

Survey of Information Systems Undergraduate Programmes Taught at Saudi Arabian Universities

Abdisalam M Issa-Salwe

Abstract— This paper is the result of a survey of 25 Saudi Arabian university's colleges teaching undergraduate programmes in Information Systems (IS). Many of these universities are in the process of making their courses accredited by external creditors, such as ABET. This paper attempts to examine the common characteristics of these ABET accredited-oriented Information Systems (IS) undergraduate programmes. The paper also looks at the common trends in the courses of the Information Systems programmes of these universities. As a result of this analysis, the paper will also briefly explore how Information Systems design in many Saudi Arabian is designed to be more science-oriented than business-oriented programmes because of ABET accreditation influence.

Index Terms— ABET, Computing Accreditation Commission (CAC), Association for Information Systems (AIS), NCAAA, accreditation, information systems, and curriculum.

I. INTRODUCTION

Hshared opinion to ensure competitiveness in an academic form of study is to make sure that their curriculum is up-to-date and sustainable to the shifting environment of commercial enterprise and industry (Gill et al., 1999). Many posit that one path to achieve this end is through a strict external accreditation process (Lending et al., 2010). For the past four years, many Saudi Universities have been aiming to be competitive in the educational market as the country is quickly growing in business and industry. These universities are trying to ensure that their academic programmes are current and relevant. In Saudi Arabia, one way to achieve this goal is through an external accreditation process, which requires evaluation of and improvements to the curriculum (Lending et al., 2010).

In addition to the local National Commission for Academic Accreditation and Assessment (NCAAA), many of the universities surveyed are in the process of attaining ABET accreditation for their 4-year undergraduate computer-related programmes. The primary plans of the accreditations are computer programmes. The bulk of the 19 university college programmes surveyed have Bachelor Computer Science in Information Systems.

II. ACCREDITATION

Academic accreditation is a meticulous process for quality assurance in the education sector and poses challenges to academic institutions. It is a process that helps an educational programme to meet internationally recognised educational programme standards.

Accreditation is also a quality assurance process that leads

a programme to have accepted standards that can be judged by an accrediting body. In other words, accreditation is meant to "certify that accredited institutes have the systems and procedures to fulfil the objectives of a continuous improvement" (Zammuto, 2008). When the programme fits the criteria required by the accreditation standards, the programme is granted accreditation

The main aim of accreditation is to produce and advance the educational quality of an establishment or a course of study. Accreditation is also a tool that can be utilised to enhance the advancement of the educational infrastructure and professional experience and to facilitate a "national quality assurance system" (quoted in Sundaram Nataraja et al., 2014). Accreditation also ensures that the quality, ethics, and codification of an academic programme follow national and international standards (Stevens, 2000; Szanto, 2005).

The case about continuous improvement is emphasised in the ABET Criterion 4 which emphasises that: "The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the continuous improvement of the program. Other available information may also be used to assist in the continuous improvement of the program" (ABET, 2015-2016).

The Accreditation Commission (CAC) of ABET accreditation requires some steps that focus on the criteria concerning students and student learning outcomes, educational programme objectives, continuous improvement, faculty, facilities, institutional support, and curriculum. This paper will investigate what type of course programmes the Saudi universities share to respond to the requirements of ABET accreditation.

The reasons for the Saudi Universities to apply for external accreditation include (quoted from Sundaram Nataraja et al., Feb 2014):

- Assuring student learning,
- Making possible the process of continuous improvement of academic programmes and facilities,
- Guaranteeing educational quality,
- Increasing the employability of graduates,
- Enhancing institutional image, identity, and reputation,
- Recognising professional and governmental bodies,
- Giving Saudi students the opportunity to mobilise globally,
- Increasing opportunities for global partnerships

A shared view to guaranteeing competitiveness in an academic programme is to ensure that the curriculum is up to date in the fast-changing world (Gill et al., 1995; Maier et al., 1996).

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To be competitive academically, there must be a strict accreditation process.

