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PROFESSIONAL ACCREDITATION OF INFORMATION SYSTEMS PROGRAMS

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ABSTRACT

Although accreditation is over 100 years old, the accreditation of information systems programs is a new experience for information systems professionals. This paper describes the important aspects of accreditation as a process of excellence and shows how information systems faculty members can now employ that process to improve the overall quality of their programs for the benefit of their students, their institutions, and their profession.

Keywords: accreditation, information systems, program accreditation

I. INTRODUCTION

The need for accreditation in information systems (IS) is not new. For more than fifteen years, individuals articulated the desire for IS inclusion in the overall accreditation process. For a variety of reasons, the accreditation for information systems programs did not materialize until July 2001.

When a program seeks to be accredited, it distinguishes itself by voluntarily submitting to peer scrutiny. If successful, an accrediting agency publicly proclaims this achievement.

The accreditation process allows a program to reflect introspectively on its:

- mission,
- goals, and
- learning objectives.

The process collectively brings together members of a faculty to examine their own courses and methods and, ultimately, improve the learning environment of its students.

Table 1 summarizes the start date of accreditation in a variety of fields and lists the agency currently responsible. Section III summarizes the relevant agencies involved in accreditation. For programs in information systems, the accreditation process just began.

Table 1. Starting Dates for Accreditation

AREA	CURRENT AGENCY	YEAR STARTED
Business and Management	AACSB	1916
Engineering	ABET	1932
Technology	ABET	1946
Accounting	AACSB	1980
Computer Science	CSAB / ABET	1986 / 2001*
Information Systems	ABET	2001

*CSAB began its integration into ABET in 1998 and completed the process in 2001.

The need for peer evaluation of information systems programs is clear. Such programs are offered in different schools (such as business, arts and sciences, and engineering) across universities throughout the world with no standard to measure the level of their performance. While it is true that several professional organizations (ACM, AIS, and AITP) publish curriculum recommendations from time to time [e.g., Davis et al 1997; Gorgone & Gray 2002], such recommendations primarily offer curriculum guidance to faculty. They do not focus on the other critical issues such as:

- student needs,
- faculty quality,
- technical infrastructure, and
- institutional support.

The time for elevating the total quality of information systems programs is now. The mechanisms to allow all information systems programs to consider accreditation are in place. This paper explains the rationale behind accreditation and offers compelling reasons why faculty members of all information systems programs should consider this important activity seriously and participate in this worthwhile and enriching experience.

II. DEFINITION OF ACCREDITATION

Societal and governmental agencies throughout the world use accreditation to establish standards of quality primarily in educational institutions and programs. The U.S. Department of Education [DOE, 2001] states:

"The goal of accreditation is to ensure that education provided by institutions of higher education meets acceptable levels of quality."

Sidebar 1 presents a more detailed definition of accreditation by the Council of Higher Education [CHEA, 1998].

SIDEBAR 1
ACCREDITATION DEFINED

Accreditation in higher education is defined as a collegial process based on self- and peer assessment for public accountability and improvement of academic quality. Peers assess the quality of an institution or academic program and assist the faculty and staff in improvement. An accreditation of an academic program or an entire institution typically involves three major activities:

- The faculty, administrators, and staff of the institution or academic program conduct a self-study using the accrediting organization's set of expectations about quality (standards, criteria) as their guide.
- A team of peers, selected by the accrediting organization, reviews the evidence, visits the campus to interview the faculty and staff, and writes a report of its assessment including recommendation to the commission of the accrediting organization (group of peer faculty and staff, professionals, and public members).
- *Guided by a set of expectations about quality and integrity, the commission reviews the evidence and recommendation, makes a judgment, and communicates the decision to the institution and other constituencies if appropriate.*

Accreditation is an integral part of our system of higher education. Our system consists of both public and private institutions with a wide range of types of missions, from national research universities and regional comprehensive institutions to liberal arts colleges and very small faith-related colleges to community colleges and vocational institutions. The genius of this system is that, unlike other countries, we do not have mandatory national curricula for colleges; we do not have a national ministry of education that regulates academic standards; and students are free to choose what type of education they pursue depending on their ability, financial resources, and educational goals. Because it developed from this diverse set of institutions, accreditation is a flexible and adaptive process. Institutions that seek accreditation can do so from a wide range of accrediting organizations — from national bodies that are oriented to a particular type of institution, to regional organizations that encompass a wide range of types of institutions, to specialized organizations that focus on a single discipline or profession.

