A Survey of Doctoral Programs in IS in the USA and Canada

Stephen Larson
Virginia Commonwealth University, stephen.larson@sr.edu

Follow this and additional works at: http://aisel.aisnet.org/amcis2010

Recommended Citation
http://aisel.aisnet.org/amcis2010/114

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
A Survey of Doctoral Programs in IS in the USA and Canada

Stephen Larson
Virginia Commonwealth University
larsonsp@vcu.edu

ABSTRACT
This paper contains the results of a survey of 126 doctoral programs in Information Systems in the USA and Canada. Each educational institution's website was searched for applicable information about its doctoral program for information systems. This paper summarizes the similarities and differences of the programs of study, such as which college or school houses the program, prerequisites, foundational courses such as statistics and research methods, the number of core or concentration courses required, minor requirements, exam requirements, etc. The information gathered will be useful for institutions desiring to start a program or modify their existing PhD in Information Systems program, and for schools wishing to compare their program with other programs.

Keywords
PhD, education, doctoral, information systems, curriculum

INTRODUCTION
George Walker, of the Carnegie Foundation for the Advancement of Teaching, proposed a four-step process to design a doctoral program: 1) Look ahead for the discipline; 2) Identify what a Ph.D. in the discipline must know and be able to do; 3) Construct the goals of the program; 4) Design the program, including creating the elements and requirements such as coursework (Gold, et al 2006). It is step 4 of which this paper will touch upon.

"Contrary to the IS 2002 and the Master of Science in Information Systems (MSIS) 2006 model curricula for the undergraduate and master programs, respectively, there is no one curriculum model for doctoral education in IS" (El-Gayar, 2006). However, given that as of 2008 there were 66 business schools in the US and Canada that offer a doctoral program in IS which are accredited by the Association to Advance Collegiate Schools of Business (AACSB 2010), it is logical to assume that their programs should be similar. To find out the similarities and differences, a survey of 126 doctoral programs in Information Systems in the USA and Canada was conducted. The survey intended to answer questions such as the following:

- Where is the program housed?
- What prerequisite degrees or courses are necessary, if any?
- What type of research courses and methodology are required, if any?
- How many major (content) courses are required?
- How many minor or support area courses are required, if any?
- Are breadth courses required?
- What are the required exams?
- What is the residency requirement, if any?
- Has the program recently been suspended or discontinued, and if so, why?

This information would be useful for departments offering a PhD to compare the requirements and offerings and assess their own program against other programs, or as a starting point for schools intending to begin offering a PhD program.
SURVEY METHODOLOGY

The authors conducted a survey during the fall of 2009. The list of schools came from the Association for Information Systems (AIS) website (AIS 2009), with additional programs added after searching on the Association to Advance Collegiate Schools of Business (AACSB) database, Google and Gradschools.com. The results found on the AACSB database, Google and Gradschools.com were mostly confirmatory of the AIS list, though a few additional programs were found on these sites which were not listed on the AIS website. Appendix A contains the list of universities found with doctoral programs in IS, which college or school houses the program, the name of the degree, and the program's homepage, sorted by US state name; Appendix B contains an alphabetized list of universities.

Rather than send a questionnaire to the program directors (Gallagher, 1991), the information herein is what was readily found on the programs' websites. The researchers gathered the information during the fall of 2009; therefore, information may have changed since then. Though most schools did not make their PhD handbook easily accessible on their website, more detailed program information may be found in each program's PhD handbook.

FINDINGS

Which College or School "Houses" the Program?

The first question answered is which college, school, or department houses the program. As shown in Table 1, the majority (86) IS programs were housed by a school of business or management, 10 were housed by a college of technology, information systems, or information science, 26 were housed by a "combination" school (i.e., college of engineering and technology, school of library and information sciences, college of business and public administration, etc.), 3 were housed by the graduate school, and 1 was not listed.

<table>
<thead>
<tr>
<th>Business and/or Management:</th>
<th>Information Systems, Information Technology, or Information Science:</th>
<th>Combined schools or departments:</th>
<th>Graduate school:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1, 2, 3, 5, 6, 7, 8, 10, 12, 14, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 43, 44, 47, 48, 51, 52, 53, 57, 59, 61, 63, 64, 69, 71, 72, 73, 74, 75, 76, 77, 78, 79, 81, 83, 84, 86, 90, 91, 92, 93, 94, 95, 96, 97, 99, 100, 101, 102, 103, 104, 105, 108, 109, 110, 112, 113, 117, 119, 121, 122, 123, 124, 126)*</td>
<td>(4, 9, 11, 42, 45, 60, 65, 82, 98, 111)</td>
<td>(11, 13, 15, 20, 28, 35, 50, 54, 55, 56, 58, 66, 67, 68, 70, 80, 85, 87, 89, 107, 114, 115, 116, 118, 120, 125)</td>
<td>(62, 88, 106)</td>
</tr>
</tbody>
</table>

Table 1. Which College, School, or Department Houses the Doctoral IS program

* the numbers refer to the university number in Appendices A and B

Prerequisite Degrees or Coursework

Most programs have prerequisites that are the same for all majors in the college or school; unfortunately, this resulted in many programs' web pages not listing the prerequisites. For the programs that did list prerequisite degrees or coursework, 10 specified requiring an undergraduate degree, 5 required an undergraduate degree in business, and 1 required an undergraduate degree in IS/MIS.

