

AC 2008-2225: INTERNATIONAL EDUCATIONAL ACTIVITIES OF ABET INC.

George Peterson, ABET

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George Peterson is the Executive Director of ABET, Inc. He has served as Head of the Faculty and Teacher Development of the Division of Undergraduate Education and the Program Director in the Undergraduate Science, Engineering and Mathematics Education Division at the National Science Foundation (NSF) in Washington, DC, as Chairman of the Department of Electrical Engineering at the U.S. Naval Academy in Annapolis, Maryland, and as Assistant Vice President for Academic Affairs and Professor of Electrical Engineering at Morgan State University in Baltimore, Maryland. He has held numerous volunteer positions: Electrical Engineering Program Evaluator; IEEE Education Activities Board's Committee on Engineering Accreditation Activities; Engineering Accreditation Commission (EAC); EAC Criteria Committee; EAC Executive Committee; and 1991-1992 term EAC Chair. He currently chairs the Council for Higher Education Accreditation (CHEA) Specialized Advisory Panel and serves on its Committee on Recognition and International Commission.

His awards include the 1990 IEEE Meritorious Achievement Award in accreditation activities; 1999 Black Engineering of the Year Award for the Promotion of Higher Education; the University of Illinois Electrical and Computer Engineering Alumni Association 2000 Distinguished Alumnus Award; the 2006 IEEE Education Society Achievement Award; and received the Honorary Degree of Doctor of Humanities by the North Carolina Agricultural and Technical State University in May 2001. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Fellow of ABET, a Fellow of the Institution of Engineers of Ireland, and a Fellow of the Institution of Electrical Engineers (IEE) of the United Kingdom. He is a registered Professional Engineer in the states of Colorado and Maryland.

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Kathryn B. Aberle is the Deputy Executive Director of ABET (formerly known as the Accreditation Board for Engineering and Technology), responsible for ABET's relationships with governmental and non-governmental organizations (both domestic and international) involved in accreditation and ABET's headquarters operations.

She is one of ABET's representatives to the Washington Accord, an international agreement among engineering quality assurance organizations. She participates in the Engineering for the Americas initiative and serves as ABET's liaison to the Council on Higher Education Accreditation (CHEA).

She is responsible for ABET's Leadership Development Series which includes issues identification, environmental scanning and strategic planning for her Board of Directors.

International Educational Activities of ABET Inc.

Abstract

The Global Vision of ABET is to consult and assist as requested in the development and advancement of education worldwide. ABET is currently involved in several endeavors which address the issues of globalization in engineering education and accreditation such as the Washington Accord, the Western Hemisphere Initiative and international accreditation.

The Washington Accord, signed in 1989, is an international agreement among bodies responsible for accrediting engineering degree programs. It recognizes the substantial equivalency of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatory bodies be recognized by the other bodies as having met the academic requirements for entry to the practice of engineering. The Washington Accord is designed to facilitate mobility for engineers in the engineering profession.

The Western Hemisphere Initiative established in 2002, is an initiative to promote cooperation to improve the quality of engineering education through the development of quality assurance. This initiative seeks to enhance and explore cooperative efforts among the nation of North America, Central America, the Caribbean, and South America leading to the development of bilateral and regional agreements among engineering quality assurance organizations of these nations. Members of the Western Hemisphere Initiative include ABET, the Council for Higher Education (CHEA), The Consejo de Acreditación de la Enseñanza de la Ingeniería (CACEI) of Mexico, Engineers Canada, and more recently the Instituto Para la Calidad en la Acreditación en las Carreras de Ingeniería y Tecnología (ICACIT) of Peru.

For the past 15 years, ABET would evaluate an engineering program, upon request by the institution, to determine if the program was substantially equivalent to an accredited program in the United States. The evaluation used the same criteria for accreditation in the United States while making some allowances for country and cultural differences. The ABET Board, at its annual meeting in October 2006, granted its approval to accredit programs outside the United States and to phase out substantial equivalency evaluations. An implementation plan has been developed to transition programs that are currently recognized as substantially equivalent to accreditation at their next scheduled review.

