinical Exercises II*, VT2033 *Clinical Studies II*, VT2008 *Anatomy and Physiology II*, VT2002 *Clinical Calculations II*

This course is designed to give students the chance to build on skills already introduced in the first two courses in the Clinical Exercises series.

VT4010 Clinical Studies IV

Prerequisites: VT3004 *Clinical Studies II*; VT3063 *Pharmaceutical Principles I*; VT3013 *Laboratory Procedures and Techniques III*; VT2008 *Anatomy and Physiology II*

This course is a continuation of the series of clinical studies courses, which prepare students for work they will see in their future profession. The course deals with many aspects of small animal nursing care, ranging from the needs of neonatal patients requiring intensive care to the needs of senior pets with chronic conditions, such as oncology patients. The course deals with nursing procedures, such as fluid therapy, including blood transfusions, oxygen therapy, nutritional support of hospitalized patients, skin care and physiotherapy. The care and

management of caged birds and exotic pets is also examined. There is a brief overview of advanced imaging technologies, such as ultrasound and endoscopy.

VT4012 Wildlife and Exotics

This course is designed to introduce students to the world of wildlife rehabilitation and exotic animal care. Students will experience some hands-on care to compliment classroom theory.

VT4033 Surgical Exercises II

Prerequisites : VT3053 *Surgical Exercises I; VT4003 Clinical Exercises III; VT3004 Clinical Studies III; VT3013 Laboratory Procedures and Techniques III*

This course is a continuation of the practical training needed for veterinary technicians to become familiar with surgical procedures. Students practise their skills while participant in a surgical team. New procedures that were not previously covered in Surgical Exercises I are added. The class is divided into small working groups to allow an optimum supervisor to student ratio. Each team is responsible for taking a patient from pre-surgical examination and laboratory screening through to patient recovery and return to the owner. Routine veterinary procedures are practised under anaesthesia.

VT4063 Pharmaceutical Principles II

Prerequisite: VT3063 *Pharmaceutical Principles I*

This course is a continuation of Pharmaceutical Principles I. Together these courses are designed to give veterinary technician students a fundamental understanding of general aspects of pharmacology, while covering in more detail specific classes of drugs that are important in veterinary medicine, such as antimicrobials, anaesthetics and antiparasitics.

VT4073 Large Animal Medicine

Prerequisites: VT3073 *Clinical Exercises II; VT2033 Clinical Studies II; VT2008f Anatomy and Physiology II*

This course considers the basic maintenance and care of large animals. Management techniques for the equine, bovine, ovine and porcine species are considered. The emphasis is on health-related issues. The objective is to introduce the student to large animal industry production practices. The care of the newborn and common disease prevention protocols are discussed.

VT4083 Laboratory Procedures and Techniques IV

Prerequisite: VT3013 *Laboratory Procedures and Techniques III*

This is the final course in the Laboratory Procedures and Techniques series. The disciplines of microbiology and mycology will be taught in this semester. Additional time will be allocated to develop students' proficiency in all areas of lab techniques. The final exam in this semester will include material from all four semesters.

VT4093 Veterinary Dentistry I

Prerequisite: VT1019 *Anatomy and Physiology I*

This course is intended to be comprehensive, bringing students from relatively little knowledge in veterinary dentistry to a practical, working knowledge. The course will include sections on oral examination and disease recognition, dental instruments and equipment, anaesthesia, and pathogenesis.

VT4103 Clinical Exercises IV

Prerequisites: VT4003 *Clinical Exercises III;*

VT2008 Anatomy and Physiology

This is the final course in the Clinical Exercises series. The students will be marked on their willingness to attempt the techniques practiced in the course as well as the quality of their performance. Case studies will be introduced and each student will have the opportunity to participate in the investigative processes in an attempt to aid the veterinarian in finding a diagnosis.

VT4113 Radiology III

Prerequisite: VT3083 *Radiology II*

This course is a continuation of Radiology II. Each student will be assigned to a small group and this group will be expected to carry out the x-ray techniques as requested. Students will be marked on the quality of the x-ray film as well as their professional conduct.

VT4123 Dentistry II

Prerequisites: VT4093 *Veterinary Dentistry I; VT3083 Radiology II; VT2008 Anatomy and Physiology II; VT3004 Clinical Studies III*

This course gives the student the opportunity to practise the skills needed to perform dentistry. The knowledge gained in Dentistry I will be put into practice. Students will be marked on their basic knowledge of instruments, techniques and their willingness to attempt the skills demonstrated by the professor.

