КИМ по курсу «Architecting smart IoT devices»

1. Introduction to Architecting Smart IoT Devices.
2. Processors. Boards. Networks. Software Components. IoT Components.
3. Network basics - for network newbies. Sensor Networks for IoT.
4. Operating System types. Protocol stacks. Licenses. Integrated Development Environment. IoT today and tomorrow.
5. IoT and big data (in the cloud).
6. Hardware & Software for EmS.
7. Real-time Scheduling. Synchronisation and Communication. Device Drivers. Five rules for architecting a multithreading design.
8. VRTX vs Nucleus. Processor interrupt models.
9. Tools for schedulability analysis.
10. Synchronisation and Communication web tour.
11. Device Drivers.
12. Security requirements. Security coding techniques. Cryptography.
13. Security models.
14. Private Clouds.
15. Multithreading Design.
16. Debugging basics: Thread and Device Drivers.
17. Debugging Specials and Code Tuning. Testing and Device Simulation.
18. Power Budget. Measuring Power Consumption. On-board communication. External Communication.