There were 24 programs which specified a required masters or MBA degree, 8 required an MS degree, and 28 required graduate level coursework. As mentioned above, several programs accepted either a graduate degree or graduate coursework in lieu of a degree. For prerequisite coursework, 19 programs required statistics courses, 20 required math courses, and 11 required programming courses. Six programs required other prerequisites, and the remainder did not list any prerequisite requirements or directed students to the college or school's requirements for prerequisites.

Two programs required professional experience (4 years and 5 years), and one required 4 years of teaching experience. Summary results are shown in Table 2.
Statistics and Research Core

While it is generally accepted that a doctoral program should include research-related coursework, only 66 programs specified requiring quantitative statistics coursework, and 16 required qualitative statistics coursework. 69 programs required coursework in research methods and tools, while 74 required statistics but did not specify quantitative, qualitative, etc. Several programs required more than one of quantitative, qualitative and research methods and tools coursework. Again, quite a few of the colleges or schools had research requirements that applied to all the doctoral programs in the school, and thus the programs' websites did not list the requirements. The summary results are show in Table 3.

<table>
<thead>
<tr>
<th>Quantitative:</th>
<th>Qualitative:</th>
<th>Research methods/tools:</th>
<th>Listed, but not specified:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1, 2, 3, 6, 7, 9, 11, 13, 14, 16, 17, 18, 19, 21, 22, 23, 25, 30, 32, 33, 35, 36, 37, 38, 41, 43, 44, 48, 49, 50, 51, 55, 56, 59, 60, 62, 63, 65, 67, 69, 73, 74, 75, 76, 77, 78, 79, 87, 88, 89, 91, 92, 93, 94, 95, 97, 98, 100, 105, 108, 112, 114, 121)</td>
<td>(36, 38, 49, 50, 59, 62, 65, 69, 84, 88, 98, 100, 108, 112, 114, 121)</td>
<td>(1, 2, 3, 4, 6, 9, 10, 11, 12, 16, 17, 18, 21, 22, 23, 25, 30, 32, 35, 36, 38, 39, 42, 43, 44, 45, 48, 49, 50, 52, 59, 60, 62, 65, 66, 67, 73, 74, 75, 78, 79, 80, 82, 83, 84, 87, 88, 89, 91, 93, 94, 95, 97, 98, 100, 101, 103, 107, 108, 109, 112, 114, 116, 121, 123, 124, 125, 126)</td>
<td>(1, 2, 3, 7, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 23, 25, 29, 30, 32, 34, 35, 36, 37, 39, 41, 44, 45, 47, 48, 51, 52, 53, 55, 56, 58, 60, 62, 64, 66, 68, 69, 70, 71, 72, 73, 74, 76, 77, 80, 81, 82, 84, 87, 89, 91, 93, 94, 95, 96, 97, 98, 99, 101, 104, 106, 107, 109, 111, 114, 115, 117, 119, 122)</td>
</tr>
</tbody>
</table>

Table 3. Statistics and Research Core

Core Program Curriculum

The core curriculum had perhaps the greatest variability among the programs, as can be seen in Table 4. The number of required core content courses ranged from 3 to 11; 17 programs listed the number of required content courses are "varies depending on circumstances or specializations." 44 programs also had concentration or specialization coursework, while 35 required breadth or cognate courses. 31 programs required or allowed elective courses, 3 allowed guided or independent study courses. 51 programs required a minor or supporting coursework (with a few requiring two minors).

The top three most common core courses listed were analysis and design of systems, software, networks, business processes, etc., followed by database related courses, and some type of data communications course. Most programs had specific courses required, but several did not have specific courses; rather they allowed the student and advisor to tailor the program...
to the students’ research interests. Many of the programs with both core courses and concentration or specialization courses listed information systems courses as the concentration or specialization coursework, while the core courses consisted of general business courses; this is not unexpected, as the programs were housed in a school or college of business. The breadth courses were generally business-related courses.