Note: This definition was published by The Council on Higher Education Accreditation on September 28,1998

For the accreditation of institutions, the Accrediting Council for Independent Colleges and Schools (ACICS) states:

> *"Accreditation is a status granted to an institution that meets or exceeds the stated criteria of educational quality. The purposes of accreditation are to assess and enhance the educational quality of an institution, to assure consistency in institutional operations, to promote institutional improvement, and to provide for public accountability." [ACICS, 2001]*

For the accreditation of specific programs, the Association to Advance Collegiate Schools of Business (AACSB) states:

> *"… accreditation assures quality and promotes excellence and continuous improvement in undergraduate and graduate education for business administration and accounting. Accreditation is a process of voluntary, non-governmental review of educational institutions and programs. Specialized*

> *agencies award accreditation for professional programs and academic units in particular fields of study." [AACSB, 1998]*

Accreditation differs from certification and licensing in that accreditation affects institutions and programs whereas certification and licensing affects individuals.

III. ACCREDITATION AGENCIES

In this section, we consider the agencies that are concerned with information systems:

- The American Association of Collegiate Schools of Business (AACSB),
- The Accreditation Board for Engineering and Technology (ABET), and
- The Computing Sciences Accreditation Board (CSAB), which has become an ABET society, and is integrated with ABET.

Each of the accreditation agencies reports to the Council on Higher Education Accreditation (CHEA) [CHEA, 2001]. Established in 1996, CHEA is a private, not-for-profit national organization that coordinates accreditation activities in the United States. Appendix I presents a brief history of accreditation agencies.

AACSB

AACSB International is the accrediting agency for programs in accounting and business administration. Created in 1916, AACSB fosters the promotion and improvement of higher education in accounting, business administration, and management. Its mission is to assure quality and to promote excellence and continuous improvement in undergraduate and graduate education for business administration and accounting through accreditation. AACSB International accredits both undergraduate and graduate degree programs in accounting and business administration. As of April 2002, AACSB International membership consists of 899 educational, government, corporate, and nonprofit organizations, including 411 accredited institutions. AACSB accreditation is at the "college level" as in the College of Business. The only current specialized program that AACSB accredits is accounting. Except for accounting, the emphasis to assure quality is on business administration, not, for example, on information systems.

ABET

ABET is a federation of 31 professional engineering and technical societies. ABET accredits more than 2500 engineering, engineering technology, computing, and applied science programs at over 550 colleges and universities in the United States. Beginning in 2001, its responsibilities include information systems programs. Its vision is to provide world leadership to assure quality and stimulate innovation in engineering, technology, and applied science education. Its mission is to serve the public through the promotion and advancement of engineering, technology, and applied science education. ABET promotes quality and innovation, assists in the development and advancement of education, informs the public of activities and accomplishments, and manages operations and resources to be responsive and relevant to the needs of the organization and its stakeholders [ABET, 2001].

The International Activities Committee (INTAC) handles ABET's international activities. Created in 1991, INTAC is responsible for supervising all international activities of ABET including the programs deemed "substantially equivalent" and the selection of international program evaluators. This activity provides an opportunity for all IS programs located outside the United States and its territories to apply for the "substantially equivalent" accreditation status. Policies and procedures are similar to accreditation in the United States. Although it cannot take any accreditation action, the consultancy review of the program can lead to an assessment of "substantial equivalency" to accredited program in the United States
[http://www.abet.org/sub_equ_prg1.html].

ABET is in the process of changing its name from the "Accreditation Board for Engineering, Technology, Inc." to simply "ABET" because of its broader mission and because the

name “ABET” is contained in many legislative and governmental documents throughout the country and the world.

