

# MATH60005/70005: Optimization (Autumn 22-23)

## Week 10: Duality

Dr Dante Kalise  
Department of Mathematics  
Imperial College London  
dkaliseb@ic.ac.uk

The idea of this checklist is to help you to self-evaluate your progress and understanding of the subject, and to give you some guidance on where to focus. If you can tick all the boxes it means you're doing alright, otherwise you need to study a bit more, grab a book, watch the videos, or seek help from classmates, the lecturers, or the demonstrators. Try to fill as many gaps as quickly as possible.

Learning Outcome	Check
I understand what is the dual problem.	
I understand the definition of weak and strong duality.	
I understand the concept of duality gap.	
I can work the examples in the lecture notes and derive the dual of optimization problems and appreciate why sometimes it's simpler to solve.	