III. THE INFLUENCE OF SAUDI ARABIA'S SCIENCE AND TECHNOLOGY NATIONAL POLICY (KACST)

Saudi Arabia's Science and Technology National Policy (KACST) have a positive influence on the general policy of higher education. The policy suggests the adoption of "a comprehensive vision in developing the science, technology and innovation system that leads to the collaboration among the system components, the system coordination of its plans, and closer ties and interaction with the economic, social and cultural activities, through the following policies" (KACST policy). KACST policy includes the development of a modern Saudi Arabia knowledge economy, which is becoming increasingly important in the digital economy. This can be realised to provide learners a good education and prepare them for successful careers and to make a meaningful contribution to society.

IV. SURVEY METHODOLOGY AND DIFFICULTY MET DURING THE SURVEY

A survey was conducted to determine what the Saudi Universities IS programmes share with a typical ABET-accredited Information Systems (IS) undergraduate programmes.

The survey was performed by downloading a list of 56 higher education institutions in Saudi Arabia. The list included universities as well as colleges not under universities. The list was edited to exclude those institutions not under universities, reducing the list to 30 university colleges (listed in Appendix A). Of those 30 remaining universities, it was found that 19 universities have information systems, 6 of which has both CIS/IS and MIS programmes.

The total information systems programmes under these universities total to 25. The remaining 5 of the 30 colleges IS programmes could not be found during the survey.

For convenience, the courses under the computer science colleges are named Computerized Information Systems (CIS) while those under business schools are given as Management Information Systems (MIS).

The resulting list 25 IS programmes under 19 universities became the basis of this survey (see Table 5). In Table 5 the list is divided into two groups: 14 CIS/IS programmes and 11 MIS programmes. Appendix A contains the list of the 30 Saudi Universities surveyed, their locations, the colleges/faculties that hold the programmes, the programme names, and whether they have been accredited or are in the process of accreditation externally or internally. A list of 25 programmes has been found in which 6 universities have both the CIS/IS and MIS colleges.

One difficulty that was met during the survey was obtaining the IS curriculum details from some universities, primarily due to poor accessibility of information. Other universities continuously changed the website information of their programmes.

There are 83 ABET accredited Saudi Arabian university programmes, but there are only 17 computer-related

programmes. In Appendix B is listed 17 of those accredited programmes: Computer Science, Information Systems, Information Technology, Computer Engineering and Software Engineering. Out of the 17 computer-related programmes listed, there are only 3 universities which have ABET Information Systems accreditation. These are King Abdulaziz University, King Faisal University and King Saud University. One reason for the short list of ABET accreditation of computer related programmes is that ABET did not "expand into Information Systems, Information Technology, or Software Engineering disciplines until the last ten years (Babb et al., 2013). ABET requires a series of assessment activities which are the basis of its accreditation. These are done as a loop of activities of assessment and a continuous improvement which "intertwine, inform, and provide feedback between them". (ibid.)

ABET specifies a range of assessment activities which, as is the case with AACSB, sit at the heart of accreditation actions. ABET mentions both an "Assessment" and a "Continuous Improvement" loop of activities which intertwine, inform, and provide feedback between them (ibid.). Programmes that remain in good standing are subject to review and renewal of accreditation every six years.

V. FINDINGS

The finding showed the majority of the listed IS programme plans were clearly influenced by three bodies:

The National Qualifications Framework for Higher Education in the Kingdom of Saudi Arabia by the National Commission for Academic Accreditation & Assessment (NCAA).

1. Curriculum Guidelines for Undergraduate Degree Programs in Information Systems (IS 2010) issued by the Association for Computing Machinery (ACM) and the Association for Information Systems (AIS).

2. The Computing Accreditation Commission (CAC-CRITERA2013-2014) of the Accreditation Board for Engineering and Technology (ABET).

Some colleges add to their curriculum development background the reason for their approach to their curriculum development.