Introduction

Established in 1932, ABET Inc., is the responsible body for quality assurance of engineering education in the United States. ABET is a federation of 28 professional and technical societies that work together to promote and enhance applied science, computing, engineering, and technology education.¹ In addition to ensuring the quality of engineering education in the U.S., ABET is substantially active globally. The global mission of ABET is to “consult and assist as requested in the development and advancement of education worldwide.”² ABET has been and is currently involved in several endeavors that address the issues of globalization in technical education and its quality assurance. These endeavors include consulting, mutual recognition

agreements (MRAs) with accrediting organizations of numerous jurisdictions, Memoranda of Understanding (MOUs), foreign credentials evaluation, substantial equivalency recognition, and international accreditation.

Memoranda of Understanding

The International Activities Council (INTAC) of ABET often receives requests from quality assurance organizations or higher education authorities outside the U.S. seeking assistance in developing or enhancing their accreditation systems. The intent of entering an MOU is to “assist other higher education agencies or organizations outside the United States in developing continuous quality assurance processes.”³ Over the years, ABET has established guidelines for entering an MOU that clarify and recognize the responsibilities of each party. Primary considerations for negotiation of MOUs include:

1. The organization involved has received recognition, approval, and/or authorization of operating status from a national educational ministry, legislative mandate, or other appropriate authority (governmental or non-governmental).
2. The organization involved provides a mechanism whereby the professions related to the programs to be accredited have representation within its governance structure, and professional peers are involved in the accreditation process, including formulation of accreditation criteria, policies and procedures, and decisions about accreditation actions.⁴

By signing the MOUs, both parties agree to “collaborate on matters related to technical education and quality assurance activities.”⁵ ABET has negotiated MOUs with quality assurance agencies in approximately 15 countries and regions throughout the world, as shown in Attachment A. Typical activities covered by an MOU include facilitating the exchange of representatives to observe ABET’s and the organization’s accreditation evaluation activities and sharing best practices; promoting accreditation principles and facilitating the training of evaluators; exchanging information, including documents, papers, and surveys concerning accreditation processes and higher education quality assurance; and exploring the feasibility of mutual recognition based on the monitoring and assessment of their respective accreditation systems.

The Western Hemisphere Initiative, an MOU established in 2002, promotes cooperation among nations of North America, Central America, the Caribbean, and South America.⁶ Members of the Western Hemisphere Initiative include ABET, the Council for Higher Education Accreditation (CHEA), the Consejo de Acreditación de la Enseñanza de la Ingeniería (CACEI) of Mexico, Engineers Canada, and, most recently, the Instituto Para la Calidad en la Acreditación en las Carreras de Ingeniería y Tecnología (ICACIT) of Peru.

Mutual Recognition Agreements

While MOUs were developed to assisting countries outside the United States in developing accreditation systems and enhancing quality in engineering education, MRAs are designed to affirm the substantial equivalence of accreditation systems and thereby encourage the

recognition of the graduates' education from these systems as appropriate for entry to the profession. The first MRA, signed in 1980 between ABET and the Canadian Council of Professional Engineers (CCPE), now Engineers Canada, proved to be mutually beneficial. Although the criteria used for CCPE accreditation differ from ABET's, the outcome – graduates who are prepared to enter the profession – is the same. As a result of the success of the MRA between ABET and CCPE, interest was expressed by other organizations in establishing similar agreements. This led to the formation of the Washington Accord in 1989. Established originally as the Six Nation Agreement, the Washington Accord has formed the basis of what is now called the International Engineering Agreement, consisting of six international agreements covering the mutual recognition of engineering and technology education, extending to the recognition of the professional competence needed by practicing engineers, technologists, and technicians.⁷

MRAs are guided by these fundamental principles:

1. The organization shall have completed a minimum of five (5) accreditation cycles prior to their request for entry into the MRA or sponsorship in the Washington Accord.
2. The organization involved has received recognition, approval, and/or authorization of operating status from a national educational ministry, legislative mandate, or other appropriate authority (governmental or non-governmental).
3. The organization involved provides a mechanism whereby the professions related to the programs to be accredited have representation within its governance structure, and professional peers are involved in a voluntary manner in the accreditation process, including formulation of accreditation criteria, policies and procedures, and decisions about accreditation actions.
4. The organization involved must have goals, objectives, criteria, policies, and procedures in educational quality assurance consistent with practice recognized by ABET.
5. The organization involved shall demonstrate a willingness to share studies, proposals, discussions, minutes of board/commission meetings, and accreditation policies and procedures; and, by mutual consent, agree to participate as observers in meetings and site visits, and contribute to the understanding of each other's system of accreditation.
6. Each party to the MRA shall adjudge accreditation decisions by the other party to be acceptable and substantially equivalent evidence of acceptable educational preparation of graduates for entry into the practice of the specific discipline for which the program is being accredited.⁸

In addition to the Washington Accord, the Sydney and Dublin Accords cover the educational equivalence of the engineering technologist and the engineering technician, respectively. Professional competence of the practicing engineering are defined in the Engineers Mobility Forum, Engineering Technologist Mobility Forum, and Asia Pacific Economic Cooperation (APEC Engineer).

