

**IS 2009: Response Document**  
**ACM / AIS Information Systems Model Curriculum Task Force**

<b>Summary</b>
<p>The AIS/ACM Undergraduate Curriculum Committee has made every attempt to disseminate the draft of IS2009 for comment by the ACM and AIS communities. This includes: 1) posting the entire IS2009 draft document to a wiki for comment, 2) several list serve posts, and 3) many presentations at ACM and AIS sponsored conferences from 2007 until recently.</p> <p>The wiki had 166 registered users of which we had 12 substantial comments. The IS 2009 draft document had 1,666 page views. The committee also received a few emails from members of the ACM and AIS communities. Both forms of feedback, the wiki and emails, significantly helped in the revision of the next draft of IS2009. Below are the committee's responses to each comment / suggestion capture by the wiki or obtained via email.</p>

<b>Source</b>	<b>Specific Comments</b>	<b>Task Force's Response</b>
Wiki	<p>&lt;<b>Main Page</b>&gt;</p> <p>However, it is suggested that the 'IS 2009 Curriculum Guidelines' make significant note a similar substantial development in the development and administration of programs in higher education: <b>the increased need for academic programs to demonstrate accountability through the assessment of educational outcomes and through the adoption of curriculum management processes based on the principles of continuous improvement.</b></p> <p>Academic program accountability and assessment is a global phenomena and a topic of particularly important in the IS discipline. In the US, these issues came to the forefront with the [Spellings Report (2006)] see: <a href="http://www.ed.gov/about/bdscomm/list/hiedfuture/reports/pre-pub-report.pdf">http://www.ed.gov/about/bdscomm/list/hiedfuture/reports/pre-pub-report.pdf</a> and continued with the creation of organizations such as the Voluntary System of Accountability Program (see: <a href="http://www.voluntarysystem.org/index.cfm?page=homepage">http://www.voluntarysystem.org/index.cfm?page=homepage</a>), and increased emphasis on 'Assurance of Learning' through accreditation bodies such as AACSB (see: <a href="http://www.aacsb.edu/resource_centers/assessment/overview-process.asp">http://www.aacsb.edu/resource_centers/assessment/overview-process.asp</a>), ABET/CSAB (see: <a href="http://www.abet.org/assessment.shtml">http://www.abet.org/assessment.shtml</a>), and regional accreditation bodies (see: <a href="http://www.sacscoc.org/links.asp">http://www.sacscoc.org/links.asp</a>)</p>	<p>The committee agrees that assessment is a critical component of any academic program. Although assessment is done through the lens of a program's curriculum, the assessment process takes a variety of forms specific to a program's geographic location, program emphasis, institutional regulations, and so on. A comprehensive discussion on assessment of IS programs is beyond what this document can provide, but we modified Section 1 to further emphasize the importance of accreditation and assessment and demonstrate how this curriculum provides improved material to support outcomes assessment.</p>
Wiki	<p>&lt;<b>Section 3 – Principles Guiding the Curriculum Design</b>&gt;</p> <p>Re the second principle: The model curriculum should be</p>	<p>Agreed. We have changed this principle to read, "The model curriculum</p>

	<p>designed to help IS faculty produce competent and confident entry level graduates well suited to work-place responsibilities.</p> <p>First, faculty don't produce graduates. Instead, we offer experiences that help motivated people learn. Research in deep learning, constructivism, etc., underlines the importance of learner goals.</p> <p>This has implications for what IS faculty should do in designing experiences and preparing students to use them. For example, we could help learners understand the effects of various goals.</p> <p>Second, the statement implies that graduates will be ready for productive work when they graduate, without further preparation. Is this setting up false expectations?</p>	<p>should be designed to help Information Systems programs to produce competent and confident entry level graduates well suited to workplace responsibilities or further studies of IS.”</p>
Wiki	<p><b>&lt;Section5 – Guiding Assumption About the Information Systems Profession&gt;</b></p> <p>Re line 49: IS professionals require the application of professional codes of conduct</p> <p>If I remember correctly (and I might not), ethics research suggests that codes have a limited effect on ethical behavior. Maybe replace this with some idea of IS professionals being able to reflect on ethical issues.</p>	<p>We have added a point to include the ability of IS professionals ability to evaluate ethical issues, “IS professionals should be able to critically evaluate and possibly act on current ethical issues in the IS field.“ In addition, elements of guiding assumption 3 were significantly reworded.</p>
Wiki	<p><b>&lt;Section 7 – Information Systems as a Field of Academic Study&gt;</b></p> <p>The list of program names should include also "Information Systems Engineering". This name may not be so popular in North America, but many such programs and department exist in Europe and elsewhere.</p>	<p>We were not able to identify a single undergraduate degree program in Information Systems Engineering. Therefore, the requested change was not implemented.</p>
Wiki	<p><b>&lt;Section 11 – Architecture of the Information Systems Curriculum&gt;</b></p> <p>Data and Information Management course is also highly significant for E (data analyst) and for I (IT architect). - I propose to rename "Business Analyst" to "Business Process Analyst" (analogour to Data Analyst).</p>	<p>The task force has taken significant care to provide specific programs the ability to gear their curriculum to target professional, such as data analyst or IT architect, that are specific to their target graduates. The suggested list of professionals associated with each topic is just</p>

