COMP151 Knowledge Areas

	Topic		Sub-Topic	Chapters Covered
1	Data Types (Objects, Values, and Operations)	a	Integers	2+
		b	Floating Point Numbers	2+
		c	Strings/Characters	2+
		d	Booleans	8
2	Expressions and Substitution Semantics	a	Variable Evaluation - Identifiers	2+
3	Statements and Side-Effect/State-based Semantics (I/O, Mutation, & Control)	a	I/O: Read & Write from terminal and files	2
		b	Variables (mutation): Declaration, Initialization, Assignment	2+
		c	Conditionals (control): if, if...else, if...else if...else	8
		d	Loops (control): for, while	7 ,14
		e	Exceptions (control): throw, Try..catch, with	19
4	Functions/Procedures	a	Definition: return value, side-effects	12
		b	Application: For value (functional) , for effect (stateful)	12
5	Data Structures, Classes & Compound Data	a	Structs/Named-Tuples	
		b	Tuples	6
		c	Dynamic Array-List & Sequences	6
		d	Dictionary	11
6	Design & Problem Solving	a	Iteration and Accumulation	7
		b	Recursive Functions	
		c	Nested Expressions & Statements	7–9
		d	Functional Composition (helper/auxiliary functions)	12
		e	Functional Abstraction	12
		f	Data Abstraction and Objects	20
7	Debugging and Troubleshooting	a	Print-statement based debugging	3
		b	Debuggers and Steppers	
		c	Unit Tests & Testing Generally	18
		d	Syntax, Run-time Errors, and Compiler/Interpreter Messages	3
8	Professional Knowledge (Table 4.2 from CC2020 (pg 50))	a	Analytical and Critical Thinking	All
		b	Collaboration and Teamwork	
		c	Ethical and Intercultural Perspectives	
		d	Mathematics and Statistics	
		e	Multi-Task Prioritization and Management	
		f	Oral Communication and Presentation	
		g	Problem Solving and Troubleshooting	
		h	Project and Task Organization and Planning	
		i	Quality Assurance / Control	
		j	Relationship Management	
		k	Research and Self-Starter/Learner	
		l	Time Management	
		m	Written Communication	