<table>
<thead>
<tr>
<th>Number of courses:</th>
<th>Concentration / specialization courses:</th>
<th>Breadth / cognate courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 core: (12, 32, 35, 112)</td>
<td>(1, 3, 11, 16, 20, 21, 26, 27, 31, 32, 35, 36, 37, 42, 43, 47, 49, 50, 51, 60, 64, 65, 66, 67, 73, 74, 76, 78, 79, 80, 81, 84, 85, 86, 88, 92, 93, 108, 121, 123)</td>
<td>(4, 10, 12, 13, 22, 26, 27, 29, 34, 36, 39, 40, 44, 45, 47, 49, 52, 54, 63, 66, 68, 71, 73, 75, 79, 80, 81, 93, 96, 104, 121, 122, 124, 125, 126)</td>
</tr>
<tr>
<td>4 core: (10, 13, 14, 26, 36, 38, 39, 42, 44, 47, 50, 70, 95, 101, 104, 107, 114, 119)</td>
<td>5 core: (7, 8, 9, 12, 16, 17, 18, 23, 25, 45, 48, 49, 52, 59, 61, 66, 71, 74, 77, 84, 85, 92, 93, 108, 121, 123)</td>
<td>Electives: (2, 4, 6, 8, 9, 11, 22, 25, 33, 35, 38, 50, 51, 59, 63, 65, 69, 70, 78, 82, 84, 85, 88, 95, 107, 109, 112, 118, 120, 121, 123)</td>
</tr>
<tr>
<td>5 core: (7, 8, 9, 12, 16, 17, 18, 23, 25, 45, 48, 49, 52, 59, 61, 66, 71, 74, 77, 84, 85, 92, 93, 108, 121, 123)</td>
<td>6 core: (1, 2, 3, 15, 19, 21, 27, 30, 34, 41, 43, 58, 69, 82, 86, 97, 100, 110, 117, 118)</td>
<td>Minor or support coursework: (3, 4, 6, 7, 9, 18, 23, 27, 32, 33, 36, 37, 39, 40, 41, 43, 47, 48, 51, 52, 53, 55, 58, 61, 62, 63, 64, 72, 73, 74, 75, 76, 77, 82, 83, 91, 92, 93, 96, 97, 99, 100, 102, 104, 105, 108, 111, 117, 119, 121, 123)</td>
</tr>
<tr>
<td>6 core: (1, 2, 3, 15, 19, 21, 27, 30, 34, 41, 43, 58, 69, 82, 86, 97, 100, 110, 117, 118)</td>
<td>7 core: (6, 55, 62, 63, 75, 79, 89, 90)</td>
<td>Unknown or not listed: (the remainder)</td>
</tr>
<tr>
<td>7 core: (6, 55, 62, 63, 75, 79, 89, 90)</td>
<td>8 core: (20, 37, 51, 53, 60, 65, 67, 76, 78, 83, 96, 115, 126)</td>
<td>Breadth / cognate courses:</td>
</tr>
<tr>
<td>8 core: (20, 37, 51, 53, 60, 65, 67, 76, 78, 83, 96, 115, 126)</td>
<td>9 core: (22, 64, 87, 88, 106, 116)</td>
<td>(4, 10, 12, 13, 22, 26, 27, 29, 34, 36, 39, 40, 44, 45, 47, 49, 52, 54, 63, 66, 68, 71, 73, 75, 79, 80, 81, 93, 96, 104, 121, 122, 124, 125, 126)</td>
</tr>
<tr>
<td>9 core: (22, 64, 87, 88, 106, 116)</td>
<td>10 core: (31, 91)</td>
<td>Guided/Independent study courses: (7, 42, 82)</td>
</tr>
<tr>
<td>10 core: (31, 91)</td>
<td>11 core: (94)</td>
<td>Unknown or not listed: (the remainder)</td>
</tr>
<tr>
<td>number of core courses varies: (4, 25, 26, 28, 29, 33, 40, 54, 56, 68, 71, 72, 73, 80, 81, 90, 111, 122, 125)</td>
<td>number of core courses varies: (4, 25, 26, 28, 29, 33, 40, 54, 56, 68, 71, 72, 73, 80, 81, 90, 111, 122, 125)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Core Program Curriculum

**Evaluations/Exams**

While it is generally accepted that doctoral programs require comprehensive exams, only 52 programs specified this requirement, as shown by Table 5. This low number is most likely due to the IS program being part of a larger group of doctoral programs in its college or school, with each doctoral program adhering to the same requirements, which are listed at the college or school level rather than for each program. There were 8 programs which specified annual or periodic exams, and 16 programs specified preliminary exams.