The findings show that in the detailed aspect of IS curriculum development, they follow the requirements of ABET, which says that IS programmes should "... combine technical and professional requirements with general education requirements and electives to prepare students for a professional career and further study in the computing discipline associated with the programme, and for functioning in modern society (see Table 2: ABET's General Criteria for Learning). The technical and professional requirements must include at least one year of up-to-date coverage of fundamental and advanced topics in the computing discipline associated with the programme. In addition, the programme must include mathematics appropriate to the discipline beyond the pre-calculus level. For each course in the major required of all students, its content, expected performance criteria, and place in the overall programme of study must be published" (ABET Computing

Accreditation Commission, 2015).

| Table 2: ABET's General Criteria for Learning (ABET 2015-2016) | |
|--|---|
| Criteria | Description |
| Students' Performance | Student performance must be evaluated. |
| Programme Educational Objectives | The curriculum must be consistent with the mission of the institution, the needs of the programme's various constituencies, and these criteria |
| Student Outcomes | The programme must be documented to prepare the student graduates to attain the programme educational objectives. |
| Continuous Improvement | The programme must be regularly documented and evaluated as to the extent to which its programme educational objectives and its student outcomes are being attained. |
| Faculty | The programme must ensure that each faculty member teaching in the programme has the expertise and the educational background consistent with the contributions to the programme that are expected of the faculty member. |
| Facilities | To create a learning environment in which learners can access adequate learning facilities. Classrooms, laboratories, and associated equipment must be adequate to support attainment of the student outcomes and to provide an atmosphere conducive to learning. |
| Institutional Support | Institutional support, financial resources, and effective leadership must be adequate to ensure the quality and continuity of the programme throughout the period of accreditation. |
| Source: http://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-computing-programs-2015-2016/ | |

ABET requires student performance to be measurable. To make this possible, the curriculum is required to be coherent with the mission of the educational institution. The programme is needed to be regularly documented and evaluated as to the extent to which its programme educational objectives and its student outcomes are being achieved.

ABET also requires the institutions to have a learning environment in which students can access adequate learning facilities. Classrooms, laboratories, associated equipment and other educational means must be adequate to facilitate an environment that is conducive to learning.

Further down the curriculum plans of these universities follow, ABET (2015-2016) advises the curriculum to provide students an equivalent educational experience that includes: (i) Courses which the fundamentals of application development, such as data management and the role of Information Systems in organizations, (ii) Advanced course work that builds on the fundamental course work to provide depth; and (iii) Quantitative analysis including statistics.

The courses of these colleges are spread into three levels of requirements: university level, college level and department

level. The university course requirements are usually general courses and are generally a part of the national culture (e.g., Islamic history), general science (e.g., biology), and other preparatory courses.

The college-required courses are courses that are shared by other programmes, such as Computer Science or Software Engineering. The department-required courses are unique for the department, and they may be college requirements for other programmes (e.g., IS Ethics).

A list has been created under Table 5 which presents Information Systems application domain environment courses offered at Saudi Arabian Universities: these courses include Economy, Business, Management, Marketing, Finance/ Accounting, Organization/ Others.

For convenience the courses under the computer science colleges are named CIS/IS while those under business schools are given as MIS.

The central work of the list of plans looked to identify the capabilities needed by IS graduates. The courses are designed to ensure that overall capabilities are in place and that is based on the knowledge and accomplishments that have been categorised as:

- IS-specific Knowledge and Skills,
- Foundational Knowledge and Skills, and
- Domain Fundamentals.

The research has focused on 25 individual college programmes as mentioned above: 14 of these programmes were CIS/IS under computer science schools while 11 were under business schools (see Table 5). The table shows how CIS/IS and MIS differ in the Information Systems environment courses. While the average Information Systems Environment in the CIS/IS programmes is 9 credit hours (see Table 5), MIS has an average 31. This demonstrates that MIS programmes focus more on business and other IS Information Systems environment courses.

