

1 these unique functional area requirements, such as marketing or accounting, or a second field,
 2 such as health sciences.

3
 4 **IS Majors:** An IS major consists of the entire model curriculum targeted for a particular career
 5 track. Students proficient at this level are prepared to enter a career in the IS field. They have
 6 competencies in basic technical areas and apply these to business processes and project
 7 management. Graduates of IS programs can work for different industries such as manufacturing,
 8 financial services, health care, and others including information technology providers of
 9 hardware, software, and services.

Student Groups	Curriculum Model
All Students	IS 2009.1 Fundamentals of Information Systems
IS Majors and Minors	IS 2009.7 IS Strategy, Management, and Acquisition IS 2009.3 Enterprise Architecture IS 2009.2 Data and Information Management
IS Majors	IS 2009.6 Systems Analysis & Design IS 2009.5 IT Infrastructure IS 2009.4 IS Project Management

12
 13 **Figure 2. Representative IS 2009 Curriculum Design for All Students, IS Minors, and IS**
 14 **Majors**

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 18 **9. PRE- AND CO-REQUISITES TO AN INFORMATION**
 19 **SYSTEMS DEGREE PROGRAM**

20
 21 There are general academic requirements that students should meet prior to taking formal IS
 22 courses (prerequisites) or concurrent with IS courses (co-requisites). These pre- and co-requisites
 23 consist of both IS and non-IS topics. Fundamentally, students are expected, as a prerequisite, to
 24 have a basic proficiency in personal computing tools such as e-mail, Web browsing, spreadsheets,
 25 word processing, desktop database management systems, presentation graphics, and external
 26 database retrieval tools. Further, as specified in the context of the foundational skills, IS students
 27 should be able to communicate effectively both orally and in writing. They should be able to
 28 apply both quantitative and qualitative data analysis techniques. IS graduates should have
 29 acquired strong interpersonal skills. They should also have a basic understanding of the main
 30 functional areas of an organization and how it operates within the global environment.

31
 32 The overview below lists the topics that are relevant as pre- and co-requisites for an IS degree
 33 program. Some of these topics should be prerequisites while others may be interleaved with IS
 34 courses. They address the foundational knowledge and skills that all IS students should have.
 35 Many of these pre- and co-requisites are part of what is often referred to as the ‘General
 36 Education’ part of an undergraduate degree, providing a solid foundation in behavioral, social,
 37 and natural sciences. General Education courses endow students with a basis for lifetime learning
 38 and prepare them for becoming well-rounded members of the professional workforce. Therefore,
 39 if the topics listed below are not included in an institution’s General Education curriculum, then
 40 the institution should provide courses that cover them and make these required for all IS students:
 41

- 1 • **Leadership and collaboration.** IS students will perform in various collaborative and
2 leadership roles during their careers. IS programs should prepare graduates to be effective
3 collaborators and inspiring leaders. This topic should cover leadership and project
4 management skills, collaboration techniques and team work etiquette, and the use of
5 technology to support team work collaboration and coordination.
6
- 7 • **Communication.** IS professionals work closely with colleagues within and outside their own
8 professional domain. Therefore, IS students cannot become effective IS professionals without
9 being competent in oral and written communication. This topic should cover general and
10 technical writing, oral communication, presentations, and listening skills.
11
- 12 • **Negotiation.** IS professionals regularly serve as a link between different stakeholders that
13 hold different interests. Such stakeholders include, but are not limited to, end users, external
14 IS service providers, managers, and other IS professionals within the organization. Therefore,
15 IS students need to understand and learn how to manage different, sometimes competing,
16 interests. This topics should cover stakeholder analysis, how to balance resources and desired
17 outcomes, and fundamental negotiation skills and techniques.
18
- 19 • **Analytical and critical thinking, including creativity and ethical analysis.** Every IS
20 professional must have strong analytical and critical thinking skills. Fundamentally, IS
21 students need to master problem solving and systems thinking skills to analyze, design,
22 develop, and evaluate IS systems and situations. This topic should cover basic problem
23 solving approaches and techniques, using quantitative and qualitative analysis techniques,
24 understanding different perspectives regarding IS artifacts and situations such as ethical and
25 legal issues, creativity techniques and approaches, and the competitive global environment.
26
- 27 • **Mathematical foundations.** IS professionals should be versed in core mathematical
28 concepts, including but not limited to probability, statistics, mathematical or symbolic logic,
29 calculus, and discrete mathematics.
30
- 31 • **Functional areas of an organization.** Students should be exposed to the principles of
32 economics and functional areas of the organization such as accounting, finance, human
33 resources, marketing, logistics, and operations. They should also be introduced to the
34 essentials of non-profit, governmental, and international business organizations.
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38 **10. OUTCOME EXPECTATIONS FOR INFORMATION**

39 **SYSTEMS GRADUATES**

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41 **Overall Structure of Basic Concepts**

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43 The restructuring of the Model Curriculum is clearly driven by changes in high-level
44 organizational needs and graduate capabilities. The work underlying the curriculum specification
45 first identified the high-level capabilities needed by IS graduates. These overall capabilities, in
46 turn, are based on knowledge and skills that have been categorized as IS-specific Knowledge and
47 Skills, Foundational Knowledge and Skills, and Domain Fundamentals. By doing so, the revised
48 Model Curriculum links curriculum content and structure to graduate capabilities in a well-