<table>
<thead>
<tr>
<th>Annual / periodic:</th>
<th>Preliminary:</th>
<th>Comprehensive / Qualifying:</th>
<th>Unknown / not listed: (the remainder)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1, 6, 10, 25, 48, 63, 67, 69)</td>
<td>(4, 9, 22, 23, 27, 29, 30, 36, 44, 48, 76, 77, 79, 88, 98, 99)</td>
<td>(1, 2, 4, 6, 9, 14, 16, 19, 21, 23, 25, 34, 35, 36, 39, 40, 42, 43, 47, 55, 56, 58, 59, 63, 64, 66, 67, 69, 72, 74, 76, 77, 78, 79, 82, 90, 91, 92, 95, 97, 98, 100, 105, 106, 108, 109, 110, 111, 119, 121, 124, 125)</td>
<td></td>
</tr>
<tr>
<td>(4, 10, 12, 13, 22, 26, 27, 29, 34, 36, 39, 40, 44, 45, 47, 49, 52, 54, 63, 66, 68, 71, 73, 75, 79, 80, 81, 93, 96, 104, 121, 122, 124, 125, 126)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Evaluations / Exams

**On Campus / Residency**

While it is generally accepted that PhD students will study in residence, only 18 programs specified a residency requirement (see Table 6.) Like previously mentioned requirements, the residency requirement is often delineated at the college or school level.
Residency Required?

| Yes: (7, 14, 18, 26, 27, 28, 39, 44, 45, 49, 50, 54, 66, 68, 77, 89, 98, 101) | Unknown / no listed: (the remainder) |

Table 6. On Campus or Residency Required

Discontinued or Suspended Programs

Two institutions have suspended their programs (#5, #103). One program was suspended so the school could concentrate more on their MS program; the other program has temporarily suspended admissions in recent years, as the IS faculty has become a small one and the school found it problematic to sustain its own Ph.D. program.

Joint Programs

Concordia University (#113), McGill University, La Bibliothèque de l'école des Hautes Etudes Commerciales, and the Université du Québec à Montréal offer a joint doctoral program in which the student may take classes from all four universities. Because of this, only Concordia University is listed in our survey.

CONCLUSION

As we have seen, there are similarities and differences in the doctoral programs in IS offered in the US and Canada.

Main similarities:

- The majority of IS programs are housed within a college or school of business
- Most programs require statistics and research methods coursework

Main differences:

- Prerequisites ranged from an undergraduate degree to graduate coursework or degree and years of experience
- Content (major) courses required ranged from 3 to 11, with less than half of the programs requiring concentration/specialization courses, minor courses, or breadth coursework.

A small number of programs have preliminary, periodic or annual exams, either in addition to the comprehensive exam or as a replacement.

While there are similarities and differences, these might to be indicative of the culture and history of the university, and provide a variety of programs from which students can choose. And any institution wishing to start its own doctoral program in IS will see that they have quite a bit of latitude in selecting degree requirements. It will also be beneficial to read "The Formation of Scholars: Rethinking Doctoral Education for the Twenty-First Century" by the Carnegie Foundation for the Advancement of Teaching (Walker, et al, 2008).

All surveys have limitations, and this one is no different. The information contained herein is only what was readily available on the program's website(s); more detailed information can be found in the Ph.D. handbook. Additionally, some of the information may be out of date at the time of this paper's publication; hence, it is recommended that readers visit the university's website to verify information.

FUTURE RESEARCH

Future research will include comparing how the programs of a non-accredited school compare with those of AACSB accredited schools, a comparison of the major (content) and minor courses in each program, a survey of the international programs, and compare how the curriculum and programs change over time.
REFERENCES


APPENDIX A: LIST OF UNIVERSITIES, SORTED BY STATE/PROVINCE

Number, University name, College/School name, Program name, website.


9. Claremont Graduate University, School of Information Systems & Technology (SISAT), PhD in Information Systems and Technology, http://www.cgu.edu/pages/153.asp.
10. Stanford University, Graduate School of Business, PhD in Business, Operations, Information, and Technology (OIT), http://www.gsb.stanford.edu/phd/overview/.


20. Nova Southern University, Graduate School of Computer and Information Sciences, PhD in Information Systems (DISS), http://www.scis.nova.edu/Doctoral/Academic_Programs/Academic_Programs_DISS_info.html.


25. Emory University, Goizueta Business School, PhD in Information Systems (IS), http://www.goizueta.emory.edu/degree/phd/phd_areas_of_study_information_systems.html.


27. University of Illinois at Urbana-Champaign, College of Business, PhD in Business Administration – Information Systems concentration, http://www.business.illinois.edu/ba/programs/phd/areas/infosys/.


30. University of Illinois at Chicago, College of Business Administration, PhD in management information systems, http://www.uic.edu/cba/cba-depts/ids/phdmis.


32. Purdue University, Krannert Graduate School of Management, PhD in MIS, http://www.krannert.purdue.edu/programs/phd/index.asp.

33. University of Iowa, Tippie College of Business, PhD in Management Science – IS, http://tippie.uiowa.edu/management-sciences/phd/research.cfm#info-systems.


