

STUDY PLAN—Level 1 2024-04-03

Wednesday, April 3, 2024 9:42 AM

COMPUTATIONAL MODELING	Resource
Classifiers	Resource
LEVEL 1	
Mathematics: Analysis: Real Analysis	Lara Alcock How to Think About Analysis
Mathematics: Linear Algebra	Mike X. Cohen Linear Algebra: theory, intuition, code
Mathematics: Discrete Mathematics	Bernard Kolman Discrete Mathematical Structures, 6 ed. ch 01-08
Mathematics: Statistics: Causal Inference	Judea Pearl Causal Inference in Statistics: a primer
Mathematics: Numerical Methods	Ronald Mak Java Number Cruncher: the Java programmer's guide to numerical computing
Mathematics: Numerical Methods	Mark Newman Computational Physics: revised and expanded ch 01-05
Computer Science: Development Tools: IDEs: Visual Studio Code	Microsoft Visual Studio Code media: web: https://visualstudio.microsoft.com/#vscode-section
Computer Science: Java Programming Language: Development Environment	Joel Murach Murach's Java Programming, 6 ed. ch 01: An Introduction to Java: an introduction to Java development
Computer Science: Java Programming Language: Introduction	Joel Murach Murach's Java Programming, 6 ed.
Computer Science: Python Programming Language: Development Environment:	David Amos Python Basics: a practical Introduction to Python 3, 4 ed. ch 01: Introduction ch 02: Setting up Python ch 03: Your first Python program ch 11: Modules and packages ch 13: Installing packages with "pip"
Computer Science: Python Programming Language: Introduction	David Amos Python Basics: a practical Introduction to Python 3, 4 ed. media: book, web: https://realpython.com/
Computer Science: Python Programming Language: Object Oriented Programming	Steven F. Lott Object Oriented Programming: build robust and maintainable object-oriented Python applications and libraries, 4 ed.
Computer Science: Program Design	Russ Miles Learning UML 2.0
Information Science: Introduction	Luciano Floridi Information: a very short introduction
Information Science: Decision Theory	Charles A. Holloway Decision Making Under Uncertainty: models and choices

SYSTEMS	Resource
Classifiers	Resource
LEVEL 1	
Systems Science: Complex Systems	John H. Holland Complexity: a very short introduction
Systems Science: Complex Systems: System Dynamics	Jay W. Forrester Principles of Systems.: text and workbook chapters 1 through 10 media: pdf
Systems Science: Complex Systems: Networks: Queueing Networks	Edward D. Lazowska Quantitative System Performance: computer system analysis using queueing network models ch 01-04 media: web: https://homes.cs.washington.edu/~lazowska/qsp/
Computer Science: Algorithms: Graphs	Robert Sedgewick Algorithms, 4 ed. ch 4: Graphs

BIOSYSTEMS	Resource
Classifiers	Resource
LEVEL 1	
Natural Sciences: Biology: Life	Erwin Schrödinger What is Life?
Natural Sciences: Biology: Life	Sara Imari Walker From Matter to Life: information and causality
Natural Sciences: Biology: Cell biology	Bruce Alberts Essential Cell Biology, 6 ed.
Natural Sciences: Biology: Cell biology: Cell signaling	Wendell Lim Cell Signaling: principles and mechanisms
Natural Sciences: Biology: Human Biosystem: Anatomy & Physiology	Frederic H. Martini Anatomy & Physiology, 9 ed
Natural Sciences: Biology: Systems biology	Uri Alon An Introduction to Systems Biology: design principles of biological circuits
Natural Sciences: Biology: Molecular Biology	David P. Clark Molecular Biology
Natural Sciences: Biology: Genetics: Epigenetics	Nessa Carey The Epigenetics Revolution: how modern biology is rewriting our understanding of genetics, disease, and inheritance
Natural Sciences: Biology: Computational Biology: Gene Regulatory Networks	Hamid Bolouri Computational Modeling of Gene Regulatory Networks
Natural Sciences: Chemistry: Inorganic Chemistry	Peter Atkins Chemical Principles: the quest for insight, 5 ed.
Natural Sciences: Chemistry: Organic Chemistry	William Brown Introduction to Organic Chemistry, 4 ed.

WEBSITE CONSTRUCTION	Resource
Classifiers	Resource
LEVEL 1	
Computer Science: Website Development	Zak Ruvalcaba Murach's HTML and CSS, 5 ed.
Computer Science: Website Development	Mary Delamater Murach's JavaScript and JQuery, 4 ed.