As shown in Attachment B, the Washington Accord as of 2007 consists of 11 signatories. Also, members of the Washington Accord under provisional status are Germany, Malaysia, India, Russia, and Sri Lanka. Provisional status indicates that the member organization “has demonstrated that the accreditation system for which it has responsibility appears to be conceptually similar to those of the other signatories of the Accord. By conferring provisional status, the signatories of the Washington Accord have indicated that they consider that the

member under provisional status has the potential capability to become a signatory member. However, award of provisional status in no way implies any guarantee of becoming a signatory.”⁹

In addition to being a founding signatory of the Washington Accord, ABET served as the accord’s Secretariat, responsible for the management and administration of the Rules and Procedures from 2001 to 2007.

In 2001, an outcomes-based accreditation model known as Engineering Criteria 2000 (EC2000) was introduced to the Washington Accord. Since then, most of the signatories have adopted an outcomes-based approach to measure quality in engineering education. EC2000 is an outcomes-based accreditation model adopted by the ABET Board of Directors in 1996.⁴ EC2000 places emphasis on what graduates learn and are able to do as a result of their education in an ABET-accredited program. This is a significant shift from the traditional accreditation model, which focused primarily on program inputs, such as courses and faculty qualifications. The new accreditation model also recognizes the importance of communication and teamwork and stresses “awareness of ethical and contextual considerations in engineering solutions.”¹⁰

In 2002, ABET Inc., commissioned the Center for the Study of Higher Education at Pennsylvania State University to conduct a study as a means of verification of the outcomes-based accreditation model. The study was designed to answer the following two primary questions: “ ‘What impact, if any, has EC2000 had on student learning outcomes in ABET-accredited programs and institutions?’ and ‘What impact, if any, has EC2000 had on organizational and educational policies and practices that may have led to improved student learning outcomes?’ ”¹¹ The three-and-a-half-year study resulted in several key findings as a result of the implementation of the outcomes-based accreditation model:

- Greater emphasis is placed on professional skills and active learning; there is high level of faculty support for continuous improvement.
- 2004 graduates are better prepared to enter the profession than their 1994 counterparts.
- Graduates have gained professional skills while maintaining their technical skills.
- Changes in program and student experiences are empirically linked to higher performance.¹²

In addition to the Washington Accord, ABET has provisional status in the Sydney and Dublin Accords. The Sydney Accord is a mutual recognition agreement among organizations that accredit engineering technology programs, while the Dublin Accord addresses engineering technician programs. Further, in late 2007, an agreement was signed in Seoul, South Korea, in which signatories have agreed on a shared vision with the intent of establishing an accord on the accreditation of educational programs in the computing and IT-related disciplines.¹³ ABET was a signatory of this agreement and will play a key role in establishing such an accord.

Foreign Credentials Evaluation Service

The traditional accreditation criteria was used by the Engineering Credentials Evaluation International (ECEI), ABET’s credentials’ evaluation service, to evaluate educational credentials

of individuals who received their first professional degree from outside the United States. ECEI was established in 1997 after the need for a uniform assessment and verification system of foreign credentials surfaced among the U.S. state licensing boards, employers, government agencies, and higher education institutions. Verification of the authenticity of transcripts, including grades, credit hours, and diplomas, combined with the thorough review of course content information by the ECEI Resource Council, was key in determining whether the program the individual graduated from met the standards of quality established by the ABET criteria. The ECEI Resource Council was composed of approximately 30 experienced ABET program evaluators who had extensive knowledge of engineering education, understanding of the ABET criteria, and the ability to interpret the criteria. The demand for evaluations exceeded expectations, ECEI evaluated more than 6,000 educational credentials from over 100 countries and more than 2,000 programs around the globe, mostly in engineering, between 1997 and 2007.¹⁴ However, because of the rigor and robustness of the authentication and verification processes, the ECEI operation was not financially viable enough to sustain independent operation and was discontinued in 2006.

