
Revising the MSIS Curriculum: Initial Report for Public Comments and Feedback

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Executive Summary

ACM and AIS established a joint task force responsible for developing MSIS 2016, a revised version of the master of science model curriculum in Information Systems (IS), in fall 2014 based on a review and recommendation by a preliminary evaluation task force. The members of the joint task force are Sue Brown (University of Arizona; representing AIS), João Alvaro Carvalho (Universidade do Minho; AIS), Brian Donnellan (Maynooth University; ACM), Eija Karsten (Åbo Akademi University; AIS, co-chair), Jun Shen (University of Wollongong; ACM), Bernard Tan (National University of Ireland; AIS), Mark Thouin (University of Texas at Dallas; ACM), and Heikki Topi (Bentley University; ACM, co-chair). The task force started its work in January 2015, and it is planning to complete the MSIS 2016 revision by December 2016.

The MSIS 2016 curriculum recommendation will be a comprehensive revision built on the foundation of earlier MSIS curricula, specifically (Gorgone and Gray 2000) and (Gorgone et al. 2006). The key principles underlying this revision are as follows:

- The MSIS is a professional practice master's degree that always integrates computing with a specific domain of practice. An MSIS degree develops professional competences that prepare the graduates for work as an IS professional. In addition, an MSIS degree can provide a foundational preparation for academic research.
- An MSIS degree requires as its foundation a completed undergraduate degree in IS or in another computing discipline.
- The students without necessary background in computing can gain a sufficient prerequisite skill set by taking appropriate bridge courses (pre-program leveling courses).
- An MSIS degree requires foundational studies in its domain of practice as a condition for entry to the program. For students without a sufficient background, bridge courses can be used to provide it.
- A student entering an MSIS program requires at least one university level course in statistics or analytics.
- An MSIS degree program has no expectations regarding prior professional experience.
- An MSIS degree provides the students with competences in four areas, the relative emphasis of which varies depending on the program:
 - Domain of practice (such as business, health care, legal, government, education, etc.)
 - Computing/information technology
 - Management and organizational practices related to the structure and operation of computing/IT, and
 - Individual foundational competences (such as written and oral communication, critical thinking, ethical analysis, teamwork, leadership, etc.)
- An MSIS degree typically involves no less than eleven months of full-time study and requires at least 30 semester hours (USA) or 60 ECTS credits (Europe).
- In addition to the MSIS, it is easy to envision a large number of different types of post-experience master's degrees in IS. Providing curriculum guidance for all those program types would be a qualitatively different effort from developing the MSIS as specified here. Thus, it is not included in the scope of this project.

The MSIS 2016 will differ from MSIS 2006 in the following respects:

- MSIS 2016 specifies the MSIS explicitly as a degree that does not require professional experience. The document recognizes that there are also other types of master's degrees in IS (such as those focused on a single specialty and those targeted to students with significant professional experience), but it does not provide curriculum guidance for those program types. Particularly the post-experience programs are by definition highly diverse and are often designed to allow significant variation even at the individual level.
- The degree outcomes will be specified with competences categorized into four areas: domain of practice, computing/IT, IS/IT management, and individual foundational competences.
- MSIS 2016 recognizes explicitly that business is not the only domain of practice.
- MSIS 2016 provides support for a variety of national and regional curriculum models around the world.
- MSIS 2016 articulates the expected graduate competences at a more detailed level than MSIS 2006 did and the proposed curriculum is more clearly based on the expected graduate competences.
- MSIS 2016 recognizes the significant changes that have taken place in the program delivery environments, particularly in the form of MOOCs and other on-line programs.

This document includes a summary of the task force's work in documenting global master's programs in IS. This summary describes significant regional, national, and university differences between typical master's programs. The programs vary in terms of the characteristics of the students entering the program, the length of the program, the amount of required student work, and the degree structures. The most striking differences are in the (nominal) amount of student work required to complete the degree: at the low end, many programs require about 1350 hours, whereas the ones with the highest requirements may need 3200 hours. This is, of course, also reflected in the length of the program: some MS programs can be completed in a year whereas others may require two years of full-time study. These differences cannot be only explained by differences in the prerequisite degree type.

A significant amount of space in this document is dedicated to a discussion on qualification and competence frameworks, such as the European Qualifications Framework, the European e-Competence Framework (e-CF), the Skills Framework for the Information Age (SFIA), and Occupational Information Network (O*NET). Because the curriculum of MSIS 2016, as stated above, will be largely driven by target graduate competences, it is essential to define these competences based on a well-defined framework. SFIA and e-CF are good candidates for being such a framework, but it is essential to introduce them carefully to the IS community because they have not been utilized in IS curriculum development work earlier. For example, the current version of e-CF introduces 39 competences categorized into five clusters: PLAN, BUILD, RUN, ENABLE, and MANAGE. In addition to the competence frameworks, it is essential to understand models of careers and career paths as a foundation for specifying the graduate competences.

At this stage, the task force provides only a brief description of one possible model that specifies expected MSIS graduate competences. Its components have been chosen from the 39 e-CF competences, which largely focus on the technical (computing/information technology) and IS management competence areas. In this analysis, competences belonging to the PLAN, MANAGE, and ENABLE clusters were identified to be the most important for MSIS. The most important e-CF competences were found to map well with the high-level IS competences identified in IS 2010.

The document concludes with a brief discussion regarding the possible characteristics of the MSIS 2016 curriculum itself and the next steps in the curriculum development process.