

## Session 1

### Reading assignment

Liberzon chapters 1 – 2.4.

### Exercises

- 1.1. = Liberzon Exercise 1.1
- 1.2. = Liberzon Exercise 1.5
- 1.3. = Liberzon Exercise 2.2
- 1.4. = Liberzon Exercise 2.3
- 1.5. Read Liberzon Chap.2.3.3 and explain how we can avoid assuming  $y \in \mathcal{C}^2$ . Prove Lemma 2.2 (Liberzon Exercise 2.4).
- 1.6. = Liberzon Exercise 2.5 (State the brachistochrone problem first.)
- 1.7. = Liberzon Exercise 2.6
- 1.8. = Liberzon Exercise 2.7