

Welcome!

NET3012 – IP Architectures and Solutions
(incorporating two key courses from Nokia's NRS II certification)

Course Professor: Michael Anderson

Lectures:
Wed 12 – 1pm T327
Fri 10 – noon T327

Labs:
A1 Mon 12 – 2pm T108
A2 Fri 8 – 10am T108

My Contact Info:

Office: T313

Office hours: As per schedule posted on course web site
... and at other times by appointment or email

Email: Michael.Anderson@AlgonquinCollege.com

Phone: 613-727-4723 ext 6217

... **Your contact info???** Remind.com – @20WNET3012

<http://michaelanderson.ca/19W-NET3012-010/ContactInfo-19WNET3012.pdf>

Course Objectives:

- ◆ To provide a solid understanding of IP Services, with an emphasis on MPLS and VPNs (L1, L2, L3).
- ◆ To increase your knowledge and skill of networking equipment, using Nokia equipment.
- ◆ To prepare you to complete your study of networking, by providing exposure to an alternative vendor's curriculum (Nokia NRS-II).

For additional info on this course, please see the official **course outline**, as posted on the course web site. We'll look at a few items, including **schedule** (final week), textbooks, **tests**, marks allocation, and use of electronic devices in the classroom.

Course Prerequisite

You must obtain a passing grade in NET3008. All students not meeting this requirement will be withdrawn from the course once final grades are posted.

Introductions

- (Re-)introduce myself, especially *Why do I teach?*
 - *Have great confidence in me, but don't trust me*
... Be sure to check it out for yourself!
 - *My focus is on learning, not on marks*
... This answers a lot of questions
 - *TL;DR = F (guaranteed)*
... I can guarantee you won't pass the course without reading the textbook
 - *I would like to know everything about everything, but I don't*
... Bring your work experience to the table and please share it during lectures.
- **NO** cell phones or laptops in lectures; **no** cell phones in labs
Please see addendum notes for Wk01Day1.
- Quick review of some past course evaluations (course has run 6 times so far)

Bug Hunter Bonus

- Full credit for question, to 1st student to identify a mistake (email timestamp)

Required Resources

- Course web site: <http://michaelanderson.ca/20W-NET3012-010/>
- Nokia account for remote access to lab equipment
- Lab book: hard-bound book with non-removable pages
 - created during the term; used in the SBA (same as always!)
- External HD or USB memory stick: for backups, etc.
- Printouts of lab instructions (on a week-by-week basis)
- Required textbooks (provided free, courtesy of Nokia):
 - ✓ Multi-Protocol Label Switching (MPLS) and Service Architecture (SA)
- Recommended textbook (get from 4th yr BIT-NET student):
 - ✓ Alcatel-Lucent Network Routing Specialist II (NRS II) Self-Study Guide, by Glenn Warnock & Amin Nathoo, Wiley, 2011, ISBN: 978-0-470-94772-2 / 978-1-118-17813-3

Time Commitment

- Expect to spend at least 5 hrs/wk on this course *outside the regularly scheduled lectures and labs*. (See program flow chart.)
- Never stay stuck on a problem for longer than 20-30 mins; you can't afford it!
Ask a classmate or email the Prof for some ideas & tips of where you should be able to find the answer.

Week 1: Assigned Readings & Lab work

- Just like NET1002 where you registered on the Cisco Academy site, you'll need to register for a Nokia corporate account, and (at some point in the process) complete a Nokia confidentiality agreement
- Lab 01 prelab:
 - (Due date dependent on date info is sent by Nokia)
 - **create** your **Nokia** corporate **account**; use your **Algonquin email** !!
 - familiarize yourself with standard lab topology
 - familiarize yourself with layers of passwords required for remote access
- Get courseware from BrightSpace; unlock & "install" it so you can read it
- Lab 1: Connect via VPN to Nokia lab equipment; create interfaces and configure **full** static routing
- Lab 1 post-lab: book a MySRLab session; connect & use MySRLab
 - (Due date is currently set for prior to your 2nd lab session.)
- Due next Wed (subject to availability of courseware):
 - Familiarize yourself with MPLS module 1;
 - Reference: NRS-II: Ch 11, pages 473-513
 - Expect a quiz** every week eg. at beginning of the lecture (don't be late!!)