The programmes also include elective courses, which are intended to extend the core courses and to offer new knowledge areas of the curriculum (see Table 5 for a list of typical elective courses found in Saudi Arabia IS Program).

| Table 3: Typical courses found in Saudi Arabia IS programmes | |
|---|---------------------------------------|
| 1 | Foundations of Information Systems |
| 2 | Analysis and Design |
| 3 | Databases Management Systems |
| 4 | Information Technology Infrastructure |
| 5 | Project Management |
| 6 | E-Commerce/ E-Business |
| 7 | Ethics & Society |
| 8 | Operating Systems |
| 9 | Information Security |
| 10 | Web Application |
| 11 | Data Warehouse and Data Mining |
| 12 | Human Computer Interaction |
| 13 | Decision Support Systems |
| 14 | Expert Systems |
| 15 | Enterprise Architecture |
| 16 | Specialisation Elective |
| 17 | Graduation Project |

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The elective courses are also considered to be essential building blocks of career tracks.

Table 4: Typical elective courses found in Saudi Arabia IS programmes

| | |
|---|---|
| 1 | Business Process Management |
| 2 | Information Technology Audit and Controls |
| 3 | Business Process Modelling, Simulation and Design |
| 4 | Information Search, Retrieval & Visualisation |
| 5 | IS Innovation and New Technologies |
| 6 | Knowledge Management Systems |
| 7 | E-Business Technology |
| 8 | ERP Systems |

VI. CURRICULUM DESIGN INFLUENCE

All of the colleges have the core and elective courses commonly found in IS. These courses are also the requirements advised by the Association for Computing Machinery (ACM) and the Association for Information Systems (AIS) in their publication of "IS 2010: Curriculum Guidelines for Undergraduate Degree Programmes in Information Systems" (2010). See Table 3 for the typical courses found in Saudi Arabia IS programmes.

Another influence of curriculum making is ABET directives which require "at least 30 semester-hours of information systems topics; at least 9 semester-ours of quantitative analysis; and at least 30 semester-hours of general education" (ABET, 2013b). It further says that the IS curriculum must include at "least one-half year of coursework that must include a cohesive set of topics that provide an understanding of an environment in which the information systems will be applied professionally" (ibid.). It also defines in the Student Outcomes that the program must help the students to achieve, by the time of graduation": (j) an understanding of processes that support the delivery and management of information systems within a specific application environment (2014-2015 Criteria for Accrediting Computing Programs). Some programmes have fewer Information Systems application domain environments (i.e., business, management, etc.). These include King Khalid University. Others have fewer than the recommended domain environment courses (see Table 5).

VII. CONCLUSION

This paper presents the results of a survey of the 25 Saudi Arabian university colleges teaching undergraduate programmes in Information Systems. Many of these universities are striving to have their courses accredited by external creditors, such as ABET. This paper has attempted to determine what characteristics these universities share with ABET-accredited Information Systems (IS) undergraduate programmes. It has also looked at how ABET is influencing Information Systems.. The design of the 25 IS programmes shows a trend for Information Systems to realign more towards science rather than business. This also means that these universities will have a higher probability of receiving ABET accreditation.

