University of Rochester Master's Degree in Computer Science

A. **Program title:** Computer Science

B. **Program degree:** MS

C. **Program objectives and program learning outcomes:**

Program objective 1. Program will prepare students to contribute to and practice in the field of Computer Science
Core knowledge, methods: Students will demonstrate broad level of knowledge of the theories and methods in the field
Specialization knowledge, methods: Students will demonstrate broad level of knowledge of the theories and methods within specialized area(s) available to students in the major.

Program objective 2. Program will prepare students to be successful and responsible professionals in the field of Computer Science

Written communication: Students will convey ideas or arguments in clear, concise, well organized papers
Oral communication: Students will convey ideas in cogent, persuasive, and organized presentations
Professional ethics: Students will appreciate the importance of and demonstrate a responsible, ethical manner in professional work
Teamwork: Students will demonstrate ability to work with others on projects, including sharing work involved in development of initial ideas and project plan, discussion of progress, and completion of work
 Creativity/ innovation/ entrepreneur ship: Students will demonstrate abilities in creativity/ innovation/ entrepreneurship through development of new inventions, patents, publications, productions, performances, public or private organizations
Global citizenship/ broad impact: Students will demonstrate appreciation for one's role as a member of an increasingly connected global society: Student work will demonstrate awareness of its social, economic, technical, or ethical impact

D. **Program assessment methods- direct methods**

 The following methods will be implemented annually and for each master's degree candidate. Test results and faculty review forms for each method will be gathered in student file:

1. Final grades of MS students in CS courses will be reviewed and analyzed in terms of GPAs of MS students as well as the performance of MS vs PhD students in each CS courses. GPA must be B or better.
2. Oral MS exam results
3. Awards, fellowships and other distinctions given by the program, University of Rochester, or external organizations
   In addition:
4. Data gathered on leadership positions held by enrolled students- reported by students in Graduating Student Survey.

E. Program assessment methods- indirect methods

The following indirect methods will be implemented as noted:

(1) Graduating Student Survey will be a web based survey distributed annually by the UR College Director of Assessment. The survey will include questions that ask students to rate program quality and factors related to learning for communication, leadership, research, teaching and global citizenship/ broader impact of research.

1.
2. Post-graduation career data- reported by students in above survey

F. Program assessment data review

1. Data gathered from CS course grades will be tabulated by program staff, and reviewed by the program curriculum committee.
2. Data gathered in Master's Exam Review Forms will be periodically reviewed by the program curriculum committee.
3. Data gathered on academic warning, qualifying exam results, and degrees conferred will be tabulated by the Graduate Studies Office and reviewed periodically by the faculty committee and DGS.
4. Data gathered in Graduating Student Survey will be reported annually to the program curriculum committee by the College Director of Assessment, and reviewed by the committee periodically.

G. Alignment of program learning outcomes and program assessment methods

Table 1. Alignment of program learning outcomes and program assessment methods

Program learning outcome category	Program learning outcome	Assessment method and Standard for method
Core knowledge, methods	Students will demonstrate broad level of knowledge of the theories and methods in the field	**DIRECT METHODS** **Core CS courses** Standard: all students will receive grade of B- or better in each course. Standard: all students will maintain a GPA of B or better. **Master's exam** Standard: all students will receive an average score of 3 from reviewers for each pertinent criterion listed in Master's Exam Review Form (1)
Specialization knowledge, methods, and scholarship	Students will demonstrate broad level of knowledge of the theories and methods within specialized area(s) including the areas of…	**DIRECT METHODS** **Core CS courses** Standard: all students will receive grade of B- or better in each course. Standard: all students will maintain a GPA of B or better. **Master's exam** **Standard: all students will receive an average score of 3 from reviewers for each pertinent criterion listed in Master's Exam Review Form (1)**
Written communication	Students will convey ideas or arguments in clear, concise, well organized papers	**INDIRECT METHODS** **Graduating student survey**

Oral communication	Students will convey ideas in cogent, persuasive, and organized presentations	**DIRECT METHODS** **Master's exam** **Standard: all students will receive an average score of 3 from reviewers for each pertinent criterion listed in Master's Exam Review Form (1)** **INDIRECT METHODS** **Graduating student survey (2)**
Professional ethics	Students will appreciate the importance of and demonstrate a responsible, ethical manner in professional work	**INDIRECT METHODS** **Graduating student survey (2)**
Teamwork	Students will demonstrate ability to work with others on projects, including sharing work involved in development of initial ideas and project plan, discussion of progress, and completion of work	**INDIRECT METHODS** **Graduating student survey (5)**
Leadership	Students will demonstrate leadership through positions held in professional activities	**DIRECT METHODS** **Student and alumni leadership data** **INDIRECT METHODS** **Graduating student survey (5)**
Creativity/ Innovation/ entrepreneur-ship	Students will demonstrate abilities in creativity/ innovation/ entrepreneurship through development of new	**DIRECT METHODS** **Student and alumni data on inventions, patents, publications, productions, performances, public or private organizations**

	inventions, patents, publications, productions, performances, public or private organizations	
Global citizenship/ broad impact	Students will demonstrate appreciation for one's role as a member of an increasingly connected global society	**INDIRECT METHODS** **Graduating student survey (2)**
	Student work will demonstrate awareness of its social, economic, technical, or ethical impact	

(2) See attached Master's Thesis Review Form

(3) Graduating Student Survey will be a web based survey distributed annually by the UR College Director of Assessment. The survey will include questions that ask students to rate program quality and factors related to learning for communication, leadership, research, teaching and global citizenship/ broader impact of research.