BAA INFORMATION TECHNOLOGY MANAGEMENT 11

DISTRICT NAME: Coquitlam

DISTRICT NUMBER: SD#43

DEVELOPED BY: Dennis Joel

DATE DEVELOPED: May 10, 2006

SCHOOL NAME: Riverside Secondary

PRINCIPAL'S NAME: Chris Kennedy

BOARD/AUTHORITY APPROVAL DATE: June 20, 2006

BOARD/AUTHORITY SIGNATURE: _____

COURSE NAME: Information Technology Management 11

GRADE LEVEL OF COURSE: 11

NUMBER OF COURSE CREDITS: 4

NUMBER OF HOURS OF INSTRUCTION: 120

PREREQUISITE(S):   None

SPECIAL TRAINING, FACILITIES OR EQUIPMENT REQUIRED:
In-depth knowledge of computer systems and networking, such as Cisco CCNA, Comptia A+, Net +, certification. Standard computer lab with additional networking equipment such as required for Cisco academy labs.

COURSE SYNOPSIS:
This course is designed for those students who have a high level of interest in the inner workings of computers networking and the Internet. The fast paced nature of technology requires a new approach to learning and working with information. This course will use strategies such as building knowledge networks and using all the tools available through the Internet.
Students will focus on planning, designing and maintaining small to medium sized networks. Industry recognized certifications like A+, Net+ and Cisco CCNA will be the technical goals.
This course also provides an excellent foundation for students entering Post-Secondary programs such as those offered at British Columbia Institute of Technology.

RATIONALE:
The ever-growing need for skilled people has created a huge opportunity in the Information Technology world. Many jobs are available for young people who can work with Technology and interact with the people who use it. It is intended that students will gain a realistic understanding of what it might be like to work in some areas of the IT world.

ORGANIZATIONAL STRUCTURE:

UNIT	TITLE	TIME
1	Employability Skills	
2	Computer Hardware	
3	Software	
4	Networking	
	Total Hours	120

UNIT 1:   Employability Skills

Employability Skills include communication, problem solving, positive attitudes and behaviours, adaptability, working with others, and science, technology and mathematics skills. These are the skills that make others want to work with you. Many people think these skills are the most important assets one brings to the workplace.

Unit 1 Employability Skills/Fundamental/Teamwork/ Personal Management

Curriculum Organizer – Communicate

It is expected that students will be able to:
- Use information presented in a variety of forms (e.g., words, graphs, charts)
- Develop presentations using multimedia of all sorts

Curriculum Organizer – Manage Information

It is expected that students will be able to:
- Select and classify information using appropriate technology

Curriculum Organizer – Use Numbers

It is expected that students will be able to:
- Observe and record data using appropriate methods, tools and technology

Curriculum Organizer – Think & Solve Problems

It is expected that students will be able to:
- Classify situations and identify problems
- Use science, technology and mathematics as ways to think, gain and share knowledge, solve problems and make decisions

Curriculum Organizer – Work with Others

It is expected that students will be able to:
- Explain and work within the dynamics of a group
- Contribute to a team by sharing information and expertise

Curriculum Organizer – Participate in Projects & Tasks

It is expected that students will be able to:
- Select and use appropriate tools and technology for a task or project
- Identifies changing requirements and information

Curriculum Organizer – Demonstrate Positive Attitudes & Behaviours

It is expected that students will be able to:
- Demonstrate dealing with people, problems and situations with honesty, integrity and personal ethics
- Demonstrate interest, initiative and effort
- Assess, weigh and manage risk

Curriculum Organizer – Be Responsible

It is expected that students will be able to:
- Describe social responsibility and contribution to your community

Curriculum Organizer – Be Adaptable

It is expected that students will be able to:
- Contributes independently or as a part of a team
- Analyze mistakes and feedback

Curriculum Organizer – Learn Continuously

It is expected that students will be able to:
- Identify and access learning sources and opportunities
- Describe a plan for learning goals

Curriculum Organizer – Work Safely
It is expected that students will be able to:
- Explain and apply personal and group health and safety practices and procedures

UNIT 2: Computer Hardware

Students will learn the fundamentals of computer hardware, the function installation and configuration of all major components.

Curriculum Organizer – Build/Configure/Maintain Computer Systems
It is expected that students will be able to:
- Explain the purpose and function of all major computer components
- Install major components
- Select and install drivers
- Use safe work procedures when working in the lab
- Categorize and recommend specific computer components
- Use testing and configuration tools
- Diagnose basic computer problems

UNIT 3: Software

Students will learn the fundamentals of computer and networking operating systems, how to install configure and troubleshoot.

