

GUIDELINES  
FOR THE  
MASTER OF SCIENCE DEGREE  
IN THE  
DEPARTMENT OF COMPUTING AND  
INFORMATION SCIENCES  
KANSAS STATE UNIVERSITY

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GRADUATE STUDIES COMMITTEE

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#### I. INTRODUCTION

These guidelines describe departmental and university requirements for a Master of Science (M.S.) Degree in Computer Science. If exceptions are warranted, the student must consult the Graduate Studies Committee to determine alternative requirements.

The guidelines stated here are those of the Computing and Information Sciences Department. Certain other regulations are imposed by the Kansas State University Graduate School and are described in the "Student Guide for Masters and Doctoral Degrees," available from the Graduate School Office.

Graduate students are expected to participate in the professional activities of the Department. This includes attending seminars and colloquia, suggesting improvements in curriculum (both graduate and undergraduate), and suggesting new teaching techniques. An annual review of all students is performed each January, and an evaluation is transmitted to each student.

#### II. REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

The M.S. degree requires a minimum of 30 credit hours of graduate level coursework; up to 10 hours can be transferred from other accredited graduate programs. Each new student is assigned a faculty member to serve as an *Academic Advisor*. The Academic Advisor helps the student select courses and reviews the student's progress until a Major Professor is selected. The coursework must include one course from each of the following areas:

**Implementation:** CIS606 (translator design), 620 (operating systems practice), 630 (AI programming techniques), 636 (computer graphics), and 690 (implementation project).

**Languages:** CIS705 (programming language design), 707 (algebraic semantics), and 771 (specification and verification).

**Systems:** CIS720 (operating systems), 721 (real-time systems), and 725 (networks).

**Structures:** CIS730 (artificial intelligence), 740 (software engineering), and 761 (database systems).

**Theory:** CIS770 (formal language theory) and 775 (analysis of algorithms).

**Specialization:** Any course numbered CIS8xx or CIS9xx except seminar, projects and M.S. research courses.

The student must receive a grade of "B" or better for each course used to satisfy the above requirements.

In addition, the student must complete CIS897 (seminar in computer science). This one-credit course is offered on a credit/no credit basis.

#### IIa. Advisor and Supervisory Committee

After approximately 18 graduate credits have been completed, a student must select a *Major Professor*. The Major Professor helps the student choose a *Supervisory Committee*, pick a *Program Option*, and formulate a *Program of Study*. The Supervisory Committee is a group of three faculty members (including the Major Professor) that approves the student's Program of Study and Program Option and gives final approval for the student's degree. The final approval is granted at the *Oral Examination*, which is held when all other requirements are met for the degree. The Program of Study lists the courses that the student takes to satisfy the coursework requirements for the M.S. degree. The Supervisory Committee and Program of Study is recorded on the *Program of Study Form*, which is obtained from the Graduate School.

#### Iib. The Program Option

The Program Option can take one of three forms:

**Non-thesis-report Option:** Write a major paper, for example, as part of a CIS8xx course. This option requires 33 credit hours for a M.S. degree.

**Report Option:** Undertake a project that culminates in a written report; 2 credit hours for CIS898 are awarded for the work. Project work from CIS690 can be applied to the project, subject to the approval of the Major Professor. This option requires 30 credit hours for a M.S. degree.

**Thesis Option:** Perform original research that culminates in a written thesis; 6 credit hours for CIS899 can be awarded for the work. This option requires 30 credit hours for a M.S. degree.

The document written to satisfy the Program Option should represent the best possible writing by the student; it is not to be written or extensively edited by the Major Professor. Students should begin writing early enough so there will be time for review by the Major Professor and rewriting by the student prior to the Oral Examination. Once the student has completed the document, the student must visit the Graduate School and obtain the Graduate School's Approval Form. The Supervisory Committee members sign the Approval Form, and the student returns it to the Graduate School.

If a student chooses either the thesis or report options, the thesis or report must meet the Graduate School's standards. Tentative copies of the thesis or report are due in the Major Professor's office approximately two months prior to graduation. The Graduate School requires three copies of the thesis or report, which are submitted after the Oral Examination.

#### Iic. The Oral Examination

Once the Supervisory Committee members have signed the Graduate School's Approval Form, the student returns the form and tells the Graduate School the time, date, and place of the Oral Examination. The examination should take place approximately one month before graduation, and it must occur no sooner than one week after the Approval Form is returned.

The Oral Examination is a presentation of the student's Program Option work and a defense of the student's scholarly effort. The exact format of the Oral Examination is decided by the Supervisory Committee, and the student must consult the Major Professor prior to the examination to establish the format.

A student can either pass or fail the Oral Examination, subject to a vote by the Supervisory Committee. If the student fails, a second attempt of the Oral Examination cannot be retaken in less than two weeks nor more than twelve months after the failed examination, unless an extension is granted by the Dean of the Graduate School. No third try is allowed.

#### III. NORMAL PROGRESS

Each semester of enrollment, a student must make *normal progress* towards the M.S. degree. Normal progress is considered to be the following:

- a grade point average that is 3.00 or better.
- a Major Professor selected and a Program of Study filed with the Graduate School by the completion of 18 credit hours.
- a coursework load of at least 9 credit hours per fall/spring semester.

#### IV. UNRESOLVED ISSUES

Any issues not covered in this document shall be resolved by the Graduate Studies Committee in consultation with the faculty of the Department of Computing and Information Sciences.