REFERENCES

1. ABET Computing Accreditation Commission (2004), Criteria for Accrediting Computing Programs, November 1, 2004.
2. ABET Computing Accreditation Commission, Criteria for Accrediting Computing Programs, Effective for Evaluations During the 2015-2016 Accreditation Cycle.
3. Gill, G., & Hu, Q. (1999) The evolving undergraduate information systems education: A survey of U.S. institutions. *Journal of Education for Business*. 74, 1-13.
4. Gorgone J.T., P. Gray, E. A. Stohr, J.S. Valacich, and R. T. Wigand, MSIS 2006 (January 2006): Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems, ACM, AIS.
5. Jeffery S. Babb and Amjad Abdulla (2013): Communicating the Value of Program-Level Accreditation for Information Systems in a College of Business. 2013 Proceedings of the Information Systems Educators Conference. Volume 30, Number 2570. San Antonio, Texas, USA.
6. King Abdulaziz City for Science and Technology (KACST): The Strategic Bases, [WWW Document] URL <http://www.kacst.edu.sa/en/about/stnp/pages/strategicbases.aspx>, [20 June 2015].
7. Kohum, F. G., & Wood, D. F. (2003). The ABET CAC Accreditation Experience – Intent and Reality – the Information Systems Perspective. *Information Systems Education Journal*, 1 (43), 3-11.
8. Lee, D., Trauth, E., & Farwell, D. (1995). Critical skills and knowledge requirements of IS professionals: A joint academic/industry investigation. *MIS Quarterly* 19, 313-340.
9. Lending, D. and Mathieu, R.G. (2010). "Workforce preparation and ABET assessment". Proceedings of the 2010 Special Interest Group on Management Information System's 48th annual conference on Computer personnel research on Computer personnel research ACM, New York, NY, USA, 136-14
10. M. Basel Al Mourad (January 2014): On the Design of a Curriculum that Meets ABET and AIS Requirements: Case of Web Design and Development Program, *International Journal of Computer and Communication Engineering*, Vol. 3, No. 1.
11. Stephen Larson and Maria C. R. Harrington (2012): A Survey of ABET Accredited Information Systems Undergraduate Programs in the USA. 2012 Proceedings of the Information Systems Educators Conference. New Orleans Louisiana, USA. Vol 29 , 1961.
12. Stevens, G. E. (2000). The art of running a business school in the new millennium: A dean's perspective. *SAM Advanced Management Journal*, Summer: 21–28.
13. Sundaram Nataraja, Abdullah M. Alharbi and Waleed Idiris (February 2014): Challenges and Benefits of Accreditation for Business Colleges in the Middle East. 1st Conference of the Consortium of Business Schools in the Gulf Cooperation Council (GCC) Region, February 16 - 18, 2014.
14. Szanto, T. R. (2005). Evaluations of the third kind: external evaluations of external quality assurance agencies. *Quality in Higher Education*, 11, 183–193. Retrieved from www.un.org
15. Topi Heikki, Joseph S. Valacich, Kate Kaiser, J.F. Nunamaker, Janice C. Sipior, GJ de Vreede and Ryan T. Wright, "IS 2010: Curriculum Guidelines for Undergraduate Degree Programs in Information Systems", Association for Computing Machinery (ACM) and Association for Information Systems (AIS).
16. Zammuto, R. (2008). Accreditation and the Globalization of Business. *Academy of Management Education and Learning*, 7 (2), 252-268.

Author Profile

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| Num | University | College | Economy | Business | Management | Marketing | Finance/Accounting | Organization/Others | CIS | MIS |
|------------|--|---|----------------|-----------------|-------------------|------------------|---------------------------|----------------------------|------------|------------|
| 1 | Taibah University | College of Computer and Information Sciences | | 3 | 3 | | 3 | | 9 | |
| | | College of Business Administration | 6 | 3 | 6 | 6 | 6 | 3 | | 30 |
| 2 | King Saud University | College of Computer and Information Sciences | 2 | 3 | | | 6 | 3 | 14 | |
| | | College of Business Administration | 6 | 3 | 6 | 3 | 9 | | | 27 |
| 3 | University of Dammam | College of Computer Science and Information Technology | 2 | 6 | | | | 2 | 10 | |
| | | College of Business Administration | 6 | 6 | 6 | | 6 | 6 | | 30 |
| 4 | King Faisal University | Computer & Information Technology | | 6 | | | | | 6 | |
| | | College of Business Administration | 8 | 5 | 3 | | 12 | 6 | | 34 |
| 5 | Salman bin Abdulaziz University | College of Computer Sciences & Information Technology | 3 | 3 | 3 | 3 | 3 | | 15 | |
| | | College of Business Administration | 8 | 12 | 6 | 3 | 6 | 6 | | 41 |
| 6 | King Abdul Aziz University | Faculty of Computing and Information Technology | | 2 | 2 | | 3 | 2 | 9 | |
| | | Faculty of Business (Rabigh) | 6 | 3 | 6 | 3 | 9 | 3 | | 30 |
| 7 | Imam Muhammad bin Saud Islamic University | College of Computer and Information Sciences | 2 | 3 | | | 3 | | 8 | |
| 8 | Prince Sultan University | College of Computer & Information Sciences | 2 | 3 | 3 | 3 | 6 | 2 | 19 | |
| 9 | Effat University | College of Engineering | | | 3 | | | 3 | 6 | |
| 10 | Princess Noura bint Abdul Rahman University | College of Computer Science and Information Science | | 6 | | | | 3 | 9 | |
| 11 | King Khalid University | College of Computer Science | | | | | | 3 | 3 | |
| 12 | Najran University | College of Computer Science and Information Systems | | | 3 | | 3 | | 6 | |
| 13 | Majmmah University | College of Computer Sciences and Information Technology | | 3 | | 3 | 6 | | 12 | |
| 14 | Jazan University | Faculty of Computer Sciences and Information Systems | | | 3 | | | | 3 | |
| 15 | University College of Jubail | College of Computer Science & Information Systems | 6 | 3 | 6 | 3 | 7 | 9 | | 34 |
| 16 | Prince Mohammad University | College of Business Administration | 6 | 3 | 6 | 3 | 9 | 7 | | 34 |
| 17 | King Fahad University for Petroleum and Minerals | College of Business Administration | 6 | 6 | 3 | 3 | 9 | 6 | | 21 |
| 18 | Qassim University | College of Business Administration | 5 | 6 | 12 | | 3 | 5 | | 31 |
| 19 | University of Hail | College of Business Administration | 6 | 3 | 12 | 3 | 9 | | | 33 |
| | Average | | | | | | | | 9 | 31 |
| | Number of individual college programs | | | | | | | | 14 | 11 |
| | Total IS undergraduate programs | | | | | | | | 25 | |