37. Louisiana Tech University, College of Business, Doctor of Business Administration (concentration in information systems), http://www.business.latech.edu/graduate/dba.htm.

38. Bentley University, McCallum Graduate School of Business, PhD in Business, http://www.bentley.edu/phd/phd-in-business/index.cfm.


40. MIT, Sloan School of Management, PhD in Management Science – IT, http://mitsloan.mit.edu/phd/areas.php

42. University of Maryland Baltimore County, Department of Information Systems, PhD in Information Systems, http://www.is.umbc.edu/programs/graduate/PhD_program.asp.


44. University of Michigan, Stephen M. Ross School of Business, PhD in Business Information Technology, http://www.bus.umich.edu/Academics/Departments/Cis/CIS/Phd/.

45. University of Michigan, School of Information, PhD in Information, http://si.umich.edu/phd/default.htm.

47. Michigan State University, Eli Broad College of Business, PhD in BA - Information Technology Management, http://www.bus.msu.edu/acc/phd/itm/.


51. University of Missouri – St. Louis, College of Business, PhD in Business Administration (with Information Systems emphasis), http://www.umsl.edu/~phdis/requirements.html.

52. University of Mississippi, School of Business Administration, Department of MIS / Production Operations Management, PhD in BA – MIS, http://www.olemissbusiness.com/mispom/programs.html.

53. Mississippi State University, College of Business, Ph.D. in Business Administration with a Major in Information Systems, http://business.msstate.edu/gsb/phd%20is.php.


55. University of NC Greensboro, Bryan School of Business and Economics, Information Systems and OM Department, PhD in Information Systems, http://www.uncg.edu/bae/isom/phd/.


59. Stevens Institute of Technology, Howe School of Technology Management, PhD in Technology Management with concentrations in Information Management or Technology Management, http://howe.stevens.edu/splash/prospective-students/.

60. New Jersey’s Science and Technology University, Department of Information Systems, PhD in Information Systems, http://is.njit.edu/academics/graduate/phdis/index.php.


64. State University of New York at Buffalo, School of Management, PhD in Management, major in Management Science and Systems, http://mgt.buffalo.edu/home/programs/phd/curriculum/mss.


68. Syracuse University, School of Information Studies, PhD in Information Science and Technology, http://ischool.syr.edu/academics/graduate/phd/index.aspx.


72. Case Western Reserve University, Weatherhead School of Management, PhD in Information Systems, http://weatherhead.case.edu/academics/doctorate/.

73. University of Cincinnati, College of Business, PhD in Business – IS Concentration, http://www.business.uc.edu/phd.

74. University of Cincinnati, College of Business, PhD in Information Systems, http://www.business.uc.edu/phd/is.


76. Kent State University, College of Business Administration, Department of Management and Information Systems, PhD in Business Administration, IS concentration, http://business.kent.edu/students/grad/phd/.


79. Oklahoma State University, Spears School of Business, PhD in Business Administration: Major Field in MSIS (Management Science & Information Science), http://spears.okstate.edu/msis/degrees/phd.

80. Drexel University, College of Information Science and Technology, PhD in Information Studies, http://www.ischool.drexel.edu/PS/GraduatePrograms/Doctoral/.


83. University of Pittsburgh, Joseph M. Katz Graduate School of Business, Decision Sciences, Operations, and IT; PhD in IS, http://www.business.pitt.edu/katz/phd/program/areas-of-study.html.

84. Temple University, Fox School of Business, PhD BA – MIS, http://sbm.temple.edu/phd/phd-admin.html.

85. Penn State, College of Information Sciences and Technology, PhD in Information Sciences and Technology (IST), http://ist.psu.edu/.


87. Clemson University, College of Business and Behavioral Sciences, PhD in Management – IS track, http://business.clemson.edu/Management/Acad_Overview/L1_phdmgt.html.
88. Dakota State University, Office of Graduate Studies and Research, Doctor of Science in Information Systems (D.Sc. in IS), http://www.dsu.edu/doctor-of-science/.


90. University of Houston, CT Bauer College of Business, PhD in MIS, http://www.bauer.uh.edu/doctoral/mis/.

91. University of Texas at Dallas, School of Management, PhD Management Science – IS Concentration, http://som.utdallas.edu/graduate/phd/mgmtStudies/.

92. University of Texas at Austin, McCombs School of Business, PhD in Information, Risk, & Operations Management, IS concentration, http://www.mccombs.utexas.edu/dept/irom/phd/.


96. University of Utah, David Eccles School of Business, Department of Operations and IS, PhD BA – IS Specialization, http://www.business.utah.edu/phd/.

97. Washington State University, College of Business, PhD BA with Concentration in IS, http://www.business.wsu.edu/Graduate/phd/Pages/phdis.aspx.