		<p>that, a suggestion, and are not entirely inclusive. There are many professional titles that can be added or simply changed based on the particular program needs. It also appears that Business Process Analyst is included in the broader Business Analyst term.</p>
Wiki	<p><b>&lt;Section 14 – IS 2009 Course Specifications&gt;</b>  While I commend the task force for including ITIL education in the specifications for the Enterprise Architecture course, I am quite disappointed by the complete exclusion of this very important topic from the specifications for other IS Undergraduate courses. The almost exclusive focus of IT / IS curricula on the latest and greatest information technology and buzzwords and the complete disregard for IT operations in the past has led the world to the point where the very efficiency and effectiveness of IT is being questioned by the business. IT executives constantly struggle to defend the service quality delivered by IT and the enormous costs associated with IT. Focus on IT Service Management based on industry best practices such as ITIL can produce the well rounded IT professional that is so badly needed to restore the very image of IT thru service improvement and cost reduction. At the very least, ITIL should be a very important part of the Fundamentals of IS curriculum. Also, IT Service Management should be offered as a stand alone elective course within the IS curriculum. Many graduate level colleges are already offering ITSM concentrations.</p>	<p>The task force agrees that IT service management is an important and current topic. We would encourage anyone with targeted program to add to the body of this work and provide details to this specific program on the wiki. We hope the wiki becomes a living document that could guide best practices. The current framework provides for this type of flexibility.</p> <p>As a specific response to your suggestion, we added the IT control and service management frameworks both as a learning objective and a topic to the IT Infrastructure course. In addition, we clarified the role of these frameworks in the IT Strategy, Management, and Acquisition course.</p>
Wiki	<p><b>&lt;Section 14 – IS 2009 Course Specifications&gt;</b>  Data and management - The course should include topics related to files organization and processign. Here are a few examples of such topics: - basics of data storage devices, mainly magnetic disks and how are data stored on them. - basic file organization techniques, e.g. heap, sorted (sequential) and random (hash) files - primary and secondary keys; inverted files and indexing (mainly B-trees); linked lists - search techniques, e.g. sequential,</p>	<p>Agreed. The Data and Information Management course now includes physical data storage issues and data organization topics as suggested (without, however, specifying the individual techniques).</p>

	binary, direct/hashing and index-based search - hierarchical and network file structures/relationships	
Wiki	<p>&lt;<b>Section 14 – IS 2009 Course Specifications</b>&gt; Enterprise Architecture Course - I doubt if this course is appropriate for an undergraduate level program. In my opinion, this course requires as pre-requisite a lot of experience, besides most of the other courses in this program. I would consider moving such a course to a graduate program on IS.</p>	<p>The foundations of enterprise architecture are fundamental to IS. Understanding the implementation and the business value of IT investments is similar to understanding strategic management for general business students. A recent grad may not be directly responsible for enterprise architecture but understanding the larger context is a critical skill.</p>
Wiki	<p>&lt;<b>Section 14 – IS 2009 Course Specifications</b>&gt; SA&amp;D course - <b>Catalog Description:</b> The last sentence ("The course specifically acknowledges the fact ...") is not in place and I propose to remove it. An IS analyst should learn and be able to analyse an IS no matter if an organization decides to develop or to purchase a COTS system; these considerations may be mentioned but are not central here -- the student has to study how to analyse and design a system, be it developed (tailor-made) for a specific organization or by a software house to become a packaged system). <b>Learning Objectives and Topics:</b> I think the objectives and the topics list misses the need to learn a variety of modeling methods for analysing and creating a functional model and a conceptual/domain/data model of the sought system. This is only (incidentally?) mentioned at the end of the section about this course. I think it should be included both in the Objectives and in the Topics sections (though I agree that there is no need to name specific methods/techniques, which come and go over time). Similarly, there is no mention of the use of CASE tools to support creating the models.</p>	<p>The recommended sentence was removed as suggested. It was implicit in the learning objectives the current modeling methods be used in the data modeling. As you pointed out there is no need to mention data modeling names. We also have added language to include the use of CASE tools to support modeling.</p>
Wiki	<p>&lt;<b>New Curriculum Structure and Content</b>&gt; MIS/IS students have to compete for their first jobs with engineering and computer science graduates. More often than not, the first jobs for MIS/IS graduates are related to systems design and programming. Thus, IS students should know programming and should be competent in programming although we do not expect them to be involved in heavy programming for their entire career (probably only the first 1-3 years). If we do not equip them</p>	<p>This comment was echoed in many discussions that have taken place regarding the inclusion or exclusion of programming in the core. It is the position of the task force that programming is a very</p>

