**Regulations on Graduation from the Master Program at the Department of Chemistry, NTNU**

Graduated students in chemistry from NTNU with average grade above 70 and upper to minimum credits are allowed to take a maximum of 6 credits in the non-core program in chemistry, with the permission of the instructor and department chair.

The required courses and credits for graduation are as follows:

I. Fundamental Courses(6 credits)

First year:

1. all new student have to select the course: Seminar (8次 per semester) (0 credits, 2 semester)

2. Seminar (I) (2 credits, 2 semester)

3. Special Topics in Chemistry (4credits, 2 semester)

Second year:

1. Seminar (II) (2 credits, 2 semester)

2. Special Topics in Chemistry (4credits, 2 semester)

3. Master Thesis (0 credits, 2 semester)

II. Core Courses:

All students are required to take at least 15 credits of core courses for graduation. The least 4 credits have to take specialized program, and other credits can select randomly.

1. Programs of Organic Chemistry & Biochemistry:

「Organic Spectroscopy」,「Fundamental Organic Reaction Mechanism」,「Organic Synthesis」, 「Topics in Organic Chemistry」,「Biochemistry」,「Topics in Biochemistry」,「Advanced Biochemistry (I)」,「Advanced Biochemistry (II)」

2. Program of Inorganic Chemistry:

「Advanced Inorganic Chemistry (I)」,「Advanced Inorganic Chemistry (II)」

3. Program of Physical Chemistry:

「Chemical Thermodynamics」, 「Quantum Chemistry」,「Chemical Kinetics」,「Statical Thermodynamics」,「Special Topics in Physical Chemistry」,「Atomic and Molecular Spectroscopy」,「Molecular Simulation」

4. Program of Analytical chemistry:

「Advanced analytical chemistry (I)」,「Advanced analytical chemistry (II)」,「Special Topics in Analytical Chemistry」,「Analytical Electrochemistry (I)」,「Analytical Electrochemistry (II)」

5. Program of Applied Chemistry:

「Unit Operation」,「Advanced Chemical Industries」