

## Assignments Week 12 SF2705 Fourieranalysis.

These are the things that you are expected to do before the Lecture on the **29th of April**.

**1 Reading:** Read chapter 6.1 to 6.4, pages 175-198 in Stein-Shakarchi.

**3 Problems to consider:** Do **14** on page 164 and **2, 6** and **7** in Stein-Shakarchi pp. 207-210.

If you are interested if assumption (iv) in Theorem 2.3 is needed then you should do Problem **4** on page 171.

**4. Assignment for the 29th of April:**

1. Prove step 3 on p. 183 in Stein-Shakarchi.
2. Write a few lines explaining your understanding why, more or less, all the proofs of properties of the Fourier transform in  $\mathbb{R}$  carries over without changes into  $\mathbb{R}^n$ . For instance, what property of the exponential makes the proofs so easy to translate into  $\mathbb{R}^n$ .

**5 Office hours:** It does not seem to be any need for office hours. In case you have any pressing question please write me an email (johnan@kth.se) and we can book a time on Friday.

**6 Exam date is set:** The exam will be on Wednesday the 4th of June 14:00-19:00. You will have to register for the exam using the course web “my pages” (“mina sidor”) between the 14th of April (that is now - so register today) and the 4th of May. If you can not register for the exam online (most likely if you are an SU or PhD student) then you have to go to the student expedition on the first floor in this building and fill in a registration form.