

# CIS 221: Linux/UNIX Programming and Scripting I

In this course, students learn to use UNIX more efficiently with advanced forms of the commands and utilities building on the fundamentals of Linux/UNIX, as well as new commands and constructs. Advanced topics include sed, grep, awk, perl, and how to effectively use regular expressions, as well as constructs and special commands used in writing shell scripts. New topics covered include functions, traps, arithmetic on variables and input/output techniques.

## **1: Review Basics & Introduction to Linux Scripting**

Introduction- (25:17)

Command Review Continued- (23:55)

<https://www.youtube.com/watch?v=-9bWkiW5nZs&index=31&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv>

Processes, Find and the Shell- (14:02)

<https://www.youtube.com/watch?v=2gDceK3YYj8&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=30>

## **2: Regular Expressions and Additional Commands**

Commands We Should Mostly Know- (18:49)

<https://www.youtube.com/watch?v=vn2r2NXjQuU&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=29>

Regular Expressions Can be Fun- Part 1 (28:11)

<https://www.youtube.com/watch?v=Eo4Ck7GfVwo&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=28>

Regular Expressions Can be Fun- Part 2 (14:31)

[https://www.youtube.com/watch?v=ui4RR5TpL\\_U&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=27](https://www.youtube.com/watch?v=ui4RR5TpL_U&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=27)

### **3: Meta Characters, Special Parameters, Quotes & Passing Arguments**

Variables- (23:56)

<https://www.youtube.com/watch?v=5BisYCCi9ts&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=25>

Math in Bash- (18:08)

<https://www.youtube.com/watch?v=7ZxJVOR-m8s&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=24>

Quotes- (22:40)

<https://www.youtube.com/watch?v=iY2ESIT9S2M&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=23>

Passing Arguments- (10:33)

<https://www.youtube.com/watch?v=SyHuzdE49w8&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=22>

### **4: Conditional Statements**

Exit Code and Text Operator- (29:41)

<https://www.youtube.com/watch?v=ZbphVZM-w8k&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=21>

If Else Statement (23:31)

<https://www.youtube.com/watch?v=A9BWKFY4Tyk&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=20>

Case and Special Constructs- (15:02)

<https://www.youtube.com/watch?v=HVLMgZGrmjl&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=19>

### **5: Looping**

for Loop- (31:29)

<https://www.youtube.com/watch?v=UBv-0UI-cbk&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=18>

while Loop- (8:37)

<https://www.youtube.com/watch?v=Kyu3n4igGwA&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=17>

Other Loop Stuff- (15:30)

<https://www.youtube.com/watch?v=8QaI9ddESFc&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=16>

## **6: Reading Data**

Reading In Data- (24:00)

<https://www.youtube.com/watch?v=mVQeVfkQB74&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=15>

## **7: Controlling Your Environment and Fun with Parameters**

Controlling Your Environment Part 1- (23:19)

<https://www.youtube.com/watch?v=8HnF9Keukn8&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=13>

Controlling Your Environment Part 2- (27:13)

[https://www.youtube.com/watch?v=\\_cB4YJrnAqI&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=10](https://www.youtube.com/watch?v=_cB4YJrnAqI&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=10)

Controlling Your Environment Part 3- (10:07)

<https://www.youtube.com/watch?v=s-z8yNsKggA&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=12>

## **8: Controlling, Scheduling Functions**

Controlling and Scheduling Part 1- (27:13)

[https://www.youtube.com/watch?v=\\_cB4YJrnAqI&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=10](https://www.youtube.com/watch?v=_cB4YJrnAqI&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=10)

Controlling and Scheduling Part 2- (11:59)

<https://www.youtube.com/watch?v=33-MKImdqc&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=11>

## **9: Awk**

Awk Part 1- (21:12)

<https://www.youtube.com/watch?v=dEfsfSWPHYM&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=8>

Awk Part 2- (18:37)

[https://www.youtube.com/watch?v=c\\_\\_OdeNwDoA&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=9](https://www.youtube.com/watch?v=c__OdeNwDoA&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=9)

Awk Part 3- (13:08)

<https://www.youtube.com/watch?v=iccd2wyJJdE&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv&index=7>

Awk Part 4- (20:08)

<https://www.youtube.com/watch?v=cMb5uQNGALc&index=6&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv>

## **10: Perl**

Perl Part 1- (17:05)

<https://www.youtube.com/watch?v=BpDNVlw6xAY&index=5&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv>

Perl Part 2- (16:07)

[https://www.youtube.com/watch?v=c\\_T610PMKQ8&index=3&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv](https://www.youtube.com/watch?v=c_T610PMKQ8&index=3&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv)

Perl Part 3- (16:07)

[https://www.youtube.com/watch?v=NQLpN\\_cb6ew&index=1&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv](https://www.youtube.com/watch?v=NQLpN_cb6ew&index=1&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv)

Perl Part 4- (9:28)

<https://www.youtube.com/watch?v=9JKqJpk5x3g&index=2&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv>

Perl Part 5- (9:28)

<https://www.youtube.com/watch?v=9JKqJpk5x3g&index=2&list=PLYCnr23oAKDntUyw2g9Kr-R1kgEEEm8qv>

Perl Part 6- (16:59)

<https://www.youtube.com/watch?v=fFgH8mMf-s0&feature=youtu.be>