Schedule for Regular Weekly Due Dates

Expect this every week

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	A1 Lab		In-class Q		A2 Lab	Sect A1 post-lab
			In-class Q	Sect A2 post-lab		

This schedule was designed to (hopefully) mesh with due dates for other courses.

New Material: Course Overview

- Who is Alcatel-Lucent? – purchased by Nokia (completed in Feb 2016)
- Material taken from Modules 0-1 of Nokia MPLS courseware:
 - Comparison of Cisco vs Nokia certification tracks
 - What are IP services? - A brief introduction
 - What is MPLS? - A brief introduction
 - What is a VPN, really? Difference between VEN and VSN (my terms!)
- How different is Nokia networking equipment?
 - Whirl-wind comparison of Cisco & Nokia CLI (in lab this week)

Getting Signed-up with Nokia

You should receive an email at your Algonquin student email from learning.services@Nokia.com

1. Create an Nokia corporate account
 - you must use your **Algonquin email** address!
 - request "General Access"
 - Wait for a response from (?) iCare <icare@Nokia.com> titled (?) "Welcome to Nokia.com <your name>"
2. Download the courseware zip files from the NET3012 course, section titled "Assignments/Labs" on BrightSpace.
3. As part of the process for getting access to MPLS + SA courseware via Adobe Digital Editions (ADE), you may need to complete a confidentiality agreement.

Details for accessing the courseware are outlined below.

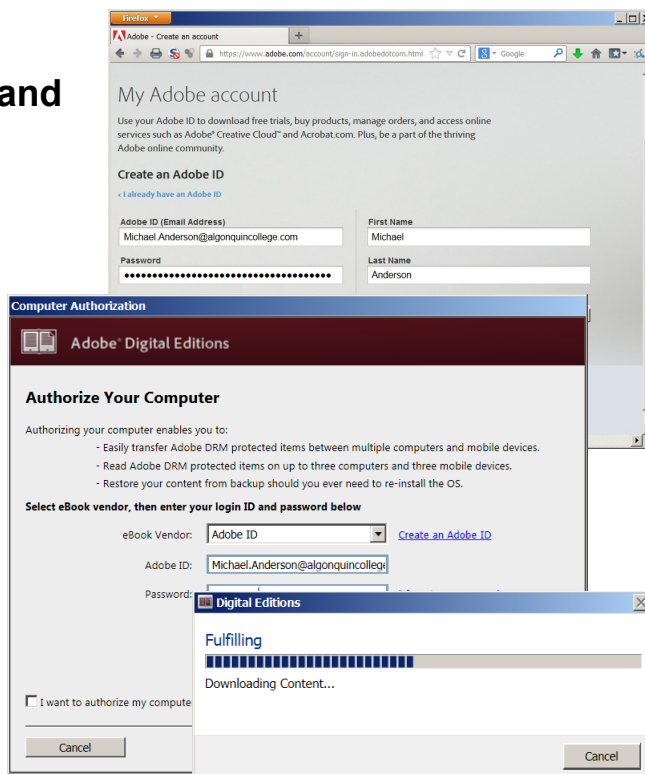
Access to Nokia Resources

1. Course Materials: **(1)** Download courseware from BrightSpace; install using *Adobe Digital Editions* (ADE); credentials are sent by email from Nokia
2. Lab Access: Trio for remote access: Aventa! VPN (always) plus either *regular weekly lab access* **OR** *MyNetworkLab* access

