

CPAN 110 - Critical Thinking and IT Concepts (93%)

- Object Oriented Design
 - Class Structures, Inheritance, Polymorphism
- 3 Tier Model
 - Client Browser
 - Application Server
 - DBMS Storage
- Software Development Life Cycle
 - Analyze, Design, Build, Test, Deploy
- Data Representation Systems
 - Binary, Decimal, Hexadecimal, ASCII
- Requirements Analysis
 - UML and Use Case Techniques
- Sequence Diagrams

CPAN 131 - Object Oriented Analysis Using Java (100%)

- Variables
- Operations
- Data Types
 - Casting
 - Parsing
- Control Structures
 - If / Else
 - Switch
 - Loops
- Arrays / Lists
- User Input
- Escape Sequences and Special Characters
- String Methods (substring, length, string.split(), etc.)
- Scope
- Object Oriented Design
 - Class Definition
 - Methods, return types, etc.
 - Overloads
 - Inheritance and polymorphism
- Static Methods

CPAN 132 - Numeric Computing (92%)

- Taxes
- Ratios, Percents, Decimals
- Linear Systems

- Graphing
- Cost, Revenue and Profit Analysis
 - Break Even Analysis
- Trade Discount Series and Markup Analysis
- Loan Repayment Scheduling

CPAN 133 - Operating Systems (89%)

- Files and Directories
 - Root Hierarchy
- Commands
 - CD, DIR / LS, .. (parent), Wildcards, MKDIR, MV, CP, RM, RMDIR, LN, FILE, LS -L
 - Permissions
 - RWX, CHMOD
 - Octal Permissions
 - GREP, WC, FIND, SORT, CUT, PASTE, JOIN, SUDO, CHOWN, WHO
 - MAN, INFO, WHATIS
 - Understand the meaning of a command
 - Input and output redirection
 - \$ ls -l /usr/bin > ls-output.txt (redirect the output)
 - \$ ls -l /usr/bin >> ls-output.txt (redirect but will append)
 - Error redirection
 - Pipes for stringing together commands
 - \$ ls /bin /usr/bin | sort | less
 - DIFF
 - Lines that are different between 2 files
- VI / VIM Editor
- Bash / Shell Scripting
 - Control structures and logic
 - Functions
- Environmental Variables
- Regular Expressions

CPAN 134 - Web Programming and Design (99%)

- HTML
- CSS
- Bootstrap
- Javascript
- JQuery
- XML
- JSON

CPAN 151 - Framework Programming (99%)

- C# .NET Windows form applications
- Controls
- Event Handlers
- Three tier heirarchy
- Classes and inheritance
- Control structures and logic
- Lists and objects
- Multiple forms
- Database Architecture & Basic CRUD features

CPAN 152 - Relational DB Design & SQL (96%)

- SELECT
- ER Design, Primary and Foreign Keys, etc.
- Constraints
- DML Statements
- Joins
- Operations
- Functions
- Normalization

CPAN 155 - Java Application Development (91%)

- Inheritance and Polymorphism
 - Classes vs. Objects
 - Modeling
 - Inheritance
 - Overloading
 - Casting
- Polymorphism and Interfaces
 - Sub-class construction
 - The keyword super
 - Polymorphism
 - Method overriding
 - The Object class
 - Interfaces
- Abstract and Final Classes
- Multiple Object Application Development
- Packages and Jar Files
- Exception Handling
 - Exceptions
 - Throwing exceptions
 - Catching exceptions
 - Creating exceptions
- Data Structures
 - Collections

- Lists
- Maps
- Implementations
- Generics
- Algorithms
 - Searching
 - Sorting
 - Arrays and Collections algorithms
- Streams and Files
- GUI Projects
- Database Concepts

CPAN 200 - Mobile Programming (91%)

- Activities
 - XML Layouts
- Listeners
- Adding Images
- MVC Pattern
- Life Cycle and Debugging
- Data Persistence and Shared preferences
- SQL Lite
- Content Provider

CPAN 201 - DB Administration (96%)

- DB Installation
- Login
- Memory Structures
- Storage Structures
- Creating Users
- Undo Data and Concurrency
- Redo Log Files
- DB Backup
- Managing Performance

CPAN 202 - XML (100%)

- XML Basics
- XML DOM
- DTD
- XSD
- XSLT
- XPATH
- AJAX
- SAX

- XML with other programming languages (.NET and PHP)

CPAN 203 - Requirements Analysis and Process Modelling (98%)

- Requirements Engineering
 - Elicitation
 - Documentation
 - Validation
 - Management
- System and Context Boundaries
- Data Flow Diagrams
- Gathering and Stating Requirements
- Entity Relationship Diagrams
- Class Diagrams

CPAN 204 - Open Source Programming (94%)

- PHP
 - Operators, Arrays, Control Structures, forms, sessions and cookies, etc.
- MYSQL
 - MySQLi, PDO, etc.
 - CRUD Operations
- Object Oriented PHP
- Python
 - Lists, Functions, Modules, Exceptions, File Handling
 - Dictionaries, Sets, Tuples

CPAN 205 - Object Oriented Analysis and Design (90%)

- Fundamentals
 - Analysis & Design
 - Software Life Cycle
 - Conventional vs. Object Oriented Analysis & Design
 - Rational Unified Process
 - Iterative Development
 - UML Diagrams
- Requirements and Use Cases
 - Requirements
 - Systems
 - Use cases
 - Actors
 - Use Case diagrams and descriptions
- Objects, Classes and Class Diagrams
 - Functional Decomposition vs. OOA/OOD
 - Objects
 - Classes

- Methods
- Associations
- Inheritance
- Class diagrams
- System Design
- Specifying Behaviour
 - Collaboration Diagrams
 - Sequence Diagrams
 - Object Diagrams
- Inheritance vs. Composition
- Statechart Diagrams

CPAN 251 - Project Management (87%)

- Scope Management
- Time Management
- Cost Management
- Quality Management
- Communications Management
- HR Management

CPAN 252 - Distributed Computing Using Java (91%)

- Critical Path
- Remote Method Invocation
- Servlets
- Request, Session and Context Variables
- Servlets and JSP
- MVC and JSTL
- More MVC
- Student Management MVC
- Java Beans
- Stateful EE
- Entity Beans
- Message Driven Bean
- EJB Security

CPAN 253 - ASP .NET (87%)

- C# Review
- Web Forms
 - One Page Web Applications
 - Standard Controls
 - Cookies and Sessions
 - Master Pages and Validation
 - Databases

- Disconnected Database
- MVC
 - Entity Framework
 - MVC Entity Crud
 - MVC Validation
 - ADO Net
 - Html Helpers
 - Linq Statements
 - Partial Views and Layouts
 - AJAX

CPAN 254 - IT Management (90%)

- Canadian Business Organization
- Organization structure
- Internal communications
- Writing for Business Communication
- Different IT roles
- IT trends
- Quality assurance

CPAN 255 - Design Patterns and Software Testing (99%)

- Design Patterns
 - Adapter Pattern
 - Façade Pattern
 - Factory Pattern
 - Flyweight Pattern
 - Observer Pattern
 - Chain of Responsibility Pattern
 - Strategy Pattern
 - Template Pattern
 - Abstract Factory Pattern
 - Builder Pattern
 - Prototype Pattern
 - Decorator Pattern
 - Proxy Pattern
 - Iterator Pattern
- Software Testing
 - J-Unit Testing