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| Appendix A: Saudi Arabian Universities Offering Information Systems Program | | | | | | | |
|---|---|---------------|------------------------|--|--------------|------------------------------|--|
| Num | Universities Name | Main Location | Web address | College Name | Program name | Program title (IS/ CIS/ MIS) | Accreditation (whether internally or externally) |
| 1 | Taibah University | Madinah | taibahu.edu.sa | College of Computer Science and Engineering | BSc | IS | Int / Ext in process |
| 2 | | Madinah | | College of Business Administration | BSc | MIS | Int / Ext in process |
| 3 | King Saud University | Riyadh | ksu.edu.sa | College of Computer and Information Sciences | BSc | IS | Inte/ Ext |
| 4 | | Riyadh | | College of Business Administration | BSc | MIS | Inte |
| 5 | King Faisal University | Al Ahsa | kfu.edu.sa | College of Computer Science and Information Technology | BSc | IS | Int/ Ext |
| 6 | | Al Ahsa | kfu.edu.sa | College of Business Administration | BSc | MIS | Int |
| 7 | King Abdul Aziz University | Jeddah | kau.edu.sa | Faculty of Computing and Information Technology | BSc | IS | Int / Ext |
| 8 | | Rabigh | | Faculty of Business | BSc | MIS | Int |
| 9 | Prince Sattam bin Abdulaziz University | Al Kharj | psau.edu.sa | College of Computer Engineering and Science | BSc | IS | Int / Ext |
| 10 | | Al Kharj | | College of Business Administration | BSc | MIS | Int / Ext |
| 11 | University of Dammam | Dammam | uod.edu.sa | College of Computer Science and Information Technology | BS | CIS | Int / Ext in process |
| 12 | | Dammam | | College of Business Administration | BS | MIS | Int |
| 13 | King Fahd University for Petroleum and Minerals | Dhahran | kfupm.edu.sa | College of Industrial Management | BSc | MIS | Int / Ext |
| 14 | Imam Muhammad bin Saud Islamic University | Riyadh | imamu.edu.sa | College of Computer and Information Sciences | BSc | IS | Int |
| 15 | Prince Mohammad University | Riyadh | pmu.edu.sa | College Of Business Administration (COBA) | BSc | MIS | Int / Ext in process |
| 16 | Prince Sultan University | Riyadh | psu.edu.sa | College of Computer & Information Sciences | BSc | IS | Int |
| 17 | Alfaisal University | Riyadh | alfaisal.edu | College of Computer Sciences & Information Technology | BSc | IS | Int / Ext in process |
| 18 | Effat University | Jeddah | effatuniversity.edu.sa | College of Engineering | BSc | IS | Int |
| 19 | Princess Noura bint Abdul Rahman University | Riyadh | pnu.edu.sa | Computer and Information Sciences | BSc | IS | Int |