	<p>well to compete for the first jobs, they may not get a job (or an IT-related job) and they may tell their peers and friends not to enroll in the MIS program.</p> <p>I am not proposing that the IS curriculum should mirror those of engineering or computer science. Personally, I know of some IS students who dislike computer and programming. Yet, they are in the IS program and their aim is to become Chief Information Officer (CIO). Some even publicly said that their ideal first job is a CIO! Somehow, the MIS/IS program is giving them the wrong perception and expectation. This is not only the case for students. Some non-IS faculty even tell computer science students that if they do not like programming, they should join the MIS/IS program!</p>	<p>useful and important component for many programs but it is not universal to the core of IS programs. For this reason Application Development is now an elective topic.</p>
Wiki	<p><b>&lt;New Curriculum Structure and content&gt;</b></p> <p>I am somewhat amazed that security is not seen as a professional requirement of all IT people. Clearly, it is not just the job of the Security Specialist or Manager, but with better trained IT people throughout the field, we might have less of a security problem. Sharon Tabor, Boise State.</p>	<p>Agreed. For this reason IS security and risk management is ingrained in several courses including the foundations course, the course on IS Strategy, Management &amp; Acquisition and IT Security and Risk Management.</p>
Wiki	<p><b>&lt;New Curriculum Structure and content&gt;</b></p> <p>When I look at the core topics in this first draft of a IS model curriculum, the main focus is on systems (development) issues. None of the topics Data &amp; Information, SA&amp;D, IT-infra, PM and AD takes in account the different use of IT in society and modern companies. In my view the starting point of a modern IS curriculum should be how people use information and communication in their day-to-day life. The curriculum should represent the threefold Business &lt;-&gt; Information/communication&lt;-&gt; I&amp;C technology. It means that issues like sensemaking, knowledge creation and decision making should be core issues in the curriculum. In the first draft, issues like this can only be discussed in the topic Foundation and role of IS. In my view we should change the focus towards the use of ICT in organizations. This should be discussed in business terms and not in technology terms. This should be a core topic. This business issues should be the basis of our reasoning. After that the question what this means for information and communication requirements should be discussed. The question how these requirements are implemented in technology is a third (and in my view less important) level</p>	<p>We believe this specific perspective is represented in the core content of <i>2009.1 Foundations of Information Systems</i> (including topics such as Information Systems in Organizations, Valuing information systems, and Gaining business intelligence from information systems) and <i>IS Strategy, Management, and Acquisition</i> (including topics such as IS strategic alignment, Impact of IS on organizational structure and processes, Role of IS in defining and shaping competition, Managing the IS function, Financing and evaluating the</p>

