MATE 4009 Practice problems

As a rule, some of the longer problems are good candidates for exam questions.

Quiz 0 All problems from quiz 0.

§ 1.1 All exercises from syllabus.

§ 1.2 Read theorem 1 and following examples. All exercises from syllabus. How do you solve pbs 1–20 without using explicit solution methods? (see, e.g., pb 3 of quiz 1.)

§ 1.3 All exercises from syllabus.

§ 2.2 All exercises from syllabus. Problem 31, in particular, illustrates how the domain may depend on the initial condition.

§ 2.3 All exercises from syllabus. Replace exercise 30 by 29.

§ 2.4 All exercises from syllabus. Exercise 34: what kind of conic is $x^2 + y^2 = kx$?

§ 2.6 Exercises 1–18 from syllabus.

§ 3.2 All exercises from syllabus.

§ 3.3 All exercises from syllabus.

§ 3.4 Do at least half of the exercises from syllabus.

§ 4.1 Read this section. All exercises from syllabus.

§ 4.2 All exercises from syllabus. For the last six exercises, use the definition we gave in class, which is essentially the one in exercise 35 (not the one on p. 172, which only works for two functions).

§ 4.3 All exercises from syllabus. You must also know how to solve in z the equation $z^n = w$ in the complex plane.

§ 4.6 All exercises from syllabus.

§ 4.9 All exercises from syllabus.

§ 4.10 All exercises from syllabus.

§ 7.2 All exercises from syllabus.

§ 7.3 All exercises from syllabus.

§ 7.4 All exercises from syllabus.

§ 7.5 Read this section. Example 4 illustrates the use of the Laplace transform method when the differential operator contains coefficients which are polynomials in t.

§ 7.6   Exercises 1–20 p. 421.