SF1625 PLAN FOR LECTURES, TUTORIALS AND SEMINARS

F1. Introduction. Real numbers, functions (chapter P1-P5).
F2. Polynomials, trigonometry (chapter P6-P7).
Ö1. Exercises: *P1:* 7, 11, 19, 29, 39. *P2:* 13,15,17,23. *P3:* 3, 7, 43, 49.
P4: 1, 3, 7, 11, 31, 33, 53. *P5:* 9, 25. *P6:* 1, 7, 17. *P7:* 1, 3, 7, 19, 25, 26, 51.
F3. Limits (chapter 1.1-1.3 + 1.5).
Ö2. Exercises: (*1.1:* 1-4.) *1.2:* 9, 13, 21, 25, 30, 49, 50, 78, 79.
1.3: 3, 6, 11, 13, 53. *1.5:* 13, 29.
S1. Chapter P. Hand in.

F4. Continuity (chapter 1.4).
F5. The derivative (chapter 2.1-2.5).
Ö3. Exercises: *1.4:* 7, 8, 12, 15, 17, 20, 21, 29. *2.1:* 5, 7. *2.2:* 1, 3, 11, 26, 27, 40,
41, 42, 43, 44, 45, 47. *2.3:* 1, 7, 11, 17, 25, 33, 35, 47. *2.4:* 3, 5, 11,
18, 23, 30, 31, 37. *2.5:* 13, 15, 23, 29, 31, 35, 45, 62.
F6. Mean value theorem, implicit differentiation (chapter 2.6-2.11).
Ö4. Exercises: *2.6:* 3, 9. *2.7:* 1, 3, 11, 13, 23, 29. *2.8:* 5, 13, 21, 27. *2.9:* 3, 9, 13.
2.11: 5, 7, 13, 16, 17, 18, 19.
S2. Chapter 1 och 2.1-2.5. Written test.

F7. Transcendental functions (chapter 3.1-3.6).
F8. Transcendental functions cont'd. ODE (chapter 3.7).
Ö5. Exercises: *3.1:* 3, 9, 23. *3.2:* 3, 5, 9, 15, 25, 29. *3.3:* 3, 5, 7, 9, 19, 21, 31, 33,
43, 51, 59. *3.4:* 1, 3, 5, 9, 11, 17, 23, 25. *3.5:* 1, 3, 5, 7, 13, 19, 21, 23, 35.
3.7: 1, 3, 5, 7, 9, 13, 15, 21, 25, 29.
F9. Applications of differentiation (chapter 4.1-4.5).
Ö6. Exercises: *4.1:* 5, 7, 9, 16, 17. *4.2:* 7, 9. *4.3:* 1, 5, 17. *4.4:* 3, 14, 29, 35.
4.5: 5, 11, 27, 31
S3. Chapter 2.6-2.11 och chapter 3. Hand in.

F10. Applications of differentiation (chapter 4.6-4.8).
F11. Taylor's formula (chapter 4.9-4.10).
Ö7. Exercises: *4.6:* 3, 5, 9, 17, 31. *4.8:* 1, 7, 13, 21. *4.9:* 1, 3, 13, 30. *4.10:* 1, 5, 9
F12. Taylors formel forts (chapter 4.9-4.10)
Ö8. Exercises: **4.6:** 35. **4.8:** 25, 31. **4.9:** 25. *4.10:* 5, 12, 13, 15, 16, 23, 31.
S4. Chapter 4. Written test.

F13. The integral. The fundamental theorem. (chapter 5.1-5.5).
F14. Substitution (chapter 5.6-5.7).
Ö9. Exercises: *5.1:* 1, 3, 7, 9, 17, 33. *5.2:* 1, 3. *5.3*: 1, 5, 9, 11, 17. *5.4*: 1, 3, 23.
5.5: 3, 8, 27, 33, 39, 40, 41. *5.6*: 5, 6, 7, 9, 21, 23, 43. *5.7*: 11, 17.
F15. Techniques of integration (chapter 6.1-6.3).
Ö10. Exercises: *6.1:* 1, 3, 5, 7, 13, 21. *6.2:* 1, 5, 9, 11, 13, 23. *6.3*: 1, 3, 9.
S5. Chapter 5. Hand in.

F16. Improper integrals(chapter 6.5).
F17. Applications of integration (chapter 7.1-7.2).
Ö11. Exercises: *6.5:* 1, 3, 5, 15, 23, 33, 34, 35. *7.1*: 1, 3, 5, 13, 19, 21. *7.2*: 1, 3.
F18. Applications of integration cont'd (chapter 7.3-7.7).
Ö12. *7.3*: 3, 11, 21. *7.4*: 1, 3, 5. *7.6*: 1, 7. *7.7*: 1, 5.
S6. Chapter 6 och 7.1-7.2. Written test.

F19. Plane curves (chapter 8).
F20. Series (chapter 9.1-9.6).
Ö13. *8.1*: 1, 3, 5. *8.2*: 1, 7. *8.5*: 9, 13. *9.1*: 1, 3, 17. *9.2*: 1, 5. *9.3*: 1, 3, 27, 29, 35.
F21. Modelling, inhomogeneous diff. eq., applications (chapter 1-9 + 18.6).
Ö14. Exercises: *18.6*: 1, 3, 5, 7. Previous exams.