	<p>in the discussion. This approach means that we make a difference between IS - en IT management. Companies do make this change in focus quite rapidly. The number of companies building their own information systems is declining very fast. ERP and other commercial of the shelf (COTS) systems are of growing importance in the field. These changes in focus in companies and society is not represented in the first draft.</p>	<p>performance of IT investments and operations).</p>
Wiki	<p><b>&lt;New Curriculum Structure and content&gt;</b>  When I looked at the structure, we may be giving the wrong impression that some IS-related jobs required little expertise and training. For example, when one looks at "G=ERP Specialist", the chart is saying that one only needs to know "Foundations and Role of IS" and "Enterprise System". There is no need to know Systems Analysis and Design, Enterprise Architecture, Project Management, etc. One key strength and uniqueness of the MIS program is Systems Analysis and Design. That should be one of the core courses that is required for all IS students. For example, an "H = Information Auditing and Compliance Specialist" needs to be able to read and understand DFDs, ERDs, UML diagrams, etc. A "K = IT Consultant" needs to be able to analyze and design systems.</p>	<p>We fully agree that SA&amp;D is an essential foundational skill. Please note that it is (together with other core courses) required for all career tracks, as indicated by the hollow circle symbol. The notation simply indicates that it is even more instrumental to some of the career tracks as it is for some.</p>
Email	<p><b>&lt;Foreword&gt;</b>  See line 15. Am not sure that Computing Curricula 2005 exists as a concept. Certainly Computing Curricula 2001 is a concept but IS 2002 was part of that. I would see this IS 2009 as a separate activity and a natural updating of the IS volume.</p>	<p>We have clarified this by removing all statements suggesting that CC 2005 is a separate concept.</p>
Email	<p><b>&lt;Foreword&gt;</b>  See line 22. All the reports are under the control of the Ed Board (with appropriate involvement of other professional societies).</p>	<p>We have changed this sentence as suggested.</p>
Email	<p><b>&lt;Foreword&gt;</b>  Line 24. ... continue to face rapid, continuous change. As it stands it just looks as if the rapid change is a new phenomenon.</p>	<p>We have changed this sentence as suggested.</p>
Email	<p><b>&lt;Foreword&gt;</b>  Is there scope for mentioning here the impact of globalisation, the need to be internationally aware and internationally competitive? I know this is mentioned elsewhere but someone reading the Foreword might expect to see comments of this kind here.</p>	<p>We have rewritten parts of the foreword to echo the globalization in IS.</p>
Email	<p><b>&lt;Foreword&gt;</b></p>	<p>We have made every</p>

	<p>Around here should there be some comment about the level of public consultation that lies behind the production of the document. I believe that is very important and ought to be highlighted early on. Presumably the consultation included industry folk as well as academics, etc. Did you solicit comment from particularly prominent folk, etc?</p>	<p>effort to solicit feedback from the global IS committee and have added language in the foreword to relay this endeavor.</p>
Email	<p><b>&lt;Executive Summary&gt;</b> See page vii line 17. Presumably the curriculum is designed to <i>produce</i> graduates .... Either that or educate undergraduates!!</p>	<p>We have made changes in the executive summary to improve readability.</p>
Email	<p><b>&lt; Use of the IS 2009 Curriculum Report&gt;</b> Somewhere early on I would be expecting to see something about the role of IS graduates in today's world and how that has changed in recent years. That then gives me a context in which to embed the other material.</p> <p>Also it is a little strange that by the end of page one of the main report we are talking about faculty and other needs. Should all this not appear much later? In fact it does appear later so suggest removing it from here. In first chapter I would expect to be reading about importance, role in today's world, how IS has recently changed with new technology developments, the variations in Information Systems degrees, perhaps some statistics, etc. All this sets the context for the reader.</p>	<p>Faculty needs and faculty resources requirements are very different concepts. The goal of this section is to outline the resource needs and then address specific responsibilities. We have provided additional language to clarify this distinction.</p>
Email	<p><b>&lt; Use of the IS 2009 Curriculum Report&gt;</b> So the report is not for potential applicants, parents, careers advisors, etc? Is it worth saying it is primarily for the audiences you mention but can be used also by the above?</p>	<p>We have added language to include said stakeholders.</p>
Email	<p><b>&lt; Use of the IS 2009 Curriculum Report&gt;</b> Under Faculty Resource Requirements I might expect mention of research, but also experience of IS in the workplace and so the idea of sabbaticals for faculty, joint appointments between academia and industry / business, etc. might be mentioned. In addition young members of staff can usually more easily (than their more senior colleagues) relate to the needs and aspirations of young students and so a spread of expertise and experience is needed.</p>	<p>Agreed. We have included this suggestion into the document.</p>
Email	<p><b>&lt; Use of the IS 2009 Curriculum Report&gt;</b> On Computing Infrastructure this looks somewhat traditional. I might expect to see something much more attuned to IS provision. Thus what about digital libraries, examples of and or access to Information Systems of</p>	<p>In the IT Infrastructure course we intentionally focus on foundational issues that are common for all types of systems</p>