101. Virginia Tech, Pamplin College of Business, Department of Business Information Technology, PhD in BIT, http://www.bit.vt.edu/graduate_programs.html.

103. Utah State University, Jon Huntsman School of Business, PhD in Management Information Systems, 
http://huntsman.usu.edu/mis/.

104. University of Calgary, Haskayne School of Business, PhD in Business, 
http://haskayne.ucalgary.ca/haskaynegrad/phd/info.

105. University of British Columbia, Sauder School of Business, PhD in MIS, http://www1.sauder.ubc.ca/Programs/PhD-MSc/PhD_Program/Program_Overview/Specializations/MIS.

106. Memorial University, Faculty of Business Administration, PhD in Management, Operations and Information Management (OIM) Specialization, http://www.business.mun.ca/programs/PhD/phd_overview.php.

107. University of Western Ontario, Faculty of Information and Media Studies, PhD in Library and Information Science, 
http://www.fims.uwo.ca/phd/.

108. Queen's University, Queen's School of Business, PhD in Management Information Systems, 

109. University of Western Ontario, Richard Ivey School of Business, PhD in Information Systems, 
http://www.ivey.uwo.ca/academic/phd/areas/is.htm.

110. University of Waterloo, Department of Management Sciences, Phd, 

111. University of Toronto, Faculty of Information, PhD, http://www.ischool.utoronto.ca/programs-courses/phd-program.

112. York University, Schulich School of Business, PhD in Operations Management and Information Systems, 

113. Concordia University, John Molson School of Business, PhD in Management Information Systems, 

114. Emporia State University, School of Library and Information Management, PhD Library and Information Management – Information Systems, http://slim.emporia.edu/index.php/admission/doctorate-of-philosophy/, 

115. George Mason University, The Volgenau School of Information Technology and Engineering, PhD in Information Technology with concentration in IS, http://volgenau.gmu.edu/PhDprogr/, 


118. Tennessee State University, Doctor of Philosophy, College of Engineering, Technology, and Computer Science PhD in Computer and Information Systems Engineering (CISE). http://www.tnstate.edu/ece/graduate.htm#.

119. Syracuse University, Whitman School of Management, Lubin School of Accounting/Management Information Systems, http://whitman.syr.edu/PhD/Program/.


125. Old Dominion University, College of Business and Public Administration, Ph.D Business Administration – Information Technology specialization, http://bpa.odu.edu/bpa/academics/phd-program.shtml.


APPENDIX B: ALPHABETIZED LIST OF UNIVERSITIES
Number, University Name, College/School/Department, Program Name, website


38. Bentley University, McCallum Graduate School of Business, PhD in Business, http://www.bentley.edu/phd/phd-in-business/index.cfm.


72. Case Western Reserve University, Weatherhead School of Management, PhD in Information Systems, http://weatherhead.case.edu/academics/doctorate/.

9. Claremont Graduate University, School of Information Systems & Technology (SISAT), PhD in Information Systems and Technology, http://www.cgu.edu/pages/153.asp.

87. Clemson University, College of Business and Behavioral Sciences, PhD in Management – IS track, http://business.clemson.edu/Management/Acad_Overview/L1_phdmgt.html.


88. Dakota State University, Office of Graduate Studies and Research, Doctor of Science in Information Systems (D.Sc. in IS), http://www.dsu.edu/doctor-of-science/.


80. Drexel University, College of Information Science and Technology, PhD in Information Studies, http://www.ischool.drexel.edu/PS/GraduatePrograms/Doctoral/.

25. Emory University, Goizueta Business School, PhD in Information Systems (IS), http://www.goizueta.emory.edu/degree/phd/phd_areas_of_study_information_systems.html.


115. George Mason University, The Volgenau School of Information Technology and Engineering, PhD in Information Technology with Concentration in IS, http://volgenau.gmu.edu/PhDprogr/


76. Kent State University, College of Business Administration, Department of Management and Information Systems, PhD in Business Administration, IS Concentration, http://business.kent.edu/students/grad/phd/.

36. Louisiana State University, E.J. Ourso College of Business, Department of Information Systems and Decision Sciences, PhD in ISDS, http://www.bus.lsu.edu/academics/isds/programs/phdprograms.asp

37. Louisiana Tech University, College of Business, Doctor of Business Administration (concentration in information systems), http://www.business.latech.edu/graduate/dba.htm.

106. Memorial University, Faculty of Business Administration, PhD in Management, Operations and Information Management (OIM) Specialization, http://www.business.mun.ca/programs/PhD/phd_overview.php.

47. Michigan State University, Eli Broad College of Business, PhD in BA - Information Technology Management, http://www.bus.msu.edu/acc/phd/itm/.