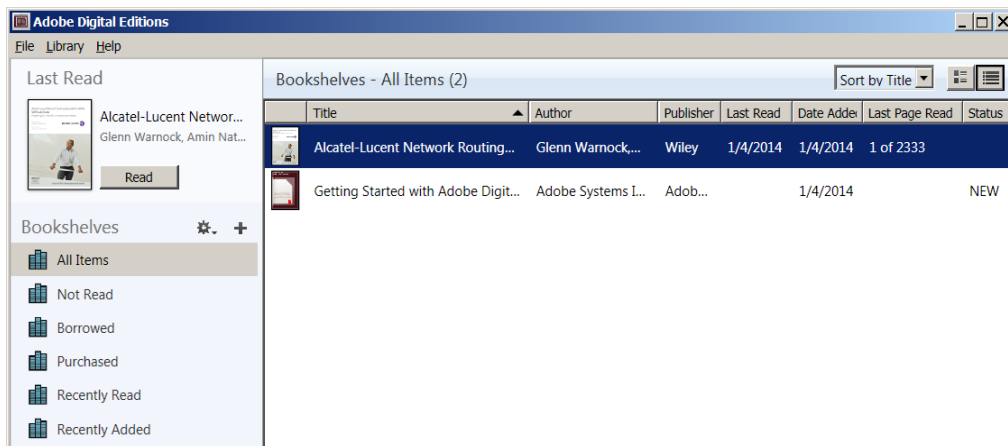
MPLS and SA courseware access (Overview)

An message will be sent to your Algonquin email account from learning.services@nokia.com It will contain details instructions and links.

1. Create an "Adobe ID" (ie. an account)
2. Install *Adobe Digital Editions* (ADE) and authorize your computer
3. **Verify** that ADE works correctly using sample ebooks from Adobe.
4. Download your file copy using the link supplied in the email.
NB: one-time download only!!



You can now read the MPLS + SA courseware on your computer.