	various kinds (including text based, perhaps photographs or even addressed, video based, geographic information systems, configuration management and version control systems, management information systems, etc etc,) as well as support for the construction of such systems. It would be good to see some really imaginative ideas here.	(including those specified in the question). These specific systems would be addressed in the Foundations course and suitable electives.
Email	< <b>Use of the IS 2009 Curriculum Report</b> > See section on ‘For Information Systems Students’. Perhaps the report might encourage them not just to enter job market but to consider advanced study of IS systems even research in the area.	Agreed. This section has been revised.
Email	< <b>Information System Model Curricula</b> > See line 8 on page 5. I would remove the sentence ‘Otherwise, the changes are minor in nature’. That almost made me stop reading the report.	Removed, although the comment “the changes were minor in nature” referred to IS 2002, not to the current revision.
Email	< <b>Principles Guiding the Curriculum Design</b> > See principle 2. ..well suited to workplace responsibilities or pursuing advanced study of Information Systems?	Agreed. This principle was revised with a slight change in the wording (from “advanced” to “further”)
Email	< <b>Principles Guiding the Curriculum Design</b> > Have steps been taken to minimise the core and to encourage as much optionality as possible?	This report is a significant step in this direction. IS 2002 did not have any optional elements – all of its 10 courses were required. We believe that the seven required courses that comprise the IS 2009 core represent the minimum content required for a program to be considered an IS program.
Email	< <b>Principles Guiding Update of IS 2002</b> > Note that title of this section here and in the Contents page are different.	We are not sure what this refers to – in the full document the principles section is called “Principles Guiding the Curriculum Design,” which is also the title of section in the document.
Email	< <b>Principles Guiding Update of IS 2002</b> > In some sense I am surprised that this is seen as an update of IS 2002; I would see an interim review as being such an update. Is it not just a completely new volume? It should be stand alone in nature. By all means highlight comparisons with IS 2002 but perhaps as an Appendix?	This is an important point. We clarified the language by using “revise” or “revision” instead of “update.”

Email	<p><b>&lt;Principles Guiding Update of IS 2002&gt;</b>  See second paragraph. This information has already been repeated. Could there just be a check on how often this is provided. Of course the aim should be to do it once and then refer back to that text.</p>	<p>Thank you for this observation. This paragraph was modified to reduce repetition.</p>
Email	<p><b>&lt;Principles Guiding Update of IS 2002&gt;</b>  I might have expected here to read about</p> <ul style="list-style-type: none"> <li>• The great importance now of security, privacy, etc and worries about ‘big brother’ as well as related legal issues</li> <li>• The advance of Google (with maps, Earth, etc), the use of video, global positioning systems, etc and whether these developments render many information systems obsolete</li> <li>• With Google then of course there are accompanying tools. For instance there are natural language translation facilities and so looking for restaurants in Paris means looking up Google – France and use translation facilities to extract that information. So the context in which search is done is vital.</li> <li>• Would Information Systems have a trole in the current financial crisis, e.g. in drawing attention to what was happening, etc. so that the problem could be caught earlier. Especially when transactions happen at a great rate surely some form of monitoring and information system has a crucial role to play?</li> </ul>	<p>We have added some clarification in this section with the hopes of bounding the principles to general issues rather than specific topics. See: “The model curriculum does not focus on specific issues related to pedagogy. This is not a reflection of our understanding of the importance of pedagogical decisions; we simply believe that these highly significant issues are outside the scope of this document.”</p> <p>Security and privacy are covered as topics throughout the entire curriculum, including several courses in the core. As mentioned above, IS security and risk management are included in several courses including the foundations course, the IT infrastructure course, the course on IS Strategy, Management &amp; Acquisition, and the course IT Security and Risk Management.</p> <p>It is not clear to us why the developments specified in the second bullet would “render</p>