53. Mississippi State University, College of Business, Ph.D. in Business Administration with a Major in Information Systems, http://business.msstate.edu/gsb/phd%20is.php.

40. MIT, Sloan School of Management, PhD in Management Science – IT, http://mitsloan.mit.edu/phd/areas.php


60. New Jersey’s Science and Technology University, Department of Information Systems, PhD in Information Systems, http://is.njit.edu/academics/graduate/phdis/index.php.


20. Nova Southern University, Graduate School of Computer and Information Sciences, PhD in Information Systems (DISS), http://www.scis.nova.edu/Doctoral/Academic_Programs/Academic_Programs_DISS_info.html.


79 Oklahoma State University, Spears School of Business, PhD in Business Administration: Major Field in MSIS (Management Science & Information Science), http://spears.okstate.edu/msis/degrees/phd.

125. Old Dominion University, College of Business and Public Administration, Ph.D Business Administration – Information Technology specialization, http://bpa.odu.edu/bpa/academics/phd-program.shtml.

85. Penn State, College of Information Sciences and Technology, PhD in Information Sciences and Technology (IST), http://ist.psu.edu/.


32. Purdue University, Krannert Graduate School of Management, PhD in MIS, http://www.krannert.purdue.edu/programs/phd/index.asp.


10. Stanford University, Graduate School of Business, PhD in Business, Operations, Information, and Technology (OIT), http://www.gsb.stanford.edu/phd/overview/.

64. State University of New York at Buffalo, School of Management, PhD in Management, major in Management Science and Systems, http://mgt.buffalo.edu/home/programs/phd/curriculum/mss.

59. Stevens Institute of Technology, Howe School of Technology Management, PhD in Technology Management with Concentrations in Information Management or Technology Management, http://howe.stevens.edu/splash/prospective-students/.

68. Syracuse University, School of Information Studies, PhD in Information Science and Technology, http://ischool.syr.edu/academics/graduate/phd/index.aspx.

119. Syracuse University, Whitman School of Management, Lubin School of Accounting/Management Information Systems, http://whitman.syr.edu/PhD/Program/.

84. Temple University, Fox School of Business, PhD BA – MIS, http://sbm.temple.edu/phd/phd-admin.html.

118. Tennessee State University, College of Engineering, Technology, and Computer Science, PhD in Computer and Information Systems Engineering (CISE), http://www.tnstate.edu/ece/graduate.htm#.


94. University North Texas, College of Business, Information Technology & Decision Sciences Department, PhD

2. University of Alabama (Tuscaloosa, AL), Manderson Graduate School of Business, Ph.D in Operations

3. University of Arizona, Eller College of Management, Department of Management and Organization, PhD in

6. University of Arkansas, Walton College Graduate School of Business, Ph.D in Business Administration with

104. University of Calgary, Haskayne School of Business, PhD in Business,
http://haskayne.ucalgary.ca/haskaynegrad/phd/info.

11. University of California – Irvine, Donald Bren School of Information and Computer Sciences, Ph.D. degree

122. University of California – Irvine, The Paul Merage School of Business, PhD in Management – Information

6. University of California Berkley, School of Information, PhD in Information Management & Systems,
http://www.ischool.berkeley.edu/programs/phd.

73. University of Cincinnati, College of Business, PhD in Business – IS Concentration,
http://www.business.uc.edu/phd.

74. University of Cincinnati, College of Business, PhD in Information Systems, http://www.business.uc.edu/phd/is.

15. University of Delaware, Computer and Information Science, Computer and Information Sciences, PhD,

19. University of Florida, Hough Graduate School of Business, Ph.D. in Information Systems & Operations

23. University of Georgia, Terry College of Business, PhD in Management Information Systems,
http://www.terry.uga.edu/mis/.

26. University of Hawaii, Shidler School of Business, PhD in International Management/ Global Information

90. University of Houston, CT Bauer College of Business, PhD in MIS, http://www.bauer.uh.edu/doctoral/mis/.

30. University of Illinois at Chicago, College of Business Administration, PhD in management information

27. University of Illinois at Urbana-Champaign, College of Business, PhD in Business Administration – Information

33. University of Iowa, Tippie College of Business, PhD in Management Science – IS,
http://tippie.uiowa.edu/management-sciences/phd/research.cfm#info-systems.


42. University of Maryland Baltimore County, Department of Information Systems, PhD in Information Systems, http://www.is.umbc.edu/programs/graduate/PhD_program.asp.


44. University of Michigan, Stephen M. Ross School of Business, PhD in Business Information Technology, http://www.bus.umich.edu/Academics/Departments/Cis/CIS/Phd/.

45. University of Michigan, School of Information, PhD in Information, http://si.umich.edu/phd/default.htm.


51. University of Missouri – St. Louis, College of Business, PhD in Business Administration (with Information Systems emphasis), http://www.umsl.edu/~phdis/requirements.html.