VT4133 Kennel Duty IV

This course is a continuation of Kennel Duty III. The veterinary technician student will participate with students from the veterinary assistant and animal grooming programs.

WA1002 Welding Quality – Block A

This introductory course describes the fundamental causes, effect and correction procedures of distortion with the effect of heat and stress on metals in accordance with government safety regulations, manufacturer's recommendations and approved industry standards. The course describes the characteristics of metals and their alloys, classifications and effects of welding heat. It explains the function and application of destructive and non-destructive testing methods for welds and describes the features of weld quality, welding discontinuity and welding procedures.

WA1003 Blueprint Reading – Block A

In this introductory course, students will learn basic drafting and sketching operations in order to create engineering drawings similar to those found in the machine or welding fabrication industry. The course introduces students to structural steel shapes as well as basic layout and fitting techniques. Topics include: basic drafting skills, shape description (orthographic and pictorial), sections, structural steel shapes, sketching, layout, fitting, joint design and welding symbols.

WA1010 Welding and Cutting – Block A

In this introductory practical skills course, the student will set-up, maintain equipment used for SMAW, GMAW and FCAW welding. The student will also perform fillet and groove welding using SMAW, GMAW and FCAW welding processes. Students will also perform the safe set-up, operation and correction of common cutting faults for OFW, PAC and CAC-A.

WA1012 Trade Practices – Block A

The course describes the safe material handling operations, Industry Safety Acts, potential

workplace hazards, use of measuring, small hand and power tools in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.

WA1013 Welding Theory – Block A

This introductory course describes the function and controls of welding power sources in accordance with government safety regulations, manufacturer's recommendations and approved industry standards. The course also describes the fundamentals, equipment requirements, characteristics of the following welding processes: SMAW, GMAW, FCAW, MCAW and GTAW.

WA1023 Trade Mathematics – Block A

This course gives students a working knowledge of the mathematical concepts associated with whole numbers, percentages, linear measurements, areas, volumes, unit conversion and capacities as well as an introduction to trigonometry. Students will develop proficiency in the use of measuring instruments, geometry instruments, and scientific calculators.

WA3002 Welding Theory – Block C

Prerequisite: *Welding Theory– Block A (WA1013)*

This course will give students a working knowledge of brazing of deoxidized copper with the oxy-fuel equipment. Students will learn to describe the characteristics of metals and their alloys, classifications and effects of welding, and to explain the function and application of destructive and non-destructive testing methods for welds, in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.

WA3003 Blueprint Reading and Fitting – Block C

Prerequisite: *Blueprint Reading – Block A (WA1003)*

This course describes the various methods of presenting information on drawings, methods of estimating material requirements for weldments and fabrications, and various layout techniques. Students will complete classroom and shop projects involving drawing, layout, and fitting.

WA3012 Gas Tungsten Arc Welding - Block C

Prerequisite: *Welding and Cutting – Block A (WA1010)*

This course will give students a working knowledge of welding with the Gas Tungsten Arc Welding (GTAW) process.

WA3013 Shielded Metal Arc Welding – Block C

Prerequisite: *Welding and Cutting – Block A (WA1010)*

This course describes fillet and groove welding in all positions with the Shielded Metal Arc Welding (SMAW) process. Students will learn to fillet and groove weld with SMAW. Students will also develop a working knowledge of preparing and performing destructive testing.

WA3023 Semi-Automatic Welding – Block C

Prerequisite: *Welding and Cutting – Block A (WA1010)*

This course will give students a working knowledge of fillet and groove welding with the Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW) processes.

WA5002 Automatic & Semiautomatic Welding Processes - Block E

Prerequisite: *Semi-Automatic Welding – Block C*

(WA3023)

This course will provide students with a working knowledge of the Gas Metal Arc Welding – Pulsed (GMAW-P) process. Students will be given a working knowledge of fillets and groove welds with the GMAW-P process and the fundamentals of the Submerged Arc Welding (SAW) process.

WA5003 Weld Quality - Block E

*Prerequisite: Weld Quality – Block A (WA1002)
Prerequisite: Welding Theory – Block C (WA3002)*

This course will provide students with a working knowledge of the principles of weldability and microstructures of metals, the fundamentals and correction of weld distortion, destructive inspection and testing methods, welding performance and welding procedure qualification testing methods, and the common welding codes and standards.