		<p>many information systems obsolete,” particularly if we by information systems understand core organizational administrative systems.</p> <p>The types of issues articulated in bullets three and four would typically be covered in the Foundations of IS course. They cannot, however, be included as topics because of strong dependence on a specific moment in time.</p>
Email	<p>&lt; <b>Key Elements of This Curriculum Revision</b>&gt; Will the web reference need to be changed in due course to an ACM / AIS address?</p>	The web references will be changed upon approval of the report by the AIS and the ACM.
Email	<p>&lt; <b>Key Elements of This Curriculum Revision</b>&gt; See Implementation of the Key Elements. Should this be labeled sub-paragraph 5?</p>	Correct. This has been added.
Email	<p>&lt; <b>Pre- and Co-requisites to an Information Systems Degree Program</b>&gt; Is first paragraph not just a repeat of first paragraph of Section 8, Relationship Between ... ?</p>	We have provided additional language to provide clarity and differentiation.
Email	<p>&lt; <b>Pre- and Co-requisites to an Information Systems Degree Program</b>&gt; Is one of the pre-requisites not numeracy or mathematical ability at some level?</p>	The pre-requisites included mathematical foundations as suggested on page 17.
Email	<p>&lt; <b>Pre- and Co-requisites to an Information Systems Degree Program</b>&gt; I would like to see the creativity / innovation dimension get greater emphasis in the section on analytical and critical thinking section. In fact does it not merit a sub-section on its own?</p>	It, indeed, makes sense to focus more on creativity and innovativeness, which we have done by giving it a separate bullet point.
Email	<p>&lt; <b>Outcomes Expectations for Information Systems Curriculum</b>&gt; See second line. What are these ‘changes in high-level organizational needs and graduate capabilities’? I guess it</p>	We agree and therefore have clarified these “changes” at the beginning of this section.

	is the changes that interest me, since the capabilities are mentioned later.	
Email	<p>&lt; <b>Outcomes Expectations for Information Systems Curriculum</b>&gt;  Here in the UK the Health Services are trying to put in place certain kinds of information system, which are easy to conceive; the reality is that they are too complex to implement at the present time. So is there something here about feasibility issues? In a similar vein, there are results, which stipulate that achieving certain kinds of security is like trying to solve the halting problem, i.e. it is just not feasible unless you carefully map the territory.</p> <p>Related to some of this, Peter Denning in a recent contribution to CACM talks about failures of certain kinds of projects and concludes that often evolution is the way ahead, not revolution. The latter typically takes a long time to implement and over that time the requirements / environment changes leading to mismatch and consequent failure. Are there issue here about high level capability?</p>	Understanding the feasibility of solution alternatives is an essential high-level capability, and we greatly appreciate that you brought it up. We updated material under both <i>Improving Organizational Processes</i> and <i>Exploiting Opportunities Created by Technology Innovations</i> to emphasize this more clearly.
Email	<p>&lt; <b>Outcomes Expectations for Information Systems Curriculum</b>&gt;  To some extent I am worried again about repetition. Thus mathematical requirements are mentioned on pages 16 and 22 and there is overlap. Thus could a check be made on repetition? There are several other instances beyond mathematics here.</p>	We analyzed this comment carefully and came to the conclusion that the material in Section 9 is covered in Sections 10 and 11. Therefore, we eliminated Section 9.
Email	<p>&lt; <b>Architecture of the Information Systems Curriculum</b>&gt;  Here you introduce the Optimal Curriculum Architecture, then decide that this is too ambitious and you revert to the Implemented Curriculum Architecture. I would suggest it might be better to omit mention of the optimal one and just proceed with the implemented version.</p>	We fully understand the intent underlying the recommendation and appreciate it, but we believe that it is important to capture the optimal architecture as a goal for future efforts.
Email	<p>&lt; <b>Architecture of the Information Systems Curriculum</b>&gt;  Under General Curriculum Structure, suggest give a precise reference to where these knowledge and skills are discussed.</p>	A detailed reference was added to address this issue.
Email	<p>&lt; <b>Architecture of the Information Systems Curriculum</b>&gt;  See Core Course Change in IS 2009. This looks like a section from an Interim report. Suggest this volume be made stand-alone, possibly with comparisons with IS 2002 being relegated to an Appendix as mentioned earlier.</p>	We believe the comparison is valuable content for those who know IS 2002 well and for those who are interested in the changes

