

14pts Basic Concepts (differences)

12pts Kinematics

Simple calculation of kinematics model

Differential drive / Car-like vehicle

lec5

12pts Perception

4 small problems

Optical Encoders / Heading Sensors / Accelerometers / Inertial

Measurement Unit / Global Positioning System / DGPS / Ultrasonic

Sensor / Laser Rangefinder

lec6 / lec7

8pts Localization or SLAM

Give algorithms understanding core part / one line

Markov localization / Kalman filtering

Extended Kalman Filter: (EKF SLAM) / Particle Filter: (FAST SLAM)

lec11 / lec12

8pts Planning

Find the shortest path with eyes

BFS DFS UCS A\*

open: priority queue / closed: visited with lowest cost (BDFS vs UCSA\*)

lec13 / lec14

6pts Multiple Robots

Concepts: how to define a problem, no solution

Tracking error / Error dynamic (error  $\rightarrow$  v) / objectives: limit error = 0

lec15