CSAB

The Association for Computing Machinery (ACM) [ACM, 2001] and the IEEE Computer Society (IEEE/CS) [IEEE/CS, 2001] founded the Computing Sciences Accreditation Board (CSAB) in 1985. At that time, CSAB created the Computer Science Accreditation Commission as a commission under CSAB. Over the next seventeen years, both the ACM and the IEEE/CS helped underwrite the operations of CSAB. In 1998 October, CSAB announced that it would become a member of ABET as one of its technical societies and integrate the Computer Science Accreditation Commission within the ABET commissions. The agreement between ABET and CSAB included the following provisions:

- CSAB would become the lead society for computer science, software engineering, and information systems. It would be responsible for defining criteria to evaluate programs, proposing accreditation guidelines, and appointing, assigning, and training program evaluators in the required disciplines;
- ABET would establish a new commission called the Computing Accreditation Commission (CAC) to be responsible for the accreditation of computer science, information systems, and other computer-related programs.

For the 1999-2000 and the 2000-2001 accreditation cycles, the CSAB Board of directors authorized ABET to operate the Computing Sciences Accreditation Commission, as it was still responsible for program accreditation in computer science. This arrangement allowed CSAB to reorganize itself while offering ABET the opportunity to integrate the CSAC commission operation with little difficulty into the newly created Computing Accreditation Commission (CAC). CSAB became an official member of the ABET board in the fall of 2000 and CSAC was officially integrated within the ABET in 2001 July. The new CAC began operations with the 2001-2002 accreditation cycle. The operating procedures of the CAC remain similar to that of the CSAC, but over time these procedures will most likely align themselves with ABET’s existing commissions.

IV. MOVING TOWARD ACCREDITING IS PROGRAMS

It was always the intent of CSAB to include to information systems areas in computing accreditation. Early efforts go back as far as 1986 when individuals expressed an interest in accrediting information systems programs. These individuals organized a workshop on computer information systems in Dallas, Texas, on 1 November 1986 during the Fall Joint Computer Conference, to discuss interest in accrediting information systems programs [Cannon, 1986, Gorgone & McGregor, 1989]. Representatives from ACM, IEEE/CS and AITP (formerly DPMA) were at the workshop. Participants discussed the advantages, disadvantages, and concerns of information systems accreditation as they were then understood. The major concerns were as follows:

1. Any criteria devised would need to satisfy three constituencies: ACM model curriculum, DPMA (now AITP) model curriculum, and the AACSB criteria;
2. The information systems discipline may not be ready to define itself through accreditation criteria;
3. Approximately 50% of the programs are in business schools and they follow the AACSB criteria; and
4. The creation of the criteria would require a great deal of effort and money [Cannon, 1986].

Interested parties expressed sufficient interest to form a working group with one representative from each society to develop a set of preliminary criteria. A working group drafted the information systems criteria and presented them to ACM’s accreditation committee at the 1987 Computer Science Conference [Gorgone & McGregor, 1989]. The group made public

presentations at technical conferences and first published the draft criteria in 1987 [Gorgone, McGregor, Ho, 1987a, b, c].

The newness of CSAB coupled with the variety of information systems programs housed in different schools, the existence of several model curricula, and the lack of resources hampered progress. The initial intention to include information systems as a separate commission under CSAB never came to fruition. Including information systems in computing accreditation maintained continued interest throughout the 1990s. In 1995, ACM, AIS, and AITP formed a joint curriculum task force and created the first joint information systems undergraduate model curriculum in 1997, called IS'97 [Davis et al, 1997].

In 1998, the National Science Foundation issued a three-year grant [NSF, 1998] to study the feasibility of accreditation of programs in computer information science, systems, and technology. The grant provided the funds needed to develop accreditation criteria and procedures for information systems and to study the feasibility of such an accreditation activity. Funding from NSF coupled with the development, dissemination, and widespread acceptance of the IS'97 information systems curriculum model overcame two major obstacles (funding and a common curriculum) to information systems accreditation. Using the structure and design of computer science accreditation criteria developed by CSAB as a model, the draft criteria for information systems programs were developed.

The adoption of the IS'97 model curriculum was a major contribution to the curricular portion of the criteria of accreditation in information systems. The draft criteria were presented and discussed at numerous conferences, for crucial feedback, including ACM's Computer Science Education Conference, AIS's Americas Conference for Information Systems, the International Conference for Information Systems, and AITP's IS Education Conference. The criteria were approved in June 2001 by CSAB and in November 2001 by ABET. The 2002-2003 program criteria for undergraduate information systems appear in Appendix II. An online version of the criteria, guidance, background material, and future updates, are on the ABET website at http://www.abet.org/criteria.html.