		in the field. Therefore, we did not remove the comparison but we frame it in a way that emphasized the independence of IS 2009.
Email	<p>&lt; <b>Shared Courses with Other Computing Disciplines</b>&gt;</p> <p>I would avoid saying much about the computer science curriculum here. Rather than saying what the context for Computer Science is I would prefer something much less specific, e.g. ‘the context for Computer Science would typically include attention to algorithmic ... ‘</p>	Agree. We have clarified this section.
Email	<p>&lt; <b>IS 2009 Course Specifications</b>&gt;</p> <p>Did I miss any discussion about length of course, time requirements, requirements in terms of practical activity or indeed other forms of activity, etc. This should address how they might fit with semesters, trimesters, quarters, etc.</p> <p>With regard to the courses</p> <ul style="list-style-type: none"> <li>• There seems ambiguity throughout as whether it is Foundations or Fundamentals of Information Systems, i.e. IS 2009.1</li> <li>• The electives listed are different from those in Figure 6</li> <li>• The titles of electives as listed at the start are on occasion different from the title used in the detailed specification; see for instance the HCI course, the course on Innovation</li> <li>• It would be useful to see pre-requisites listed so that we can get some feeling of depth and progression</li> </ul>	<p>The IS curricula have traditionally not specified the amount of time dedicated to a specific topic, and it is not our intent to introduce this level of specificity in this curriculum revision, either.</p> <p>The inconsistency in the name of IS 2009.1 has been fixed</p> <p>The elective list has been fixed.</p> <p>We emphasized the fact that only a sample of electives has been included in the document.</p> <p>The only prerequisites specified are those included in Figure 7. In addition, IS 2009.1 is a</p>

	<ul style="list-style-type: none"> <li>• I might have expected to see mention of a Capstone in the course listings</li> </ul> <p>Within the modules, I would have thought</p> <ul style="list-style-type: none"> <li>• devices should appear within Foundations of IS; increasingly these are important for accessing information</li> <li>• automatic ways of updating IS systems would be increasingly important</li> <li>• tools (akin to the translation tools allied to Google) would feature significantly.</li> </ul> <p>Maybe these features do exist and I have misunderstood. If so apologies.</p> <p>Related to some of the above, I note there are no descriptions or outlines of complete programs of study. It might be useful to see some ideas here, the reasons being</p> <ul style="list-style-type: none"> <li>• I am unsure how the various courses link together – hence mention above of prerequisites and issues about depth</li> <li>• I am unclear if there should be accompanying courses on mathematics, statistics, etc and what the nature of these would be</li> <li>• I believe that the community would welcome these, even in brief outline.</li> </ul>	<p>prerequisite for all of the other courses.</p> <p>Figure 7 and text in Section 11 indicate that IS 2009.7 is a capstone course.</p> <p>It is not clear what types of devices this refers to.</p> <p>This is not very clear, either: we don't, unfortunately, understand what "updating IS systems refers to."</p> <p>It is not clear to us why this would be the case.</p>
Email	<p>&lt; IS 2009 Course Specifications &gt;</p> <p>In looking at the learning outcomes, I was expecting to see what the students could do after each course. The ability <i>to do something</i> seems very important. I would not expect to see references to them <i>learning</i> or <i>understanding</i>, but rather what they can do as a result of the understanding In some sense this is captured in Appendix 3. This will then guide assessment and guide course work. As it stands</p>	<p>We restructured the way the learning objectives are expressed and clarified many of them so that they focus more on the specific capabilities that the students will gain through a specific course.</p>

	<p>much of this just looks like assessment work will take the form of essay work and regurgitation of facts. I would prefer to see something quite ambitious in terms of <i>ability to do</i> and of course this must contribute to the high level capabilities you would expect of a graduate.</p>	
Email	<p><b>&lt; IS 2009 Course Specifications &gt;</b>  I would be tempted to remove ‘The student will learn’ from the start of each learning outcome.</p>	<p>This certainly made perfect sense and has been done now.</p>
Email	<p><b>&lt;General Comments &gt;</b>  Standing back was there sufficient mention of and discussion about periods in industry, internships, undergraduate research, Capstone por other projects, assessment issues, encouragements for the beat students? For instance, what are the quality issues that lead to very positive experiences in these terms?</p> <p>What about pedagogy? There is some mention of it in Appendix 3 but does this deserve to be promoted to the main report? That is difficult of course but it would be worth saying something about the importance of motivating and engaging the students. Different strategies are often needed for different groups of students. In this regard the notion of the context in which ideas re taught seems of paramount importance; what forms might this take in IS?</p> <p>Is there a feeling that the report will help with reversing the downturn in student numbers? How and why? So do you feel the proposals provide a really positive, completely up-to-date and imaginative image of Information Systems?</p>	<p>The computing curriculum reports typically do not comment on pedagogy at a detailed level. We have updated the document in Section 3 to state this explicitly but also emphasize the importance of pedagogical issues.</p>