SYLLABUS MAT4230

LARS HALVARD HALLE

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Here is an overview of the material we've covered this semester in MAT4230. We've covered (most of) Chapters 1,2,3 and 5 in Silverman's book, hence the syllabus of MAT4230 consists of the material in these chapters, with the explicit exceptions mentioned below.

1.1. **Chapters 1 and 2.** Both Chapters 1 and 2 are to be considered as background material. This means that you are supposed to know the definitions and formulate results from these chapters, but you will not be asked to explain proofs etc. on the exam.

The following was not discussed in the lectures, and has not been used in the course, so you will not be asked about it on the exam:

- Chapter 2: Example 2.5.1 and Proposition 2.5.2, concerning hyperelliptic curves. Proposition 5.8 and Lemma 5.8.1.

1.2. **Chapter 3.** Chapter 3 forms, together with Chapter 5, the core of the course. We have covered most of Chapter 3, exceptions are listed below. You will not be asked about these exceptions on the exam.

- Corollary 2.3.1, the material on Singular Weierstrass Equations (pages 55-58), Proposition 4.12, Theorem 7.7, Theorem 7.9, Theorem 9.5 (and the definition before it)

1.3. **Chapter 5.** We have covered most of Chapter 5, exceptions are listed below. You will not be asked about these exceptions on the exam.

- The part of Theorem 3.1 concerning the formal group of an elliptic curve. The entire Subsection V.4.

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