In 2001, CSAB changed its name from the "Computing Sciences Accreditation Board, Inc. to simply "CSAB" as it was no longer an accrediting body, but now a professional society. The Computer Science Accreditation Commission (CSAC) of CSAB was moved to ABET and renamed the Computing Accreditation Commission (CAC). In October 2001, CSAB expanded its existing membership of ACM and the IEEE/CS, to include the Association for Information Systems (AIS) [AIS, 2001] to ensure representation from the information systems worldwide community.

V. DOING ACCREDITATION

PROGRAM EVALUATORS

One of the critical steps necessary to conduct a credible accreditation operation is the selection and training of program evaluators (PEVs). The IEEE (not IEEE's Computer Society) is also a member of ABET. It organized the evaluator functions through its Committee on Engineering Accreditation Activities (CEAA), thereby providing highly qualified PEVs to the Engineering Accrediting Commission of ABET. When the CSAB conducted accreditation through its CSAC, its two member societies (ACM and IEEE/CS) were responsible for the selection of qualified PEVs. The ACM conducted this responsibility through its Accreditation Committee and provided hundreds of qualified professionals to the Computing Science Accreditation Commission; the committee also engaged in many related activities such as international accreditation, distance learning, and outreach endeavors. The IEEE Computer Society (IEEE/CS) conducted this responsibility through an ad hoc committee of its Education Activities Board.

Member societies of ABET are responsible for certain functions, especially in those areas where they are lead or cooperating societies for specific program areas. Their principal function is to provide PEVs for associated commissions of ABET. In addition, lead societies and cooperating societies of ABET fulfill indirect responsibilities, including:

- Support of its representing directors,

- Maintain a database of PEVs to support their training schedule and to record the evaluation of PEVs, and
- Support all PEV functions.

Lead societies such as CSAB are responsible for developing and publishing program-specific criteria (e.g. computer science, information systems) for use in the accreditation process, the development of all materials and activities involving PEV training, and the recommendation of team chairs (commissioners) to the appropriate commissions.

For the current ABET structure, CSAB's functions as a lead society and a cooperating society include the selection of PEVs through its Program Evaluation and Program Criteria (PEPC) committee. This committee includes representation from its CSAB member societies (ACM, IEEE/CS, and AIS). It also established a subcommittee to undertake the selection of PEVs. This subcommittee currently has four members (one from ACM, one from IEEE/CS, one from AIS, and the chair of the PEPC committee). Those interested in an application to become an IS program evaluator should consult http://www.csab.org.

ACHIEVING IS ACCREDITATION

To date, criteria are in place to conduct accreditation for undergraduate programs only; a process for accrediting graduate programs will be a topic for future discussion. To achieve undergraduate accreditation status in information systems, an individual program must send a formal communication to ABET indicating its desire to engage in the accreditation process. The institution must complete a self-study according to prescribed guidelines and submit it to ABET. This completes the institution's formal application for accreditation candidacy. If ABET accepts the candidacy of an applicant, it will conduct a formal visit to the campus usually in the fall of the year with a decision made the following year. The complete process (preparing the self-study, conducting the visit, and reaching a decision) takes approximately two years [Impagliazzo, 1997]. Programs that do not receive accreditation are welcome to resubmit an application when they feel the time is appropriate. ABET does not make public those names of programs that fail the accreditation process; it only advertises programs that achieve accredited status. Table 2 summarizes the accreditation activities.

Table 2. Program Accreditation Activities

Date	Activity
Year (-1)	Institution begins self-evaluation process
Year 0	Institution begins self-study document
Year 0, Fall	Institution decides to engage in accreditation
Year 1, January	Institution applies to ABET for accreditation
Year 1, Early	Institution completes self-study document
Year 1, May	Institution submits self-study document to ABET
Year 1, June	ABET assigns visiting team to institution
Year 1, Fall	Visiting team makes on-site visit
Year 1, Fall	Institution replies within 14 days of on-site visit
Year 2, Winter	Institution receives preliminary statement from ABET
Year 2, Spring	Due process begins followed by institutional response
Year 2, May	ABET prepares draft of final statement
Year 2, July	ABET holds commission meeting
Year 2, July	ABET determines accreditation status for program
Year 2, July	ABET completes final statement

VI. CONCLUSION

The benefits of accreditation couple closely with inherent responsibilities. All accredited programs in business administration, accounting, engineering, technology, and computer science benefit from the experience through national and international recognition, through industry and government recognition, and through peer recognition. Agencies do not gratuitously grant accreditation recognition. Programs earn this recognition through thought, discussions, faculty engagement, and plain work.