52. University of Mississippi, School of Business Administration, Department of MIS / Production Operations Management, PhD in BA – MIS, http://www.olemissbusiness.com/mispom/programs.html.


60. University of North Carolina at Charlotte, College of Computing and Informatics, PhD in Information Technology, http://www.coit.uncc.edu/coit_new/phd/phd_reqs.cfm.


83. University of Pittsburgh, Joseph M. Katz Graduate School of Business, Decision Sciences Operations and IT; PhD in IS, [http://www.business.pitt.edu/katz/phd/program/areas-of-study.html](http://www.business.pitt.edu/katz/phd/program/areas-of-study.html).

63. University of Rochester, Simon Graduate School of Business, PhD in Business, Computer and Information Systems major field, [http://www.simon.rochester.edu/programs/phd/academic-overview/index.aspx](http://www.simon.rochester.edu/programs/phd/academic-overview/index.aspx).

86. University of South Carolina, Darla Moore School of Business, PhD in BA – MIS emphasis, [http://www.moore.sc.edu/doctoral/academicprograms.aspx](http://www.moore.sc.edu/doctoral/academicprograms.aspx).


92. University of Texas at Austin, McCombs School of Business, PhD in Information, Risk, and Operations Management, IS Concentration, [http://www.mccombs.utexas.edu/dept/irom/phd/](http://www.mccombs.utexas.edu/dept/irom/phd/).

91. University of Texas at Dallas, School of Management, PhD Management Science – IS Concentration, [http://som.utdallas.edu/graduate/phd/mgmtStudies/](http://som.utdallas.edu/graduate/phd/mgmtStudies/).

95/ University of Texas at San Antonio, College of Business, PhD in BA – IT emphasis, [http://business.utsa.edu/phd/it/index.aspx](http://business.utsa.edu/phd/it/index.aspx).

75. University of Toledo, College of Business Administration, PhD in Manufacturing and Technology Management Program – minor in IS, [http://www.utoledo.edu/business/phd/index.html](http://www.utoledo.edu/business/phd/index.html).

111. University of Toronto, Faculty of Information, PhD, [http://www.ischool.utoronto.ca/programs-courses/phd-program](http://www.ischool.utoronto.ca/programs-courses/phd-program).

96. University of Utah, David Eccles School of Business, Department of Operations and IS, PhD BA – IS Specialization, [http://www.business.utah.edu/phd/](http://www.business.utah.edu/phd/).


126. University of Washington, Foster School of Business, PhD in Business Administration – Information Systems Major, [http://www.foster.washington.edu/academic/PhD/Pages/PhDProgram.aspx](http://www.foster.washington.edu/academic/PhD/Pages/PhDProgram.aspx).

110. University of Waterloo, Department of Management Sciences, Phd, [http://www.mansci.uwaterloo.ca/grad/phd/phd.php?id=6](http://www.mansci.uwaterloo.ca/grad/phd/phd.php?id=6).

107. University of Western Ontario, Faculty of Information and Media Studies, PhD in Library and Information Science, [http://www.fims.uwo.ca/phd/](http://www.fims.uwo.ca/phd/).

109. University of Western Ontario, Richard Ivey School of Business, PhD in Information Systems, [http://www.ivey.uwo.ca/academic/phd/areas/is.htm](http://www.ivey.uwo.ca/academic/phd/areas/is.htm).


103. Utah State University, Jon Huntsman School of Business, PhD in Management Information Systems, [http://huntsman.usu.edu/mis/](http://huntsman.usu.edu/mis/).

100. Virginia Commonwealth University, School of Business, Ph.D. in Business with a Concentration in Information Systems, [http://www.business.vcu.edu/464.html](http://www.business.vcu.edu/464.html).

101. Virginia Tech, Pamplin College of Business, Department of Business Information Technology, PhD in BIT, [http://www.bit.vt.edu/graduate_programs.html](http://www.bit.vt.edu/graduate_programs.html).

49. Walden University, College/school not listed, DBA – Information Systems Management, [http://www.waldenu.edu/Degree-Programs/Doctorate/18409.htm](http://www.waldenu.edu/Degree-Programs/Doctorate/18409.htm).

50. Walden University, College of Management and Technology, PhD in Applied Management and Decision Sciences – IS Management, [http://www.waldenu.edu/Degree-Programs/Doctorate/18328.htm](http://www.waldenu.edu/Degree-Programs/Doctorate/18328.htm).

97. Washington State University, College of Business, PhD BA with Concentration in IS, [http://www.business.wsu.edu/Graduate/phd/Pages/phdis.aspx](http://www.business.wsu.edu/Graduate/phd/Pages/phdis.aspx).