The contents of the course via 20 questions

1. Who am I and who are you?
2. What computing devices do you own? (in addition to the obvious, there are e.g. cars which have more computers than any device)
3. How are they similar? How are they different? (1 thing vs many, apps vs programs, inputs vs sensors)
4. What’s inside them? (CPU (brain), storage, communications ability)
5. How do the parts interconnect and what are they made of? (wires, transistors, integrated circuits)
6. What are the parts made of? (transistors (1947; Nobel Prize 1956) IC (60’s ... Intel (1968))
7. How is communication done? (wires carry 0/1; on/off; based on Boolean algebra (George Boole 1847)
8. How do we represent things (text, pictures, sounds, video, ...)? 0’s and 1’s (bits) which are organized into bytes
9. What differentiates computers from other appliances? Can be programmed to do different things; basis for programming (abstract models Turing (1930’s), (finite) state machines (late 50’s)
10. What are programming languages and how did they develop? Started with 0’s and 1’s, worked up in stages to let objects be named and manipulated at higher levels; goal natural language
11. What makes up a programming language? Nouns, verbs, directives
12. How are programming languages processed? Words into machine instructions into 0’s and 1’s
13. Where did the software you use come from? Windows, MacOS, iOS, Android, Unix, Linux, ... Word, Google search, some history
14. How do you connect to the outside world? How Cellular, wifi work and where they came from
15. Who owns the internet and how is it operated? ICAAN
16. What bad things can people do to your machine and how do they do it? Worms, viruses, ransomware, ...
17. Is the network international or not? Censorship, tariffs, different laws
18. What about privacy and security? Cookies, crypto
19. What does the future hold? AI, self driving cars, ... better personal assistants (Alexa greatly expanded on your wrist)
20. What is the impact on society? How do we govern this? (as they arise – e.g. Tesla story)

http://www.slate.com/blogs/future_tense/2017/09/10/tesla_unlocked_florida_drivers_60kwh_batteries_before_irma_not_everyone.html
light bulbs that respond to external signals