WA5006 Fitting - Block E

Prerequisite: Blueprint Reading and Fitting – Block C (WA3003)

This course will give students a working knowledge of fundamental layout and pattern making techniques. Students will learn to identify the purpose and fundamentals of layout development, describe the methods of pattern development, and perform pattern developing for shapes.

WA5013 Shielded Metal Arc Welding - Block E

Prerequisite: Welding and Cutting – Block A (WA1010)

This course will give students a working knowledge of groove welding on plate with the Shielded Metal Arc Welding (SMAW) process. Students will obtain a working knowledge of groove welding on pipe, as well as a working knowledge of fillet and groove welding with stainless electrodes, using the SMAW process.

WA5023 Gas Tungsten Arc Welding and Plasma Arc Welding – Block E

This course will provide students with a working knowledge of fillet, groove, and pipe welding with the Gas Tungsten Arc Welding (GTAW) process, as well as advanced GTAW techniques. A working knowledge of the Plasma Arc Welding (PAW) process is provided to students, and PAW theory is also studied.

WE1064 Welding Drafting

This introductory course is assignment-based with the objective of solving elementary drafting problems for machine shop and welded fabrication consistent with industrial practice. Topics include: basic drafting skills, theory of shape description, auxiliary views, dimensioning, sections, detail and assembly drawings, pictorial drawings, structural drafting, geometric dimensioning and tolerancing, and welding symbols.

WE1082 Welding Electrical Fundamentals

This is an introductory course in electrical fundamentals covering the electrical components and use of a multimeter. It also includes the analysis of series and parallel circuits. Students will be introduced to solid state electronics and will also study half and full wave rectifier circuits.

WE1092 Welding I

Topics include: basic metallurgy, shop safety, oxy-acetylene equipment, trouble-shooting, set-up, welding and cutting, theory and practical for above including brazing, soldering, braze welding, joint design, as well as the theory and practice of plasma and arc air cutting processes.

WE1404 Materials Joining

This course begins with an overview of all joining methods including: mechanical, adhesive and welding. The major emphasis of the course is on the SMAW process. Students will practice welding techniques and will acquire data in order to submit neat comprehensive technical lab reports including welding procedure specification sheets. In addition, students will develop an understanding of the basic factors controlling the cost of welding and will be required to use lab and reference data to calculate welding costs. Students are introduced to welding defects as designated by the International Institute for Welding along with causes and possible remedies. Students will also be introduced to various welding codes and their areas of application.

WE2024 Engineering Materials I

This is an introduction to the chemical and physical principles underlying the nature and behaviour of engineering materials. After an elementary examination of the common units of which all materials consist, the course discusses how different arrangements of these units bring forth specific types of materials with unique properties (metals, polymers, ceramics and composites). The main aim of the course is to stimulate the student's interest in this field and establish an understanding of the basic principles that will be explored more extensively in numerous subsequent courses. Topics include: the structure of materials, imperfections in solids, diffusion, properties and selection, dislocations and strengthening mechanisms, failure of materials, solidification and phase diagrams.

WE2084 Mechanic/Statics

Mechanics is the study of forces acting on objects (statics and dynamics). This course focuses on statics, the study of objects in equilibrium. Applied mechanics deals with the basic concepts of forces and is the origin for all calculations in areas such as stress analysis, structural design and weldment design. This course begins with a review of basic trigonometry, laws of triangles and unit conversion. Major topics include introduction to forces and moments, forces acting on truss and frame members, friction, centroids, moments of inertia, and radius of gyration. Both SI and Imperial System units are used.

WE2092 Welding II

Prerequisite: SK1012 Welding I

Topics include: shielded metal arc welding theory and safety; practical exercises in flat, horizontal, vertical and overhead positions (SMAW); joint design, distortion control, weld failure, welding symbols, visual weld inspection; destructive testing; electrode design and number system; layout for tee joint; GMAW and GTAW Theory and Practical; CWB testing preparation; coupon set-up and its welding and testing.