Curriculum Organizer - Computer Operating Systems/Network Operating System
It is expected that students will be able to:
- Determine the best Installation and configuration, of operating and networking systems and applications
- Critique features of different operating systems
- Decide when to use major tools such as format, defrag and ipconfig
- Recommend appropriate administration tools

UNIT 4: Networking

Students will learn the fundamentals of small to medium networks, how to setup basic networks with access to the Internet through a router.

Curriculum Organizer - Network Terminology/OSI Model/Network Protocols
It is expected that students will be able to:
- Explain the development of the OSI model

- Explain the role of protocols in networking
- Identify characteristics of Ethernet networks

Curriculum Organizer – Structured Cabling
It is expected that students will be able to:
- Describe the specifications and performances of different types of cable
- Design basic cabling layout for lan including wiring closet
- Demonstrate basic skills used in installing cabling

Curriculum Organizer – Ethernet Internet Protocol (IP) Addressing Network Standards
It is expected that students will be able to:
- Describe the function and structure of IP addresses
- Explain how dynamic addresses can be assigned with RARP, bootp, and DHCP
- Use ARP to obtain the MAC address to send a packet to another device
- Explain the issues related to addressing between networks
- Explain addressing features including subnetting, reserve, public, private, static, and dynamic addressing

Curriculum Organizer – Networking Devices
It is expected that students will be able to:
- Describe the function, advantages, and disadvantages of repeaters, hubs, bridges, switches, and wireless network components
- Describe and the function of peer-to-peer networks and client-server networks
- Describe and differentiate between serial, ISDN, DSL, and cable modem WAN connections
- Identify router serial ports, cables, and connectors
- Identify and describe the placement of equipment used in various wan configurations

Curriculum Organizer – Troubleshooting
It is expected that students will be able to:
- Demonstrate the steps used to diagnose a problem
- Diagnose networking problems on first three layers of OSI stack
- Use diagnostic tools such as cable testers ICMP messages and router show commands

INSTRUCTIONAL COMPONENT:
It is expected that the teacher will use a variety of strategies and resources such as:
- Teacher led Activities/Demonstration
- Lab work
- Research Project
- Student demonstrations/presentations
- Video
- Group Work

- Guest Presentations
- Discussion
- Lecture

ASSESSMENT COMPONENT:
It is expected that the teacher will use a variety of strategies and resources such as:

- Effective formative assessment via:
    - Clearly articulated and understood learning intentions and success criteria
    - Questions posed by students, peers and teachers to move learning forward
        - Discussions and dialogue
    - Feedback that is timely, clear and involves a plan
    - Students are resources for themselves and others – peer and self-assessment
    - Student ownership

Formative assessment used to adapt learning experiences and inquiry plans on an on-going basis to meet specific learning goals.

Development, awareness and action, based upon metacognition intended to lead to learner independence and self-coaching.

Summative Assessment:

Summative assessments will be determined as students demonstrate proficiency/mastery toward particular learning outcomes. Summative assessments and final grades will reflect the following:

- Students will work collaboratively with the teacher to determine summative achievement on assignments and letter grades based upon dialogue, and evidence of learning
- Behaviour and work habits will NOT be included when determining letter grades
- Marks will not be deducted for late work
- Extra credit and bonus marks will not be awarded
- Plagiarizing will not result in reduced marks/grades –the student will be required to demonstrate their learning authentically
- Attendance will not be considered toward letter grade
- Only individual learning demonstrated –no group marks – will be used to determine grades
- Letter grades will reflect learning towards the learning outcomes articulated above
- Letter grades will be based upon criteria provided/agreed upon toward the learning outcomes

- Letter grades will be determined in relation to the learning outcomes – not in comparison to the achievement of other students
- Poor work will not be assessed towards grades – students will only be assessed on quality work
- Professional judgment and evidence will be used to determine final letter grade in consultation with the student
- Zeros will not be assigned to missed assignments – all required assignments must be completed
- Formative or practice towards learning outcomes will not be included in final grade assessment
- Most recent evidence toward learning outcomes will be used to assign letter grades – learning is not averaged over time

LEARNING RESOURCES:
- Cisco Networking Academy
- Comp/Tia
- Microsoft
- All the current tools available through the Internet.

ADDITIONAL INFORMATION:
This is a fairly unique program, the type that has been implemented on a very limited basis across Canada. It has been the evolution of partnerships with the likes of Software Human Resource Council of Canada and Cisco System.