

Course Programme

Digital Communications, Advanced Course (ETT055), 9 hp, 091026 – 100305

First lecture: Monday 26 October (week 44), 13.15 – 15.00 in E:2311.

Project starts in Week 48.

Laboratory lesson: LAB (4 hours) starts around 2 February 2010 (Week 5).

Application to the laboratory lesson is made on the homepage of this course where you book one available time-slot. Applications can be made one week before the lab starts.

Messages will be distributed on the homepage of this course, <http://www.eit.lth.se/kurs/ett055>

Written Examination:

1:st opportunity: Tuesday 9 March 2010, 08.00 – 13.00 in Eden 25.

2:nd opportunity: Saturday 21 August 2010, 08.00 – 13.00, EIT-department.

3:rd opportunity: January 2011, EIT-department.

Notice: Application is required for the 2:nd and 3:rd opportunity. Applications are made on the homepage of this course.

Course Literature:

- “Introduction to Digital Communications”, compendium August 2006.
- Manual for the laboratory lesson.

The price for the compendium is 300 SEK and it can be bought at the Department of Electrical and Information Technology (EIT). Contact the student reception desk E:3152H. Note that only credit cards are accepted, i.e. no cash!

The manual for the laboratory lesson will be available at the homepage of this course, <http://www.eit.lth.se/kurs/ett055> (it is not available yet).

You are allowed to use the compendium during the written examination.

This course is defined by the pages and problems given in the course outline given below in this course program, and by the laboratory lesson.

Teacher: Göran Lindell, Room E:2360, email: Goran.Lindell@eit.lth.se

Lectures in study period Ht-2: Mondays 13.15 – 15.00 in E:2311.

Problem solving (exercise) class in study period Ht-2: Wednesdays 10.15 – 12.00 in E:3308.

Lectures in study period Vt-1 2010: Mondays 13.15 – 15.00 in E:2311.

Problem solving (exercise) class in study period Vt-1 2010: Thursdays 13.15 – 15.00 in E:3139.

TIME PLAN

Week 44: Study period Ht-2 starts.

Week 48: Project info & start-up procedure.

Week 50 (091211): Ht-2 ends.

Week 3 (100118): Study period Vt-1 starts.

Week 5: Lab

Week 7: Deadline for project report (pdf-format, Email) Wednesday 17 February 2010, 15.00.

Week 8+9: Project presentations.

Week 9 (100305): Vt-1 ends.

Week 10: Written examination Tuesday 9 March 2010, 08.00 – 13.00 in Eden 25.

Preliminary Course Outline for the course Digital Communications, Advanced Course (ETT055)

Study period Ht-2 2009 (26 October – 11 December):

Week Contents

- 44** Lecture (26/10): Introduction. 5.1 – 5.1.3 (pages 329-347).
 Prob.solv. (28/10): Problems 5.1, 5.11, Example 5.2 on page 334, 5.6i, 5.9, 5.14.
- 45** Lecture (2/11): 5.1.4 – 5.1.7 (pages 347 – 360), 5.2.1 – 5.3 (pages 360 – 380).
 Prob.solv. (4/11): 5.15a, 5.19, 5.16b, Example 5.4 on page 343, 5.13a, 5.20, 5.18a.
- 46** Lecture (9/11): 5.4.1 (pages 380 – 392), Figure 5.26 on page 393,
 5.4.4 – 5.4.6 (pages 396 – 405), 8.1 – 8.2 (pages 501 - 512).

- Prob.solv. (11/11): 5.21, 5.23, Example 5.20 on page 373, Example 5.23 on page 384, 4.34i)ii), 5.33, 5.34, 5.29, 5.30.
- 47** Lecture (16/11): 8.2 – 8.3 (pages 505 – 528).
Prob.solv. (18/11): 8.1, 8.4, 8.6a,b,c,e, 8.7a,b,c,e, 2.32a,b, 8.8a, Example 8.4 on page 512.
- 48** Lecture (23/11): Project info and start-up procedure, 8.3 (pages 525 – 535).
Prob.solv. (25/11): 8.25iii), 8.29, 8.10, 8.12, 8.24.
- 49** Lecture (30/11): 8.3 – 8.4 (pages 528 – 537, 548 - 551).
Prob.solv. (2/12): Example 8.7 on page 516, 8.18a, 8.19a, 8.21, 8.19b.
- 50** Lecture (7/12): Summary of HT2.
Prob.solv. (9/12): Example 8.16 on page 533, 8.33, 8.34, 8.31, 8.32.
11/12 2009: Study period Ht-2 ends.

Study period Vt-1 2010 (18 January – 5 March):

Week Contents

- 3** Lecture (18/1): 8.3 (pages 529-537), 3.4 – 3.5.2 (pages 158 – 174), Problem 5.34.
Prob.solv. (21/1): Problems 8.34, 3.16, Example 3.17 on page 166, Example 5.4 on page 343.
- 4** Lecture (25/1): 3.6 – 3.6.2 (pages 184 - 194), 7.2.2 – 7.3.1 (pages 478 – 486).
Prob.solv. (28/1): 5.34 ((5.133) – (5.138)), Example 3.26 on page 191, 3.18, 3.17.
- 5** **Laboratory lesson this week!**
Lecture (1/2): 7.3.2 (pages 486 - 490), 9.1 – 9.1.2 (pages 581 – 589).
Prob.solv. (4/2): 7.7, 7.9, 7.10a.
- 6** Lecture (8/2): 9.1.2 - 9.2 (pages 585 – 596).
Prob.solv. (11/2): 9.2, 9.3, 9.4, 9.5.
- 7** **Deadline for project report this week on Wednesday 17 February, 15.00!**
Lecture (15/2): Cancelled.
Prob.solv. (18/2): 9.6, 9.7, 9.8.
- 8** Lecture (22/2): Cancelled.
Prob.solv. (25/2): 9.10, 9.9.
- 9** Lecture (1/3): Summary of the course.
Prob.solv. (4/3): Question time.
Friday 5 March: Study period Vt-1 ends.
- 10** **Written examination Tuesday 9 March 2010, 08.00 – 13.00 in Eden 25.**