Week 1 (2/23, 2/25): Traveling wave of reaction-diffusion equation, Reaction-diffusion systems (continued from the last semester)

Week 2 (3/1, 3/3): Turing mechanism, Wave equations

Week 3 (3/8, 3/10): One-dimensional wave equations, First-order hyperbolic systems

Week 4 (3/15, 3/17): Solutions of the wave equations

Week 5 (3/22, 3/24): Theory of semigroups, Infinitesimal generators

Week 6 (3/29, 3/31): Hille-Yosida Theorem

Week 7 (4/7): Markov processes, Brownian motions

Week 8 (4/12, 4/14): Brownian motions, Infinitesimal generators

Week 9 (4/19, 4/21): ***Midterm***, Dirichlet principle

Week 10 (4/26, 4/28): Sobolev spaces

Week 11 (5/3, 5/5): Sobolev spaces, Variational methods

Week 12 (5/10, 5/12): Variational methods

Week 13 (5/17, 5/19): Regularity theorems

Week 14 (5/24, 5/26): Interior regularity, Boundary regularity

Week 15 (5/31, 6/2): Strong solutions

Week 16 (6/7): Strong solutions

Week 17 (6/14, 6/16): De Giorgi-Nash-Moser method

Week 18 (6/21): ***Final exam***