| | | | | | | | |
|----|--|-------------|------------------|---|-----|-----|------------------------|
| 20 | King Khalid University | Abha | cs.kku.edu.sa | College of Computer Science | BSc | IS | In |
| 21 | University College of Jubail | Jubail | ucj.edu.sa | College of Business | BSc | MIS | Int / Ext in process |
| 22 | Najran University | Najran | portal.nu.edu.sa | College of Computer and Information Systems | BSc | IS | Int |
| 23 | Al-Majmmah University | Al Majma'ah | mu.edu.sa | College of Computer and Information Science | BSc | IS | Int |
| 24 | Qassim University | Qassim | qu.edu.sa | College of Business Administration & Economics | BSc | MIS | Int / Ext in process |
| 25 | Yanbu University College | Yanbu | yuc.edu.sa | Faculty of Computer Science and Engineering | BSc | MIS | Int / Ext (in process) |
| 26 | Jazan University | Jazan | jazanu.edu.sa | College of Computer Science and Information Systems | BSc | IS | Int / Ext in process |
| 27 | University of Hail | Hail | uoh.edu.sa | College of Computer Science and Information Systems | BSc | MIS | Int |
| 28 | Prince Sattam bin Abdulaziz University | Al Kharj | psau.edu.sa | Computer Science and Engineering | BSc | IS | Int |
| 29 | Northern Borders University | Arar | nbu.edu.sa | Faculty of Computing and Information Technology | BSc | IS | Int |
| 30 | University of Tabuk | Tabuk | ut.edu.sa | Faculty of Computers and Information Technology | BSc | IS | Int |

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| Num | Universities Name | Main Location | Web address | College Name | Program name | Program title (IS/ CIS/ MIS) | Accreditation (whether internally or externally) |
|-----|----------------------------|---------------|--|--|--------------|------------------------------|--|
| 1 | Taibah University | Madinah | taibahu.edu.sa | College of Computer Science & Engineering | BSc | IS | Int / Ext in process |
| 2 | | Madinah | | College of Business Administration | BSc | MIS | Int / Ext in process |
| 3 | King Saud University | Riyadh | ksu.edu.sa | College of Computer & Information Sciences | BSc | IS | Inte/ Ext |
| 4 | | Riyadh | | College of Business Administration | BSc | MIS | Inte |
| 5 | King Faisal University | Al Ahsa | kfu.edu.sa | College of Computer Science & Information Technology | BSc | IS | Int/ Ext |
| 6 | | Al Ahsa | | College of Business Administration | BSc | MIS | Int |
| 7 | King Abdul Aziz University | Jeddah | kau.edu.sa | Faculty of Computing & Information Technology | BSc | IS | Int / Ext |
| 8 | | Rabigh | | Faculty of Business | BSc | MIS | Int |

