**Basic Course Information:** CS 6940

Course Title: Master’s Thesis/Project Research

Units: 1 to 2 units

CS number: S-25

Component: Supervisory

Instructional Mode: Face-to-Face

Grading Basis: Graded only

Repeated Basis: May be taken multiple times.

Cross listed Course: N/A

Dual-listed Course: N/A

Major course/Service course/GE course: Major course

Date Prepared: Apr. 1, 2015

Prepared by: Daisy Tang

# I. Catalog Description

Individual study program under supervision of master’s thesis/project advisor. Presentation of proposal for thesis/project in acceptable written form. Credit assigned upon acceptance of proposal by thesis/project committee. May be repeated as appropriate.

**II. Required Coursework and Background**

Pre-requisite(s): Unconditional standing with approval of thesis advisor.

# III. Expected Outcomes

On successful completion of this course, students will be able to:

* Study in-depth a specific research topic in computer science.
* Gain experience in reading and understanding technical articles.
* Gain experience in writing proposals.
* Gain programming experience in large-scale project.

Outcomes of this course will build student capacity in each of the following areas as defined by programmatic objectives for the computer science major.

P-SLO 5. An ability of reasoning and problem solving to conduct independent research in the area of specialization.

P-SLO 6. An ability to communicate effectively and defend results of research to peers and broader audiences, both in written and verbal formats

# IV. Instructional Materials

**Reference**:

Selected advanced technical papers in recent computer science publications and relevant textbooks.

# V. Minimum Student Material

Selected technical papers (library) and relevant textbooks (library reserve).

# VI. Minimum College Facilities

N/A

# VII. Course Outline

Topics may vary with instructor and over time. Examples of possible topics might include:

Big Data

Computer Architecture

Computer Graphics, Vision, Animation, and Game Science

Machine Learning

Theory of Computation

Wireless and Sensor Systems

Computer Networks and Security

Artificial intelligence and robotics

Software Engineering

Virtual Reality

Human-computer Interaction

Optical Computing

Neural Networks

Parallel and Distributed Computing

Data Mining

Cloud Computing

Mobile Computing

Cryptography

Voice and Speech Recognition

Genetic Algorithms

DNA-based and molecular computers

Computers in Medicine

Computing in the 21st Century

# VIII. Instructional Methods

Research advisor will hold weekly meeting with the student.

# IX. Evaluation of Outcomes

A. Student Assessment

1. Research proposal

B. Meaningful Writing Assignment

Students are required to write a project or thesis proposal.

C. A Matrix of Course Student Learning Outcomes vs Methods of Assessment

If the course is being evaluated for accreditation purposes, approved department accreditation assessment tools will additionally be utilized.

|  |  |
| --- | --- |
| Course Learning Outcomes | Methods of Assessment |
| Research Proposal |
| Study in-depth a specific research topic in computer science. | x |
| Gain experience in reading and understanding technical articles. | x |
| Gain experience in writing proposals. | x |
| Gain programming experience in large-scale project. | x |