For programs in information systems, there is much to gain. Aside from the benefits mentioned, information systems programs can benefit from the experiences of accreditation from related programs such as those in computer science. The effort, time, and endurance made in achieving accreditation status for a large number of programs elevate the image and respect of information systems programs throughout the nation, even if some of these programs reside in schools already accredited by AACSB. For individual programs, accreditation status elevates the respect and quality of such programs at their local institution. They have the knowledge that the program from which their students graduate has met all the criteria established and accepted by professionals across the world.

Information systems accreditation is here and it is here to stay. The sooner programs earn accredited status, the better it will be for all information systems interests, whether societal, commercial, or industrial. The greatest benefactors of IS accreditation are the IS students. Graduates from accredited programs know they are products of a program that professionals have evaluated and as a result, they will be better prepared to meet the challenges they will face in their careers.

Institutions benefit from accreditations because they can attract better students. The business community will seek out their graduates because of that recognition. Employers will know that graduates have completed their studies from an accredited program that meets the criteria and standards established by professionals in their field.

EDITOR'S NOTE*:* This article was received on April 3, 2002 and was published on August 5, 2002. It was with the authors for 3 months for two revisions.

REFERENCES

EDITOR'S NOTE: The following reference list contains the address of World Wide Web pages. Readers who have the ability to access the Web directly from their computer or are reading the paper on the Web, can gain direct access to these references. Readers are warned, however, that

1. these links existed as of the date of publication but are not guaranteed to be working thereafter.
2. the contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.
3. the authors of the Web pages, not CAIS, are responsible for the accuracy of their content.
4. the authors of this article, not CAIS, is responsible for the accuracy of the URL and version information.

AACSB, Association to Advance Collegiate Schools of Business (1998) http://www.aacsb.edu/

ABET, Accrediting Board for Engineering and Technology (2000) http://www.abet.org/

ABET, Accrediting Board for Engineering and Technology, Vision and mission (June 10, 2001) http://www.abet.org/vision.html

ACICS, Accrediting Council for Independent Colleges and Schools (Nov 19, 2001) http://www.acics.org/

ACM, Association for Computing Machinery (Nov 25, 2001) http://www.acm.org/

AIS, Association for Information Systems (2001) http://www.aisnet.org/

Cannon, Robert L. (November 1,1986), "Report on Workshop on Computer Information Systems," Minutes of ACM Accreditation Committee

CHEA, Council on Higher Education Accreditation, Statement on "Accreditation Defined" (Sept 28, 1998) http://www.chea.org/About/Recognition.cfm#appendixa

CHEA, Council on Higher Education Accreditation (Oct 12, 2001) http://www.chea.org/

CSAB, Computing Sciences Accreditation Board (Nov 9, 2001) http://www.csab.org/

Davis, G.B., J. T. Gorgone, J.D. Couger, D.L. Feinstein, and H. E. Longenecker, Jr. (Winter 1997) "IS 97 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems," *The DATA BASE for Advances in Information Systems*, (28) 1, pp. 1-94.

DOE, U.S. Department of Education, Office of Postsecondary Education, Accreditation (Nov 3, 2001) http://www.ed.gov/offices/OPE/accreditation/

Gorgone, John T., and Paul Gray (Eds) (2000), "MSIS Model Curriculum and Guidelines for Graduate Degree Programs in Information Systems," *The Data Base for Advances in Information systems* (31:1) Winter 2002.

Gorgone, John T., and J. D. McGregor (1989), "Computing Sciences Accreditation: A Cooperative Effort in CIS," *Computer Science Education,* (1), pp. 99-110.