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| | | | | | | | |
|----|---|-------------|--|---|-----|-----|------------------------|
| 9 | Prince Sattam bin Abdulaziz University | Al Kharj | psau.edu.sa | College of Computer Engineering & Science | BSc | IS | Int / Ext |
| 10 | | Al Kharj | | College of Business Administration | BSc | MIS | Int / Ext |
| 11 | University of Dammam | Dammam | uod.edu.sa | College of Computer Science & Information Technology | BS | CIS | Int / Ext in process |
| 12 | | Dammam | | College of Business Administration | BS | MIS | Int |
| 13 | King Fahd University for Petroleum and Minerals | Dhahran | kfupm.edu.sa | College of Industrial Management | BSc | MIS | Int / Ext |
| 14 | Imam Muhammad bin Saud Islamic University | Riyadh | imamu.edu.sa | College of Computer & Information Sciences | BSc | IS | Int |
| 15 | Prince Mohammad University | Riyadh | pmu.edu.sa | College of Business Administration | BSc | MIS | Int / Ext in process |
| 16 | Prince Sultan University | Riyadh | psu.edu.sa | College of Computer & Information Sciences | BSc | IS | Int |
| 17 | Alfaisal University | Riyadh | alfaisal.edu | College of Computer Sciences & Information Technology | BSc | IS | Int / Ext in process |
| 18 | Effat University | Jeddah | effatuniversity.edu.sa | College of Engineering | BSc | IS | Int |
| 19 | Princess Noura bint Abdul Rahman University | Riyadh | pnu.edu.sa | Computer & Information Sciences | BSc | IS | Int |
| 20 | King Khalid University | Abha | cs.kku.edu.sa | College of Computer Science | BSc | IS | In |
| 21 | University College of Jubail | Jubail | ucj.edu.sa | College of Business | BSc | MIS | Int / Ext in process) |
| 22 | Najran University | Najran | portal.nu.edu.sa | College of Computer & Information Systems | BSc | IS | Int |
| 23 | Al-Majmmah University | Al Majma'ah | mu.edu.sa | College of Computer & Information Science | BSc | IS | Int |
| 24 | Qassim University | Qassim | qu.edu.sa | College of Business Administration & Economics | BSc | MIS | Int / Ext in process |
| 25 | Yanbu University College | Yanbu | yuc.edu.sa | Faculty of Computer Science & Engineering | BSc | MIS | Int / Ext (in process) |
| 26 | Jazan University | Jazan | jazanu.edu.sa | College of Computer Science & Information Systems | BSc | IS | Int / Ext in process |
| 27 | University of Hail | Hail | uoh.edu.sa | College of Computer Science & Information Systems | BSc | MIS | Int |
| 28 | Prince Sattam bin Abdulaziz University | Al Kharj | psau.edu.sa | Computer Science & Engineering | BSc | IS | Int |
| 29 | Northern Borders University | Arar | nbu.edu.sa | Faculty of Computing & Information Technology | BSc | IS | Int |
| 30 | University of Tabuk | Tabuk | ut.edu.sa | Faculty of Computers & Information Technology | BSc | IS | Int |

Appendix B: ABET Accredited Programs Saudi Arabian Computer related programmes

Source: <http://main.abet.org/aps/Accreditedprogramsearch.aspx>.

| | School Name | Website | Program and Degree Name |
|----|--|--|----------------------------|
| 1 | King Abdulaziz University | www.kau.edu.sa/home_english.aspx | Computer Science, BS |
| 2 | King Abdulaziz University | www.kau.edu.sa/home_english.aspx | Information Systems, BS |
| 3 | King Abdulaziz University | www.kau.edu.sa/home_english.aspx | Information Technology, BS |
| 4 | King Fahd University of Petroleum and Minerals | www.kfupm.edu.sa | Computer Engineering, BS |
| 6 | King Fahd University of Petroleum and Minerals | www.kfupm.edu.sa | Computer Science, BS |
| 7 | King Fahd University of Petroleum and Minerals | www.kfupm.edu.sa | Software Engineering, BS |
| 8 | King Faisal University | www.kfu.edu.sa | Information Systems, BS |
| 9 | King Faisal University | www.kfu.edu.sa | Computer Science, BS |
| 10 | King Saud University | www.ksu.edu.sa | Computer Engineering, BS |
| 11 | King Saud University | www.ksu.edu.sa | Computer Science, BS |
| 12 | King Saud University | www.ksu.edu.sa | Information Systems, BS |
| 13 | King Saud University | www.ksu.edu.sa | Information Technology, BS |
| 14 | Taif University | http://www.tu.edu.sa | Computer Engineering, BS |
| 15 | Taif University | http://www.tu.edu.sa | Computer Science, BS |
| 16 | Umm Al-Qura University | www.uqu.edu.sa/english/ | Computer Engineering, BS |
| 17 | Umm Al-Qura University | www.uqu.edu.sa/english/ | Computer Science, BS |