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Course Outline

NETWORK & PROTOCOLS

Course Title

Internet Programming

Program Title

420-B06-TV	1-2-3	2
Course Code	Weighting	Credits

Robinson Reyes	Omnivox via Mio
Teacher	Phone number \ Email

Elliot Gimple

Program Coordinator

2022	Fall
School Year	Semester

SCHEDULE OF LEARNING ACTIVITIES AND EVALUATIONS

Week of teaching	Date	Learning activities	Evaluations[1] and marks awarded	Work to be done by the student
Week 1	Sept 8th	Introduction to Networking Concepts	Formative	
Week 2	Sept 15th	Introduction to Networking Concepts	Formative	
Week 3	Sept 22nd	Remote Connectivity: SSH vs. Telnet	Formative	
Week 4	Sept 29th	DHCP, DNS, NTP Concepts and Labs	Formative	
Week 5	Oct 6th	TCP/IP Concepts and Labs	Formative	
Week 6	Oct 13th	UDP, ICMP and VLAN Concepts and Labs	Formative	
Week 7	Oct 20th	Switching Loops and MAC address Concepts and Labs	Formative	
Week 8	Oct 27th	Power Point Presentation Summary on: 1. UDP - User Datagram Protocol 2. TCP - Transmission Control Protocol 3. STP - Spanning Tree Protocol 4. VLAN - Virtual LAN 5. DHCP - Dynamic Host Configuration Protocol 6. DNS Domain Name System 7. ICMP - Internet Control Messaging Protocol	Summative	
Week 9	Nov 3rd	Subnetting Concepts and Practice – Part 1	Formative	
Week 10	Nov 10th	Subnetting Concepts and Practice – Part 2	Summative	
Week 11	Nov 17th	Routing and Static Route Concepts and Labs	Formative	
Week 12	Nov 24th	ARP Concepts and Labs and VLAN/DHCP/Telnet lab	Summative	

[1] Formative and summative

Week 13	Dec 1st	Speed and Duplex Concepts and Labs, DHCP Server/DNS/SSH, Tracert Command and Lab	Summative	
Week 14	Dec 8th	Review Concepts and Labs	Summative	
Week 15	Dec 15th	Review Concepts and Labs	Summative	

GENERAL COURSE DESCRIPTION

- **How and where the course fits into the student's program**
- **Targeted competency or competencies in the course**
- **Links with other courses**
- **Prerequisites for this course, if any**
- **Relevance of this course for the student**

- **How and where the course fits into the student's program**

This course establishes the guidelines for the profession of network manager and puts the student in contact with his future work environment. It also introduces the student to the vocabulary and resources available to assist him in the tasks of a computer networking technician. At the end of the course, the student will be able to recognize and describe the tasks and areas of the profession of network management technician, use a suite of office software to produce professional-looking reports and charts, search for information on professions and workplaces in network management and use the online and offline computer resources available to him to assist him in his work and studies.

- **Targeted competency or competencies in the course**

  - PYAF Process information relating to the realities of the computer network technician workplace Partial achievement

- **Elements of the Competency**

  - Research information on computer professions and workplaces.
  - Analyze information on companies and establishments hiring computer network technicians
  - Analyze information on the occupation of computer network technician

- **Links with other courses**

The competency PYAF is also obtained in the following course:

- 420-104-TV Communication and teamwork in computer science

- **Prerequisites for this course, if any**

None.

- **Relevance of this course for the students**

This course provides an introductory understanding, of the myriad of topics related to networking ranging from local and wide area networks to the, Internet, web servers and services, TCP/IP, among other concepts.The, broad survey coverage of this course teaches basic, concepts and terminology that will prepare, students to gain in-depth understanding in later, courses, professional experiences, and outside, reading and activities.

STAGES OF LEARNING	▶ **For each stage of learning, specify the** ■ **Learning objectives** ■ **Essential course contents** ■ **Teaching and learning strategies** ■ **Relative length of the stage**

Weeks 1-5

Learning Objectives

- Introduce the students to Networking Concepts and Protocols
- Help students understand the concept behind remote connectivity
- Guide the students into understanding DHCP, DNS, NTP Concepts
- Explain the TCP/IP Networking Model
- Questions and Answers
- Practice Labs

Essential course contents

- To grab and get to understand networking concepts and its related protocols
- To put into practice the newly learned concepts

Teaching and learning strategies

● Lecture, Discussion, Practice Labs.

Weeks 6-10

Learning Objectives

- Learn and practice Routing and Static Route Concepts
- Learn about Switching Loops and MAC address Concepts
- Learn about Subnetting Concepts
- Questions and Answers
- Practice Labs

Essential course contents

- To learn more about transport layer protocols, network layer messaging protocols, free loop networks and subnetting.
- Lots of practices on these concepts.

Teaching and learning strategies

● Lecture, Discussion, Practice Labs.

Weeks 11-15

Learning Objectives

- Learn about ARP Concepts
- Speed and Duplex Concepts and Command Prompt Commands
- Questions and Answers
- Practice Labs

Essential course contents

- To learn more about Command Prompt Commands, ARP broadcasts, different interface speed and duplex modes.
- Lots of practices on these concepts.

Teaching and learning strategies

● Lecture, Discussion, Practice Labs.