Gorgone, J. T., J. D. McGregor, and T.I.M. Ho (1987a), "Proposed Evaluation Criteria for Information Systems Programs Accreditation, *SIGCSE Bulletin* (19) 4, pp. 36-39.

Gorgone, J. T., J. D. McGregor, and T.I.M. Ho (1987b), "Proposed Evaluation Criteria for Information Systems Programs Accreditation, *IEEE EAB* (23), pp. 5-13.

Gorgone, J. T., J. D. McGregor, and T.I.M. Ho (1987c) "Proposed Evaluation Criteria for Information Systems Programs Accreditation, *EDSIG News* (4) 3, pp. 47-49.

IEEE/CS, IEEE Computer Society (Nov 19, 2001) http://www.computer.org/

Impagliazzo, J. et al (1997) "Accreditation in the Computing Profession" *Proceedings of the 1997 Conference on Systemics, Cybernetics, and Informatics, SCI'97*.

National Science Foundations (1998) grant DUE 9812278.

NEACS, New England Association of Schools and Colleges (2001) http://www.neasc.org/

APPENDIX I
HISTORY OF ACCREDITATION

This appendix considers the history of accrediting agencies, of which there are several. They include the regional accrediting agencies, the Council on Higher Education, the American Association of Collegiate Schools of Business (AACSB), the Accreditation Board for Engineering and Technology (ABET), and the Computing Sciences Accreditation Board (CSAB), which integrated with ABET.

Accreditation in the United States can trace it roots back to 1885 when the New England Association of Schools and Colleges (NEASC) began its operations as an accrediting association [NEASC, 2001]. Today the NEASC is one of six regional accrediting agencies in the United States. The other agencies include: Middle States Association of Colleges and Schools (MSA), North Central Association of Colleges and Schools (NCA), Northwest Association of Schools, Colleges and Universities (NWA), Southern Association of Colleges and Schools (SACS), and Western Association of Schools and Colleges (WASC). National and specialized accrediting agencies also exist; they accredit institutions and programs, respectively.

The Council on Higher Education Accreditation (CHEA) is a council that oversees accrediting agencies [CHEA, 2001]. Established in 1996, CHEA is a private, not-for-profit national organization that coordinates accreditation activities in the United States. The CHEA is a successor organization to the Commission on Recognition of Postsecondary Accreditation (CORPA), which succeeded the Council on Postsecondary Accreditation (COPA). The CHEA is the only non-governmental higher education organization that undertakes the recognition of regional, national, and specialized accrediting organizations. The federal government through its Department of Education conducts governmental reviews of this recognition. The CHEA recognizes the regional accrediting organizations since they meet its eligibility recognition standards.

The CHEA also recognizes six national accrediting agencies. They include: Accrediting Association of Bible Colleges (AABC), Accrediting Commission of the Distance Education and

Training Council (DETC), Accrediting Council for Independent Colleges and Schools (ACICS), Association of Advanced Rabbinical and Talmudic Schools (AARTS), Association of Theological Schools in the United States and Canada (ATS), and the Transnational Association of Christian Colleges and Schools Accrediting Commission (TRACS). The CHEA also recognizes over 50 specialized accrediting organizations. One such organization was the Computer Science Accreditation Commission (CSAC) of the Computing Sciences Accreditation Board (CSAB) [CSAB, 2001]. Two other specialized accrediting organizations are the Association to Advance Collegiate Schools of Business (AACSB International) [AACSB, 1998] and the Accreditation Board for Engineering and Technology (ABET) [ABET, 2001].

APPENDIX II
2002-2003 CRITERIA FOR UNDERGRADUATE INFORMATION SYSTEMS PROGRAMS

I. Objectives and Assessments

Intent

The program has documented educational objectives that are consistent with the mission of the institution. The program has in place processes to regularly assess its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program's objectives.

Standards

I-1 The program must have documented educational objectives.
I-2 The program's objectives must include expected outcomes for graduating students.
I-3 Mechanisms must be in place to periodically review the program and the courses.
I-4 The results of the program's assessment must be used to help identify and implement program improvement.
I-5 The results of the program's review and the actions taken must be documented.