WE2164 CAD and Fixture Design

Prerequisite: Welding Drafting

This course consists of two parts. The first part of the course is an introduction to computer-aided design using AutoCAD drawing and editing commands. The second portion of the course revolves around the design of welding fixtures. Topics include: locating and clamping principles, basic construction principles, economics, introductory discussion of distortion and residual stresses, positioners, manipulators, power workholding, and modular workholding. A significant portion of the course involves the design of a welding fixture and implementing

the use of CAD drawings.

WE3009 Non-destructive Examination

This course is designed to give students a solid basis for evaluation of Nondestructive Examination processes and equipment with respect to the discontinuities sought. Upon successful completion of the course, the student will be able to explain and demonstrate the competent use of visual, magnetic particle, liquid penetrant, radiographic, and ultrasound testing methods. The student will apply the above methods to welded joints, castings, forgings, and various machinery parts with reference to reporting techniques and criteria as specified in pertinent specifications and standards such as ASME, ASTM, CSA and CGSB. Proper documentation and reporting of inspection data and results will also be stressed. Successful completion of this course will be recognized by the CGSB certifying agency training requirements for Level I Magnetic Particle, Level II Liquid Penetrant, and Level II Radiographic testing.

WE3010 Work Term I

Prerequisite: Co-op Studies

Co-operative education is a proven, realistic and practical method of career education. Co-op will assist students in relating theory to practice, bringing more meaning to academic studies. Co-op helps orient students to their chosen field, enables them to “earn while they learn” and results in a well-developed career plan before graduation.

WE3014 Materials Preparation

This course introduces the student to the common edge preparation processes used in the welding industry. Practical application of oxy-fuel, plasma and mechanical edge preparations are compared on the basis of application and economics. Successful students will be able to select the most appropriate process in a given application. An overview of manufacturing processes including casting, forging, stamping, hot/cold forming, powder metallurgy etc. are emphasized in this course.

WE3044 Strength of Materials I

Prerequisite: Mechanic/Statics

This course examines the behaviour of engineering materials under various loading conditions. The concept of stress and strain is critically examined with emphasis on the application of those concepts to practical design and analysis problems. Topics include direct normal and shear stresses; axial deformation and thermal stress; torsional shear stress and torsional deformation; shearing forces and bending moments in beams; pressure vessel stresses; welded and bolted (riveted) connections.

WE3104 Engineering Materials II

Prerequisite: Engineering Materials I

This is a continuation of Engineering Materials I. This course studies a vast complement of common industrial materials, describing their respective microstructures and properties based on fundamentals of atomic bonding, phase transformation and strengthening mechanisms. Processes such as heat treatment and mechanical working are dealt with from the theoretical as well as the practical aspect. Course topics include: Fe-Fe₃C phase diagram, IT and CT diagrams, phase transformations, microstructural and property changes of Fe-C alloys, Heat Treating, precipitation hardening, microstructural and mechanical properties of ferrous and nonferrous metals, ceramics, polymers, composites, and corrosion.

WE3204 Welding Processes I

Prerequisite: Materials Preparation

In this course, students are introduced to the various types of welding power sources, wire feeders and welding guns. Extensive use of a data acquisition system allows students to understand and apply static and dynamic power source characteristics for the short circuit GMAW process. This course also deals with the flux cored and gas metal arc welding processes. Students are expected to set up and demonstrate the safe use of FCAW and GMAW equipment. Data collected during lab sessions is used to complete comprehensive technical lab reports.

WE4004 Welding Processes II

Prerequisite: Welding Processes I

This course introduces students to the submerged arc and gas tungsten arc welding processes. Electric resistance welding is also included with emphasis on spot welding. Students are expected to demonstrate the proper set up and safe use of SAW, GTAW and ERW equipment. Students will learn how to document welding procedure specifications and qualification records.

WE4024 Welding Metallurgy I

Prerequisite: Engineering Materials II

The metallurgical aspects of the welding processes are studied. The interaction between the heat source, structure and properties or welds is studied in greater depth. Weldability of different materials (steel, stainless steel, cast iron, aluminium, polymers) is also discussed.

WE4093 Codes and Standards

The principle objective of this course is to provide students with an understanding of code philosophy and rationale along with a working knowledge and application of welding related codes and standards. Codes and standards discussed include ISO9000, CSA W47.1, CSA W59, ASME Section IX and ASME Section VIII.