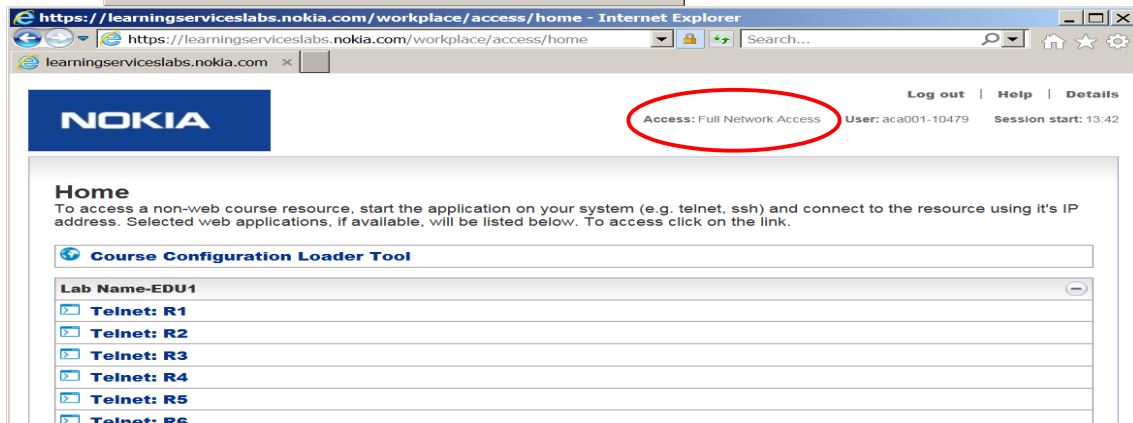
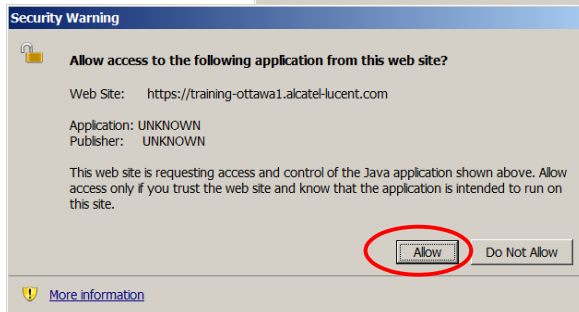
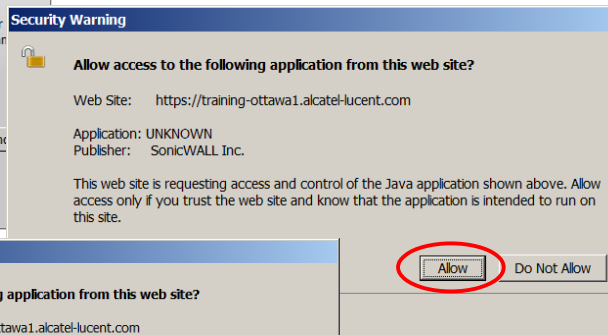
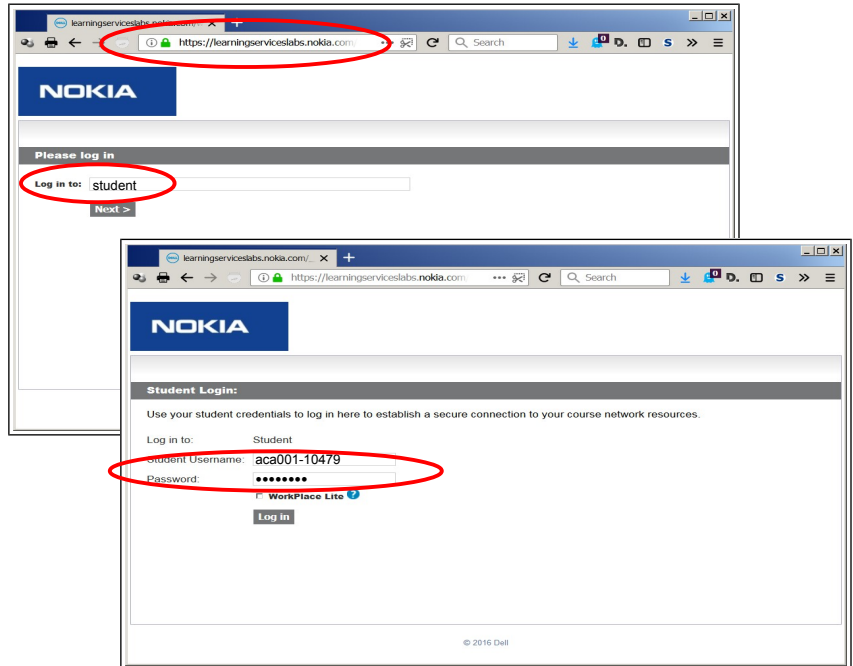
Follow additional instructions to transfer the pdf to other devices.

Trio for remote access: Aventail VPN for regular lab access & MySRLab access

Regular weekly lab access:

(or <https://learningserviceslabs.nokia.com>
<https://training-ottawa1.alcatel-lucent.com>)

1. Browser-based VPN (must have activeX or Java!)
2. Log into service: **student** (or **training**)
3. Use **lab-access** credentials (BrightSpace)
4. Permit all requests to run (ActiveX or Java)
5. Launch Telnet sessions to your assigned routers.



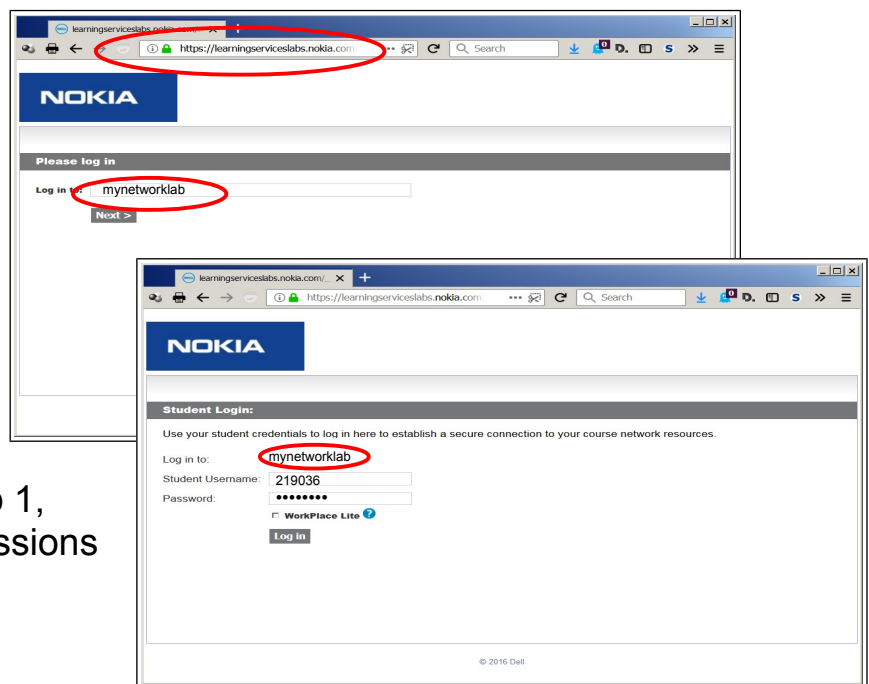
Booking extra practice (Live demo??)

