Video discussing this curriculum: https://youtu.be/NyOvFSP_IpQ

README.md

The Open Source Computer Science Degree

This is a curated list of free courses from reputable universities like MIT, Stanford, and Princeton that satisfy the same requirements as an undergraduate Computer Science degree, minus general education.

Computer Science Basics

Courses	School	Duration	Effort	Frequency	Prerequisites
Intro to Computer Science	UVA	12 week	5 hours/week	self-paced	none
Mathematical Thinking in Computer Science	UC San Diego	6 weeks	2-5 hours/week	once a month	none

Programming

Courses	School	Duration	Effort	Frequency	Prerequisites
Java Programming: Solving Problems with Software	Duke	4 weeks	4-8 hours/week	twice a month	none
Java Programming: Arrays, Lists, and Structured Data	Duke	4 weeks	4-8 hours/week	twice a month	Java Programming: Solving Problems with Software
Object Oriented Programming in Java	Duke	6 weeks	4-6 hours/week	every week	Java Programming: Arrays, Lists, and Structured Data
Data Structures and Performance	Duke	6 weeks	6-10 hours/week	every week	Object Oriented Programming in Java
Java Programming: Principles of Software Design	Duke	4 weeks	4-8 hours/week	twice a month	Java Programming: Arrays, Lists, and Structured Data
Java Programming: Build a Recommendation System	Duke	4 weeks	3-6 hours/week	once a month	Java Programming: Principles of Software Design
Programming Languages, Part A	UW	5 weeks	8-16 hours/week	once a month	Object Oriented Programming in Java
Programming Languages, Part B	UW	3 weeks	8-16 hours/week	once a month	Programming Languages, Part A
Programming Languages, Part C	UW	3 weeks	8-16 hours/week	once a month	Programming Languages, Part B

Math

Courses	School	Duration	Effort	Frequency	Prerequisites
Calculus 1A: Differentiation	MIT	12 weeks	6-10 hours/week	self-paced	pre-calculus
Calculus 1B: Integration	MIT	15 weeks	6-10 hours/week	self-paced	Calculus 1A: Differentiation
Calculus 1C: Coordinate Systems & Infinite Series	MIT	8 weeks	6-10 hours/week	self-paced	Calculus 1B: Integration
Linear Algebra - Foundations to Frontiers	UT Austin	15 weeks	6-10 hours/week	self-paced	pre-calculus
Introduction to Probability and Data	Duke	5 weeks	5-7 hours/week	twice a month	none
Intro to Statistics	Stanford	8 weeks	5-7 hours/week	self-paced	none

Systems

Courses	School	Duration	Effort	Frequency	Prerequisites
Build a Modern Computer from First Principles: From Nand to Tetris	Hebrew University of Jerusalem	6 weeks	5 hours/week	twice a month	basic programming knowledge
Build a Modern Computer from First Principles: From Nand to Tetris II	Hebrew University of Jerusalem	6 weeks	10-15 hours/week	once a month	Build a Modern Computer from First Principles: From Nand to Tetris
Introduction to Operating Systems	Georgia Tech	8 weeks	5-8 hours/week	self-paced	Build a Modern Computer from First Principles: From Nand to Tetris II

Theory

Courses	School	Duration	Effort	Frequency	Prerequisites
Computer Science: Algorithms, Theory, and Machines	Princeton	10 weeks	2-5 hours/week	once a month	Calculus 1A (all), basic programming
Algorithms, Part I	Princeton	6 weeks	6-12 hours/week	once a month	Computer Science: Algorithms, Theory, and Machines
Algorithms, Part II	Princeton	6 weeks	6-12 hours/week	once a month	Algorithms, Part I

Applications

Courses	School	Duration	Effort	Frequency	Prerequisites
Software Engineering: Introduction	UBCx	6 weeks	8-10 hours/week	self-paced	Java Programming: Build a Recommendation System
Machine Learning	Stanford	11 weeks	5-7 hours/week	twice a month	Linear Algebra - Foundations to Frontiers
Database Management Essentials	CU	7 weeks	4-6 hours/week	twice a month	basic programming & CS knowledge
Cryptography I	Stanford	7 weeks	5 hours/week	once a month	Linear Algebra - Foundations to Frontiers & Introduction to Probability and Data

Unix

Courses	School	Duration	Effort	Frequency	Prerequisites
Linux Command Line Basics	Udacity	1 week	5 hours/week	self-paced	none
The Unix Workbench	JHU	4 weeks	4 hours/week	once a month	none