II. Students

Intent

Students can complete the program in a reasonable amount of time. Students have ample opportunity to interact with their instructors and are offered timely guidance and advice about the program's requirements and their career alternatives. Students who graduate the program meet all program requirements.

Standards

II-1 Courses must be offered with sufficient frequency for students to complete the program in a timely manner.
II-2 Information systems programs must be structured to ensure effective interaction between teaching faculty and students.
II-3 Advising on program completion, course selection and career opportunities must be available to all students.
II-4 There must be established standards and procedures to ensure that graduates meet the requirements of the program.

III. Faculty

Intent

Faculty members are current an o active in the discipline and have the necessary technical breadth and depth to support a modern information systems program.

Standards

III-1 The interests, qualifications, and scholarly contributions of the faculty members must be sufficient to teach the courses, plan and modify the courses and curriculum, and to remain abreast of current developments in information systems.

III-2 All faculty members must have a level of competence that would normally be obtained through graduate work in information systems.

III-3 A majority of the faculty members should hold terminal degrees. Some full-time faculty members must have a Ph.D. in information systems or a closely related area.

IV. Curriculum

Intent

The curriculum combines professional requirements with general education requirements and electives to prepare students for a professional career in the information systems field, for further study in information systems, and for functioning in modern society. The professional requirements include coverage of basic and advanced topics in information systems as well as an emphasis on an IS environment. Curricula are consistent with widely recognized models and standards.

Standards

Curriculum standards are specified in terms of semester-hours of study. Thirty semester-hours generally constitutes one year of full-time study and is equivalent to 45 quarter-hours. A course or a specific part of a course can only be applied toward one standard.

General

IV-1 The curriculum must include at least 30 semester-hours of study in information systems topics.

IV-2 The curriculum must contain at least 15 semester-hours of study in an information systems environment, such as business.

IV-3 The curriculum must include at least 9 semester-hours of study in quantitative analysis as specified below under quantitative analysis.

IV-4 The curriculum must include at least 30 semester-hours of study in general education to broaden the background of the student.

Information Systems

IV-5 All students must take a broad-based core of fundamental information systems material consisting of at least 12 semester hours.

IV-6 The core materials must provide basic coverage of the hardware and software, a modern programming language, data management, networking and telecommunications, analysis and design, and role of IS in organizations.

IV-7 Theoretical foundations, analysis, and design must be stressed throughout the program.

IV-8 Students must be exposed to a variety of information and computing systems and must become proficient in one modern programming language.

IV-9 All students must take at least 12 semester hours of advanced course work in information systems that provides breadth and builds on the IS core to provide depth.

Information Systems Environment

IV-10 The 15 semester hours must be a cohesive body of knowledge to prepare the student to function effectively as an IS professional in the IS environment.

Quantitative Analysis

IV-11 The curriculum must include -at least 9 semester-hours of quantitative analysis beyond pre-calculus.
IV-12 Statistics must be included.
IV-13 Calculus or discrete mathematics must be included.

Additional Areas of Study

IV-14 The oral and written communications skills of the student must be developed and applied in the program.
IV-15 There must be sufficient coverage of global, economic, social and ethical implications of computing to give students an understanding of a broad range of issues in these areas
IV-16 Collaborative skills must be developed and applied in the program.

V. Technology Infrastructure

Intent

Computer resources are available, accessible, and adequately supported to enable students to complete their course work and to support faculty teaching needs and scholarly activity.

Standards

V-1 Each student must have adequate and reasonable access to the systems needed for each course.
V-2 Documentation for hardware and software must be readily accessible to faculty and students.
V-3 All faculty members must have access to adequate computing resources for class preparation and for scholarly activities.
V-4 There must be adequate support personnel to install and maintain computing resources.
V-5 Instructional assistance must be provided for the computing resources.

VI. Institutional Support and Financial Resources

Intent

The institution's support for the program and the financial resources available to the program are sufficient to provide an environment in which the program can achieve its objectives. Support and resources are sufficient to provide assurance that an accredited program will retain its strength throughout the period of accreditation.

