Chapter 21

Study fig. 21.1, 6, 7

Work example 21.4, make sure you understand the reason for the use of trig functions

Read Sub-chapter 21.4, work example 21.6, make sure you understand how signs are determined in field calculations

Work 21.9, 10

Read sub-chapter 21.6

Chapter 22

Read sub-chapter 22.2, 3

Work example 22.5, 6, 7, 9

Chapter 23

Read sub-chapter 23.1, study figure 23.7, work example 23.1

Read sub-chapter 23.2, work examples 23.4, 7, 8 – make sure you understand why V is not zero inside the sphere (exp 23.8)

Work example 23.10, 11

Study figure 23.23, 24, 25

Chapter 24

Read sub-chapter 24.1, make sure you understand the derivation of equation 24.2, refer back to chapter 22 where it is made use of in the derivation

Take note of the main results of example 24.3, 24.4 (independence of r and why that is so)

Work through sub-chapter 24.2

Re-work until you know the origin of the parallel and series network rules by heart.

Work through example 24.6 go back to the chapter on series and parallel rules, if you get confused about any aspect of the example; if still confused, see me during office hours – it is important to address this asap

Read sub-chapter 24.3 and sub-chapter 24.6, make sure you understand how the energy equation is derived.

Read the sub-sub-chapter ‘Induced Charge and Polarization’ in ch. 24.4; test yourself whether you can make predictions for all common electrical quantities when a dielectric is inserted

Work at least two network examples, which have answers printed at the end of the book. Do not stop until you get the numbers right and review explicitly what you did wrong at first.

Chapter 25

Read sub-sub-chapter ‘Current, Drift Velocity …’ in sub-chapter 25.1, make sure you understand the derivation of eqn 25.2

Read sub-chapter 25.2 and 25.3

Study figure 25.11, table 25.4, and work example 25.5, 6

Study figure 25.20

Read sub-chapter 25.5

Chapter 26

Work through sub-chapter 26.1

Re-work until you know the origin of the parallel and series resistor network rules by heart. Go back to chapter 24 and take note of the difference in network rules. Explain out loud to yourself (or to a friend0 why the rules are different (use the water analogy of electricity, if it helps)

Work example 26.1 go back to the chapter on series and parallel rules, if you get confused about any aspect of the example; if still confused, see me during office hours – it is important to address this asap

Read Problem-Solving-Strategy 26.2, work through example 26.4, 6

Read chapter 26.3, next time in lab double check you completely understand how to apply it in practice. Ask, if you are the least bit uncertain.

Read chapter 26.4, study closely figures 26.20, 21, 22, 23. Interpret the meaning of the exponential curves out loud: more less current/ charge as time goes on during charging/discharging a capacitor.

Safety note: Understand what it means for potential electric shocks that capacitors take a certain time to discharge ‘mostly’.

Read chapter 27.2 , study the meaning of equation 27.2 and the results a cross product produces

Take note of equations 27.6 and 27.8

Read chapter 27.4 and make sure you understand example 27.4

Read chapter 27.6, practice the right hand rule in figure 27.27

Study example 27.8, make sure you understand all the vectors and results from cross products

Study figure 27.31

Read the last section of chapter 27.7: magnetic dipoles and how magnets work

Study chapter 27.9, connect what you learn to the related labs

Read chapter 28.1, study figure 28.1 and equation 28.2

Study example 28.1, create your own variations of 28.1 (velocity, position, and charge changes)

Study example 28.2

Read chapter 28.3, understand the approximation that produces equation 28.9

Study example 28.4

Read chapter 28.4

Read chapter 28.6, study figure 28.16

Study example 28.8

Read chapter 28.8