EVALUATION OF ACQUIRED SKILLS AND KNOWLEDGE

- **Summative evaluations**
- **Nature and description of the evaluations**
- **Date**
- **Marks awarded**
- **Evaluation criteria**
- **Time required by the student**
- **How the final evaluation relates to learning target**

- **The Nature and Description of the Evaluations:**

Summative evaluations	Week	Weighting	Duration	Evaluation criteria
Remote Connectivity	3rd	20%	2 hours	Lab
Transport Layer Protocols, Networking Layer Messaging Protocol and VLAN Concepts	6th	20%	2 hours	Lab
Subnetting	9th	20%	2 hours	Theoretical
VLAN/DHCP/Telnet	12th	20%	2 hours	Lab
Routing, VLAN, DHCP, DNS, SSH, Subnetting	15th	20%	2 hours	Lab

- **How does the final evaluation relate to the learning target?**

Competency and Task	Learning target evaluated
Build a lab comprising all the concepts learned during the semester	The learning target is for the students to be able to work on a lab which comprises all the theory and labs covered during the 15 sessions. The students will be able to use subnetting, routing and switching concepts covered.

BIBLIOGRAPHY

- **Required readings**
- **Recommended readings**

- **Required readings**

Provided in class

- **Recommended readings**

Provided in Class

- **Online resources**

Provided in class

Brief IPESA[2] description:

The student responsibilities are the following:

- To attend classes.
- To read the course outline and refer to it throughout the course.
- To invest the required amount of personal study and preparation time required for homework, assignments and learning activities.
- To use the resources offered by the College to counter any learning difficulties.
- To be present at all evaluations.

The measurement of student achievement

5.4 When some assignments required of students are to be done as a team, the summative evaluation of each student will always be based on individual performance. It is the individual student's mastery of the objectives (competencies) that must be demonstrated, not that of a group of students. When students are given a team assignment, the individual student's mastery of the course's objectives must be established. If the ability to work as a member of a team figures as one of these objectives, this dimension will be awarded a separate grade in order to certify the ability of each student to work as a team member. In this respect, students will be required to sign a team contract stating the requirements and procedures that will ensure that program objectives are attained on an individual basis (see appendix).

5.5 Every course ends with a summative evaluation activity that counts for at least 40% of the final grade. This percentage can be distributed on more than one evaluation in the last stage if these serve to testify to the progressive achievement of the course's final learning target.

Attendance at final exams and submission of class assignments

7.1 Attendance at final exams (summative evaluations) is mandatory. A student who is absent without serious justification will automatically receive a grade of zero (0). The student must meet with the teacher in order to motivate his absence with proper documentation (i.e. doctor's note). Only serious reasons (such as a death in the family, an accident or illness) will be accepted as valid by the College. In such cases, the teacher will propose a make-up evaluation. Students must arrive for an exam at the specified time and place. If a student is late, the student may be refused entrance to the room if another student has already handed in his exam paper and left.

7.2 All assignments will be submitted to the teacher on the specified date and time. Students who hand in work late will be penalized from 5% to 10% of their grade for each day the assignment is late. This indication will be specified in the course outline. Students are responsible for keeping a copy of their assignments.

7.3 Assignments that are handed in after the teacher has returned corrected assignments to the rest of the students will not be accepted. The decision to propose another assignment and grant an extension will be at the teacher's discretion.

7.4 Written assignments will be presented legibly in ink or in typed format. The teacher may require that students hand in their assignments in typed format for reasons specified in the course outline.

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[2] **For more details, please see the official policy at** www.tav.ca **under "Policies and regulations"**

Evaluation of the English language

9.2 Teachers will deduct marks of up to 10% of the grade for English language mistakes. The College or its representatives (advisors) will specify a reasonable negative marking scheme for errors. The negative marking scheme will be part of the course outline. In courses where language accuracy is part of the learning objectives, the maximum number of points deducted for mistakes may exceed 10% but will not represent more than 20% of the grade awarded for a specific assignment or exam.

Class attendance

10.3 Teachers cannot modify a final grade due to a student's poor attendance. In other words, poor attendance in itself cannot be used to alter the value of the final grade in view of the fact that the final grade reflects the student's level of attainment of the course objectives. Since the final grade is based on the attainment of objectives, it must be determined through the use of the evaluation tools presented in the teacher's course plan: for example, summative evaluations including quizzes, term papers, mid-term exams, final exams, class presentations, etc.

Academic Fraud, Plagiarism & Cheating

12.1 The notion of fraud applies to all plagiarism or cheating during an activity leading to a summative evaluation.

12.2 All plagiarism, attempt to plagiarize or collaboration to plagiarize will lead to a grade of zero (0) for an exam or assignment. After having informed the student, the teacher will prepare a written report and submit it to College authorities (advisors) who are responsible for filing the report. If the student plagiarizes a second time, he will receive a grade of zero (0) for the course or courses concerned. The teacher will submit a written report to the authorities who will file the report in the student's record.

12.3 Students are deemed to plagiarize or cheat when they:

- Use unauthorized notes;
- Copy assignments or answers belonging to another person;
- Provide answers to other students in an exam room;
- Do not provide references including Internet sources;
- Falsify documents used for evaluation purposes.

12.4 To ensure the validity of an evaluation, the teacher supervising an exam will be required to take the necessary measures to avoid any form of plagiarism and/or cheating.

12.5 Any student who believes himself unjustly accused of plagiarism and/or cheating will have the right to recourse in accordance with the grievance mechanisms set forth in article 17.0 of the IPESA.