Standards

VI-1 Support for faculty must be sufficient to enable the program to attract and retain high-quality faculty capable of supporting the program's objectives.
VI-2 There must be sufficient support and financial resources to allow faculty members to attend national technical meetings with sufficient frequency to maintain competence as teachers and scholars.
VI-3 There must be support and recognition of scholarly activities.
VI-4 There must be office support consistent with the type of program, level of scholarly activity, and needs of the faculty members.
VI-5 Adequate time must be assigned for the administration of the program.
VI-6 Upper levels of administration must provide the program with the resources and atmosphere to function effectively with the rest of the institution.
VI-7 Resources must be provided to acquire and maintain laboratory facilities that meet the needs of the program.
VI-8 Resources must be provided to support library and related information retrieval facilities that meet the needs of the program.

VI-9 There must be evidence of continuity of institutional support and financial resources.

VII. Program Delivery

Intent

There are enough faculty members to cover the curriculum reasonably and to allow an appropriate mix of teaching and scholarly activity.

Standards

VII-1 There must be enough full-time faculty members with primary commitment to the program to provide continuity and stability.
VII-2 Full-time faculty members must oversee all course work.
VII-3 Full-time faculty members must cover most of the total classroom instruction.
VII-4 Faculty members must remain current in the discipline.
VII-5 All full-time faculty members must have sufficient time for scholarly activities and professional development.
VII-6 Advising duties must be a recognized part of faculty members' workloads.

VIII. Institutional Facilities

Intent

Institutional facilities including the library, other electronic information retrieval systems, computer networks, classrooms, and offices are adequate to support the objectives of the program.

Standards

VIII-1 The library that serves the information systems program must be adequately staffed with professional librarians and support personnel.
VIII-2 The library's technical collection must include up-to-date textbooks, reference works, and publications of professional and research organizations.
VIII-3 Systems for locating and obtaining electronic information must be available.
VIII-4 Classrooms must be adequately equipped for the courses taught in them.
VIII-5 Faculty offices must be adequate to enable faculty members to meet their responsibilities to students and for their professional needs.

LIST OF ABBREVIATIONS

AABC	Accrediting Association of Bible Colleges
AACSB	Association to Advance Collegiate Schools of Business
AARTS	Association of Advanced Rabbinical and Talmudic Schools
ABET	Accreditation Board for Engineering and Technology
ACICS	Accrediting Council for Independent Colleges and Schools
ACM	Association for Computing Machinery
AIS	Association for Information Systems
AITP	Association of Information Technology Professionals (formerly DPMA)
ATS	Association of Theological Schools in the United States and Canada
CAC	Computing Accreditation Commission of ABET
CEAA	Committee on Engineering Accreditation Activities of IEEE
CHEA	Council of Higher Education
CORPA	Commission on Recognition of Postsecondary Accreditation
CSAB	Computing Sciences Accreditation Board
CSAC	Computing Sciences Accreditation Commission (previously of CSAB, now merged with CAC of ABET)

DOE	U.S. Department of Education
DPMA	Data Procession Management Association (changed name to AITP)
EAC	Engineering Accreditation Commission of ABET
IEEE	Institute of Electrical and Electronic Engineers
IEEE/CS	Institute of Electrical and Electronic Engineers/Computer Society
INTAC	International Activities Committee of ABET
NCA	North Central Association of Colleges and Schools
NEASC	New England Association of Schools and Colleges
PEPC	Program Evaluation and Program Criteria committee of CSAB
PEV	Program Evaluator
RAC	Related Accreditation Commission of ABET
SACS	Southern Association of Colleges and Schools
TAC	Technology Accreditation Commission of ABET
TRACS	Transnational Association of Christian Colleges and Schools Accrediting Commission
WASC	Western Association of Schools and Colleges

ABOUT THE AUTHORS

John Impagliazzo is Professor of Computer Science at Hofstra University. He is author or co-author of 10 books that include a graduate text in mathematical demography by Springer-Verlag. His activities within ACM include eleven years as chair of its accreditation committee and (since 1997) editor-in-chief of *inroads*--the SIGCSE Bulletin. For fifteen years he has been an active participant in accreditation activities. Currently, he is a team chair for the Computing Accreditation Commission of ABET and serves on CSAB's Program Evaluation and Program Criteria Committee. Various universities, institutions, and governmental agencies in the United States and abroad called upon his expertise. His current interests are in the history of computing, where he chairs the IFIP Working Group 9.7 (History of Computing).

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