WE5010 Work Term II

Co-operative education is a proven, realistic and practical method of career education. Co-op will assist students in relating theory to practice, bringing more meaning to academic studies. Co-op helps orient students to their chosen field, enables them to "earn while they learn" and results in a well-developed career plan before graduation.

WE5014 Welding Processes III

Prerequisite: Welding Processes II

This is an advanced course dealing mainly with the flux cored, gas metal and submerged arc welding processes. Particular emphasis is placed on pulse-arc wire feed processes. Students are required to develop and test weld procedures using these processes and prepare cost analyses. The problems of arc blow and grounding are also studied.

WE5024 Welding Metallurgy II

Prerequisite: Welding Metallurgy I

This is an advanced course including a detailed study of the production of iron and steel along with the effects of the major alloying elements. The mechanisms of, and control of, hydrogen-induced cold cracking (HIC) is studied and tested in detail. The weldability of HSLA steels is studied in detail using the British and Japanese methods to avoid HIC.

WE5043 Technical Project I

Prerequisites: Welding Processes II, Welding

Metallurgy I

As a requirement for graduation, each student must complete an independent technical project that may be research in nature or involve the solution of an industrial problem. The project involves literature searches to become familiar with the subject to be studied, as well as two oral and written presentations to classmates and department faculty. Laboratory work is completed to expand on the literature search and the results must be presented in a technical report to engineering standards. The total time for the semesters work is approximately 125 hours. Students are assigned a faculty advisor to provide assistance or guidance when required.

WE5044 Strength of Materials II

Prerequisite: Strength of Materials I

This course is a continuation of Strength of Materials I beginning with the study of bending and shear stresses of beams. Mohr's Circle is introduced with the study of combined stresses. The moment area and conjugate beam deflection methods are studied and applied to statically determinate structures. In conclusion, statically indeterminate structures are introduced.

WE5064 Welding Physics

Prerequisites: Welding Processes II, Welding Metallurgy I

This course begins with the study of the thermodynamics of phase transformations to better understand the phases and structures produced during welding. The physics of welding are studied with emphasis on the properties of the arc column, the modes of metal transfer and gas-metal and slag-metal reactions. The principles of phase transformations, weld thermal cycle and fluid motion are combined to explain the various solidification structures produced in welds.

WE5102 Statistical Process Control

This course deals with the fundamental concepts of statistical process control (SPC) and the application of these concepts in quality control and quality assurance. Other topics include the implementation of computer-integrated manufacturing (CIM).

WE5112 Robotic Welding and Automation

This course involves the study of several interrelated topics in computer-integrated manufacturing including automation technology, robotics, flexible manufacturing, and the role of CAD/CAM in manufacturing. The lab portion of the course involves programming various welding robot systems.

WE6022 International Welding Technologist Option

The objective of this course is to provide students with the training necessary to meet the requirements for certification as an International Welding Technologist. Topics include non-destructive testing, aluminum welding and design of welded aluminum structures, brazing and soldering, gas tungsten arc welding, and special topics in welding.

WE6024 Welding Metallurgy III

Prerequisite: Welding Metallurgy II

This is a detailed study into metallurgical problems encountered in the welding of special steels for power, petroleum, chemical and aerospace industries. With each group of steel, the problems of cracking and corrosion are studied along with practical means of their control. The weldability of cast irons and nonferrous alloys including aluminum, titanium,

reactive and refractory metals will be studied in detail.

WE6034 Technical Project II

Prerequisite: Technical Report I

This course is a continuation of Technical Report I and represents the final analysis of research and laboratory testing and the final written and oral reports. The allocated time for the semesters work is approximately 125 hours.

WE6074 Welding Processes IV

Prerequisites: Welding Processes III, Welding Metallurgy II

The first section of this course deals with the equipment and typical applications of processes, such as electron beam, laser, diffusion, electroslog and thermit welding. The second part of the course requires students to develop, document, qualify and cost welding procedures using knowledge acquired in welding processes, metallurgy, non-destructive examination and welding costs.

WE6084 Fracture and Fatigue

Prerequisite: Welding Metallurgy II, Strength of Materials II

This is an introduction to the complexity of the functions performed by the welding engineer. The interaction of design requirements, material fabrication, and testing methods used are studied on actual cases of failed structures. Particular emphasis is on designing weldments to avoid fatigue and brittle fracture using principles of fracture mechanics.