1. Normal browser access to <https://src.alcatel-lucent.com/src/mynetworklab> if that expires, try: <https://ps-kb.alcatel-lucent.com/src/mynetworklab/>
(Confirmed 6/Jan/2020: no known "Nokia" URLs available.)
2. Login using your Nokia corporate web-site account (Algonquin email + chosen password)
3. In the section "My Unreserved Sessions", click Reserve Session.
4. Choose "**SRC – Scenario - Standard**" for the Lab Type; choose a time, then Submit
5. You should book a single 3-hr practice session each week
(... You should have plenty of lab sessions but if you run out, please let me know and we should be able to get more sessions.)
6. There will be a post-lab exercise **every week!** There is are a **limited** number of lab sets available, so **do not expect** to get a booking if you leave it until the last minute! **Book ahead now for every week!**

Extra practice access:

(or <https://learningserviceslabs.nokia.com>
<https://training-ottawa1.alcatel-lucent.com>)

1. Browser-based VPN
(must have activeX or Java!)
2. Log into service:
mynetworklab
3. Use one-time **numeric** account + password
(sent via email)
4. Permit all requests to allow Java VPN to run
5. Using the addressing chart supplied during Lab 1, launch multiple Telnet sessions to all the routers.

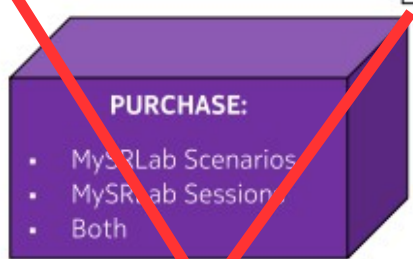




From MySRLab Getting Started Guide, ver 7.0.1 20/Dec/2016
(details on this page verified as current on 6/Jan/2020)

Nokia MySRLab Quick Start Guide
<https://src.alcatel-lucent.com/src/mynetworklab>
~~www.networks.nokia.com/src/mynetworklab~~

<https://learningserviceslabs.nokia.com>
<https://training-ottawa1.alcatel-lucent.com>
(e.g. use 32-bit version of Internet Explorer)



Connection Information Email

username and password



Login = Nokia corporate ID:
Alg email + chosen pswd



Log in to Aventail Web Client

Log in to your personalized page

Log in **during** session time

Fully equipped lab (varies based on scheduled lab type)

FTP Utilities

Lab scenario documents and configurations (varies based on scheduled lab type)

Log in **outside** session time

Lab scenario documents

With one-time credentials emailed to you

MyNetworkLab fixed ID & password

1. Register for access at URL www.networks.nokia.com/src/mysrlab
2. Purchase Scenarios
3. Purchase Practice Sessions
4. Schedule Sessions
5. Connect to MySRLab Aventail Client site
 - Install Aventail Web Client software, first time access only
6. Login to MySRLab Aventail Client site and Personalized Page
 - Enter your Session ID and Session Password during lab practice session time
 - Enter your Personalized Page username and password outside of lab practice session time

Help and Support:

mynetworklab.support@nokia.com