MCS Studies - Sequence Level 1

systems science	**system dynamics**	Jay W. Forrester Principles of Systems.: text and workbook media: digital		
mathematics	**linear algebra**	Mike X. Cohen Linear Algebra: theory, intuition, code	Philip N. Klein Coding the Matrix: linear algebra through computer science applications	
	probability	Joseph K. Blitzstein Introduction to Probability		
	statistics	**Bayesian**	John K. Kruschke Doing Bayesian Data Analysis: a tutorial with R and Bugs	
		classical	Sam Kash Kachigan Statistical Analysis: an interdisciplinary introduction to univariate and multivariate methods	Lyman Ott An Introduction to Statistical Methods and Data Analysis, 1 ed.
				Lyman Ott An Introduction to Statistical Methods and Data Analysis, 5 ed.
computer science	**python programming language**	Michael Urban, Joel Murach murach's Python programming, 2 ed.		
		object oriented programming	Steven F. Lott Python Object Oriented Programming: build robust and maintainable object-oriented Python applications and libraries, 4 ed.	
		computational techniques	Jesse M. Kinder, Philip Nelson A Student's Guide to Python For Physical Modeling, 2 ed. **note:** Code samples, data sets, updates, errata, and more are available at http://physicalmodelingwithpython.blogspot.com	
			Mark Newman Computational Physics: revised and expanded	
	java programming language	Joel Murach murach's Java programming, 6 ed.	Cay S. Horstmann Core Java for the Impatient. 3 ed.	
		network programming	Elliotte Rusty Harold Java Network Programming	
	security	Michael T. Goodrich Introduction to Computer Security		
		network security	Richard Sharpe Wireshark User's Guide media: web https://www.wireshark.org/docs/wsug_html_chunked/	
	website development	**HTML and CSS programming**	Zak Ruvalcaba Murach's HTML and CSS, 5 ed.	Web Hypertext Application Technology Group (WHATWG) HTML Living Standard

					media: web https://html.spec.whatwg.org/
		JavaScript and jQuery programming	Mary Delamater Murach's JavaScript and jQuery, 4 ed.		
		HTTP protocol	David Gourley, Brian Totty HTTP: the definitive guide		
		social networking	Robin Nixon Learning PHP, MySQL & JavaScript: a step by step guide to creating dynamic websites, 7 ed.		
			Joel Murach, Ray Harris Murach's PHP and MySQL, 4 ed.		
	graphs	Robert Sedgewick Algorithms, 4 ed. ch 04: Graphs			
	machine learning	Leslie Valiant Probably Approximately Correct: nature's algorithms for learning and prospering in a complex world			
		artificial intelligence, AI	**critique**	Shannon Vallor The AI Mirror: how to reclaim our humanity in an age of machine thinking	
		large language models, LLM	Sebastian Raschka Build a large language model (from Scratch)		
information science	**decision theory**	Charles A. Holloway Decision Making Under Uncertainty: models and choices			
natural sciences	**biology**	**cell biology**	Bruce Alberts Essential Cell Biology, 6 ed.		
			Ron Milo Cell Biology: by the numbers		
		molecular biology	David P. Clark Molecular Biology, 3 ed.		
		biotechnology	David R. Clark Biotechnology: the technological applications of genetics and genomics, 3 ed.		
		human biology	**anatomy**	Frederic H. Martini Anatomy & Physiology, 9 ed	
			physiology	Frederic H. Martini Anatomy & Physiology, 9 ed	
				Jack H. Wilmore Physiology of Sport and Exercise, 4 ed.	
			aging	Roger B. McDonald Biology of Aging	
				anti-aging	Andrew Steele Ageless: the new science of getting older without getting old
	chemistry	**inorganic**	Peter Atkins Chemical Principals: the quest for Insight, 5th ed.		
		organic	William Brown Introduction to Organic Chemistry, 4 ed. ch 01: covalent bonding and shapes of molecules		

		biochemistry	Reginald H. Garrett Biochemistry, 6 ed.	Kevin Ahern Biochemistry and Molecular Biology media: video CD: The Great Courses	
engineering	systems modeling	**probabilistic graphical models**	Daphne Koller, Nir Friedman Probabilistic Graphical Models: principles and techniques		
social sciences	human behavior	Edward O. Wilson On Human Nature			
		B. F. Skinner Science and Human Behavior			
		Daniel Goleman Emotional Intelligence: when it can matter more than IQ			
		Daniel Goleman Social Intelligence: the new science of human relationships			
		learning	David Epstein Range: why generalists triumph in a specialized world		