WE6094 Welding Circuits

This is a continuation of Welding Electrical Fundamentals. Topics include: safety rules, fuses and circuit breakers, CSA code for welding systems, rectifier circuits, transformers, rectifier filters, saturable reactors, SCRs inverter power sources and wire feed control circuits. The aim is not to be able to repair welding equipment but to understand its operation in order to be able to complete preliminary trouble shooting as described in a manual. Knowledge of equipment operation also makes equipment set-up and operation much easier.

WE7010 Work Term III

Co-operative education is a proven, realistic and practical method of career education. Co-op will assist students in relating theory to practice, bringing more meaning to academic studies. Co-op helps orient students to their chosen field, enables them to "earn while they learn" and results in a well-developed career plan before graduation.

WM1003 Water Monitoring and Sampling

This is a course in basic sampling and analytical techniques for water and wastewater plant operators. The course concentrates on sampling techniques and lab skills. Students will learn how to take representative water samples that are free of contamination due to handling. They will also learn the proper techniques for performing standard laboratory analyses on water and wastewater.

WM1013 Waste Facility Design

This course is a detailed treatment of the techniques and principles involved in the design of facilities for waste, wastewater, and sludge treatment, including recycling plants, solid waste incinerators, sanitary landfills, and sewage treatment plants. Hazardous waste facilities, including treatment facilities for stable organics and secure landfills for nuclear wastes, will also

be briefly introduced. Topics discussed include an overview of treatment systems, feasibility studies, site selection criteria, basic process responses and interactions, and a general survey of different types of waste management systems. Practical/field sessions will consist of visits to local facilities in order to view how the concepts discussed in lectures and tutorials are being implemented by industry and by municipalities.

WM2013 Site Surveying Techniques

The fundamental principles of surveying are covered along with the use of steel tapes, levels, theodolites, and total stations. Sufficient theory is covered to enable the student to organize and carry out simple surveys.

WM3002 Heavy Duty Equipment

The Heavy Duty Equipment course will teach the successful student to safely operate a range of heavy duty equipment such as pickup trucks, trucks with flatbeds, trucks with non-synchronized 9-15 speed transmissions, dump trucks, backhoes, and bulldozers. The student will demonstrate safe operating practices at all times.

WM3003 Hydrogeology

This course deals with geological formations and their effects on the distribution and containment of groundwater. Topics include a study of the Precambrian shield and other geological structures, aquifers, groundwater depth, groundwater conditions, artesian wells, and permeability.

WM3033 Waste Facility Operations

Prerequisite: WM1013 Waste Facility Design

This course is a detailed examination of the operation of facilities for waste, wastewater, and sludge treatment, including recycling plants, solid waste incinerators, sanitary landfills, and sewage treatment plants. Hazardous waste facilities, including treatment facilities for stable organics and secure landfills for nuclear wastes, will also be briefly discussed. Practical/field sessions will consist of visits to local facilities in order to view how the concepts discussed in lectures and tutorials are being implemented by industry and by municipalities.

WM4002 Waste Characteristics

A thorough knowledge of waste characteristics is essential to dealing with all types of waste, and by direct extension, effectively managing all types of waste facilities. This course deals with the classification and management of non-hazardous and hazardous waste. Topics covered include the classification of waste; non-hazardous versus hazardous waste; physical and chemical characteristics of waste; treatment, storage, and disposal of waste according to its characteristics; and safety including the transportation of dangerous goods.

WM4003 Environmental Regulations and Legislation

This course offers an introduction to, and understanding of, several Acts and Regulations that Environmental Technicians and Water Treatment Technicians will encounter. Students will be introduced to these Acts and shown how to interpret them. They will additionally learn how to plan strategies for, comply with, report, and act on environmental incidents.

WR1003 Habitat and Its Relation to Wildlife

Diverse habitats will be studied for their natural formation, plant life and animal life. Native Canadian plant uses and other foliage will

be examined in their relation to supporting a wildlife population. Changes in the natural habitat of some species will be examined for their effects both from a positive and negative perspective. Field trips to varied habitats will be a regular component of this course.

WR1004 Introduction to Wildlife Rehabilitation

This course consists of a combination of lecture and practical hands-on experience. Lecture topics include an introduction to wildlife rehabilitation, how and when to approach injured wild animal. Basic anatomy and physiology, handling and restraint, thermoregulation, stress, shock cycles, initial care and physical exam.

