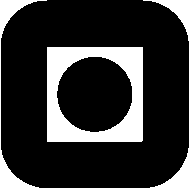
**NTNU Faculty of Information Technology,**

**Norwegian University of Mathematics and Electrical Engineering**

**Science and Technology Department of Engineering Cybernetics**



**MSC THESIS DESCRIPTION SHEET**

**Name:** Kjetil Hope Sørbø

**Department:** Engineering Cybernetics

**Thesis title:** Autonomous landing of Fixed-Wing UAV in a stationary net  
- Path and Navigation system

**Thesis Description:** The purpose of this thesis is to design, implement and test an autonomous landing system for fixed-wing UAV in a stationary net. This involves design and implementation of a landing plan generator, implementation of a high accurate navigation system and field test of the autonomous landing system. Furthermore, the results gain from the field test is used to create an operational analyze on execution of autonomous landing operation at Agdenes airfield.

The following items should be considered:

1. Define the scope of the thesis and clarify what your contributions are.
2. Testing of controllers for X8-landing
3. Functionality for planning of landing waypoints, which allow the landing target to have an arbitrary position and direction.
4. Implementation and testing of navigation system with RTK-GNSS
5. Implementation and testing of landing plan generator
6. Robust RTK-GNSS navigation by fusing data from secondary GNSS system in case of loss of RTK lock
7. Operational study on execution of autonomous landing
8. Conclude your results

**Start date:** 2016-01-11

**Due date:** 2016-06-20

**Thesis performed at:** Department of Engineering Cybernetics, NTNU

**Supervisor:** Professor Tor Arne Johansen, Dept. of Eng. Cybernetics, NTNU

**Co-Supervisor:** PhD-Candidate Kristian Klausen, Dept. of Eng. Cybernetics, NTNU

Professor Thor Inge Fossen, Dept. of Eng. Cybernetics, NTNU