**Coursework-only MS in Computer Science and AI**

Initial proposal: Mar 7, 2022

Revision: Apr 15, 2022 based on the feedback received from the graduate council and GCCC, and a meeting with the graduate council chair Dr. Dean Adams and Natalie Robinson. These clarifications are highlighted below.

The Department of Computer Science is proposing to add a coursework-only option to our MS in Computer Science and MS in AI degrees due to the following reasons.

* ***Broader appeal***. Coursework only option is more appealing to many prospective international and domestic students as well as employees from Des-Moines based companies. These students' primary career goal is to (re)join the industry workforce as opposed to pursuing research options. Thus, we would be able to increase the size of our graduate program over the next few years.
* ***Graduation rate.*** This option would also increase our graduation rate. When we look at the data over the past 7 years, approximately only 42% of the students who chose MS, Creative Component option graduated within two years. With a coursework only option, we expect this number to go up significantly.
* ***Online MS degree programs***. In addition, having a coursework only option makes it possible to create an online MS program CS and AI.

Disciplinary practice to distinguish between MS in Thesis/Creative Component vs Coursework only degree: In Computer Science, it is customary for students who have created a Thesis/Creative Component to write the title of their thesis/creative component. Those who complete coursework-only degrees do not list such titles. This clearly distinguishes and recognizes the different requirements that students completing MS in Thesis/Creative Component have completed. This practice enables potential employers and Ph.D. admissions committees to distinguish MS degrees with a thesis from MS degrees without a thesis.

Oral component that presents a synthesis of research: A coursework-only MS will include an oral component that presents a synthesis of research. This component is included in COMS 592, a course that will be required. This course is designed to provide students with research experience. As part of this course, every student is associated with a graduate faculty member; the faculty suggests a (set) of research articles to the student. The students are required to do a critical reading of the research articles, produce a report summarizing the articles, and do an oral presentation which is evaluated.

While graduate college provides an option to create new coursework only degrees, e.g. Masters in Computer Science (MCS) or Masters in Artificial Intelligence (MAI), this option will substantially decrease the competitiveness of our graduate program for prospective students. Many peer and higher-ranked universities offer a coursework Master’s program that is named MS. Since many of our students are international students, they perceive an MS degree as more valuable as opposed to MCS or MAI. We also surveyed a few higher ranked and peer Computer Science departments that offer MS degrees and found that a substantial majority offer a MS degree with coursework-only option. Some examples include but are not limited to:

* University of Texas, Austin
* University of Utah
* Johns Hopkins University
* University of Pennsylvania
* Purdue University
* University of Massachusetts, Amherst
* Duke University
* University of Nebraska, Lincoln
* University of Southern California
* University of Florida
* University of Texas, Dallas
* SUNY, Stonybrook

To understand this better, we did a survey of current Computer Science students who are pursuing MS with a creative component option. Of the 30 students who responded to the survey, 21 students preferred an MS degree with coursework-only option. To summarize, a coursework-only MS degree in Computer Science and AI will make our graduate program much more competitive, increase graduation rates, and make it possible for us to implement online MS degree programs.