WR1013 Avian Adaptation

This course will offer an in-depth study of birds and their adaptations for flight and survival. A variety of beaks, feet and wing conformations will be evaluated for suitability for certain skills. Students will gain a better understanding of avian needs and habitats relating to natural habitat and behavior. The student will practice techniques for avian rehabilitation.

WR1014 Initial Wildlife Care

This course will be a combination of lecture and hands-on lab. Students will learn to assess an injured animal from the first physical exam to its readiness for release. Basic nursing skills will be taught from the unique perspective of dealing with the animal not accustomed to being handled by humans. Safety, approach, manipulation, treatment medication, administration and support therapy will be introduced in this course, the topics of euthanasia will be discussed from a how, when, where and why perspective.

WR1023 Mammals as Predators

Students will learn about the special adaptations of mammals and the habitats they occupy. Other principles covered in this course, include predatory/prey relationships and basic animal ecology. Bones, skulls, and pelts will be available for close examination and discussion. Activities will focus on predator/prey relationship, mammalian niches and their environmental importance.

WR1033 Wildlife Nutrition

Various aspects of feeding and nutrition in wildlife care are addressed in this course; these would include requirements for energy, protein, minerals, vitamins, and hydration. Various diets will be assessed as to the practicality and palatability to the wild animal. Diseases brought on by an incorrect or poor diet will be discussed as well as practical ways to correct the diet.

WR2002 Legislation and Wildlife

The legislation as presented by the Ministry of Natural Resources and the Ontario Wildlife Rehabilitation and Education Network minimum standards for wildlife rehabilitation in Ontario will be studied in depth. The student will be familiar with basic standards for avian, reptilian, amphibian and mammalian animals. General specifications for facilities and those persons entitled to apply for custodianship will be covered. Accurate and concise record keeping will be stressed during this course.

WR2004 Wildlife Rehabilitation

This is a continuance of the Introduction to wildlife rehabilitation offered in the first semester. Wildlife housing, raptor, neonatal care, rehabilitation techniques for flight and human/

animal bond are among the topics that will be discussed in this course. Special emphasis will be spent on both the young and the elderly patient.

WR2014 Physical Therapy and Flight Management

Lecture topics include a basic overview of the principles of physical therapy and some pertinent anatomy and physiology. Flight management will be discussed and practiced based on the wellness level of the rehabilitation bird. Ideas on how to setup a physical therapy program for a given species and a given injury will be discussed and shared. The lab portion consists of a series of exercises done on class participants and case reviews. Some practice animals will be provided as available. Some normal birds may be used to demonstrate particular techniques.

WR2024 Reptile and Amphibian Husbandry

Reptiles and amphibians will be discussed and evaluated for their specialized survival skills. Native Canadian reptiles and amphibians will be emphasized. Specialized treatment, diet housing, disease control and prevention, physical restraint, release and euthanasia will be studied in this course. The students for the assessment of behavioral patterns will view reptiles and amphibians.

WR2034 Wound Management

This course will deal with current techniques in wound management for wild animals. The course consists of both lecture and hands-on labs. Topics addressed include wound healing, fracture healing, types of suture material, suture patterns, site preparation, antibiotics regimens and guides for decision making regarding when to close wounds and when to let tissue granulate in. The various suturing techniques will be practiced on ripe bananas and on models especially purchased and provided. Special concerns with regards to bullet wounds, snares, and fishing lines will be addressed.

WR2044 Laboratory Principles and Practice

Commonly preformed laboratory procedures and techniques will be addressed in this course. Fecal flotation for detection of parasites will be emphasized as well as interpretation of results from a reference lab. Special emphasis will be placed on quality control and record keeping. Zoonotic diseases and contagions will be discussed during the lecture component of this course.

WR6002 Biosphere Orientation I

Description unavailable at time of printing.

WR6012 Biosphere Orientation II

This course will build on the knowledge and experiences acquired from the students' participation in Biosphere Orientation I. Topics such as outdoor clothing and protective gear, navigation skills, assessment of risk and emergency procedures will be expanded. The addition of topics covering potential cold weather related injuries and illness to humans, outdoor hazards and survival, fabricating emergency rescue equipment from natural materials (for humans and wildlife), and weather and climate will round off the students' experiences and education. This course contains a significant hands-on, field component. Practical field exercises and testing will connect the in-class instruction to practical applications.