Substantial Equivalency Recognition

For the past 15 years, ABET would evaluate a technical education program, upon request from the institution, to determine if the program was substantially equivalent to an accredited program in the United States. Substantial equivalency recognition was available only to programs in jurisdictions where accreditation bodies were not signatories of the Washington Accord. The evaluation used the same policies, procedures, and criteria for accreditation in the United States, while making some modifications for educational and cultural differences. As seen on Attachment C, ABET has conducted substantial equivalency visits in 17 countries and granted recognition to approximately 160 programs at 31 institutions. In addition to the evaluation visit, ABET also provided other services to assist the programs in preparation for their visits. The consultation service provided by ABET helps programs recognize their strengths and weaknesses and gives them the opportunity to address those weaknesses before the evaluation visit. ABET has also conducted faculty workshops on program assessment and program improvement in five countries and facilitates the exchange of observers.

International Accreditation

In October 2006, the ABET Board of Directors granted its approval to accredit programs outside the United States and to phase out substantial equivalency evaluations, as well as to suspend the operations of its credentialing service, ECEI. The extensive international experience with substantial equivalency visits and foreign credential evaluations has prepared ABET with the necessary tools to successfully transition into international accreditation. An implementation plan has been developed to transition programs that are currently recognized as substantially equivalent to accreditation at their next scheduled review. Currently, ABET has granted accreditation to programs at the University of Cairo in Egypt and the University of Sharjah in the United Arab Emirates, which are both regionally accredited institutions. Other evaluation visits have taken place in Kuwait, Turkey, the United Arab Emirates, Mexico, and South Africa. Requests for ABET accreditation have been received from 18 countries.

ABET's venture into international accreditation is important for several reasons. Through international accreditation, a high standard of quality in technical education is set. By complying with ABET's policies and criteria, programs can offer students the necessary resources to enhance learning and increase knowledge, resulting in graduates prepared to enter the professions of applied science, computing, engineering, and technology. This is critical, as the safety of the public is dependant upon the competence of practicing professionals. Equally important is international accreditation's ability to facilitate the mobility of technical professionals. As cultures around the world continue to diversify and expand their global reach, it is important that licensing boards and employers are confident that the quality of education graduates receive is substantially equivalent to that of the U.S. The individual practitioner accrues the benefit of global recognition of their credentials.

It is important to note that the role of "world leadership" presents many challenges and opportunities. The following are some challenges that have been indentified:

1. ABET has received a growing number of requesting from institutions in countries under State Department Travel Warnings. ABET's international travel practice does not permit travel to these countries due to security concerns. Therefore, the question arises: Does ABET need to revise its current practice in order to accommodate these international requests, or does ABET need to make wholesale changes and establish policies and procedures covering the scope of its international activities?¹⁵
2. As the number of multi-national corporations continues to grow, industry is using more in-country engineers due to economic, political and cultural reasons. There is a need to ensure consistency of engineering services across international lines without sacrificing quality.¹⁶ How can this be achieved?
3. How will the accreditation of distance education programs be handled? Who will be responsible for the accreditation and monitoring of these programs? Will the responsibility fall on the accreditation body of the country providing the program or the accreditation body of the host country?

The future workforce will be diverse, global, multi-disciplinary, and knowledge-based. ABET sees these challenges as opportunities to enhance the quality of technological education worldwide.

Conclusion

ABET acknowledges the importance of its vision "to provide world leadership" and is developing the capacity and knowledge to implement it. ABET will continue to work with institutions outside the United States to ensure that their programs meet high standards for quality in technical education. ABET will also continue to assist with the development and improvement of accreditation systems outside the United States, promoting the concepts of continuous quality assurance processes worldwide.

¹ Winfred M. Phillips, George D. Peterson, and Kathryn B. Aberle, "Quality Assurance for Engineering Education in a Changing World," International Journal for Engineering Education 16, no. 3 (2000).

² George D. Peterson, "Preparation of Technical Professionals in the Global Workplace," Leadership Summit, Baltimore, MD. November 2007

³ "Guidelines for Establishing Memoranda of Understanding with Quality Assurance Organizations Outside the United States of America", ABET, Inc. February 2003

⁴ Ibid

⁵ Ibid

⁶ "Concept Paper: Western Hemisphere Initiative for Regional Capacity Building," ABET, Inc., Baltimore, MD. September 2002.

⁷ www.ieagreements.org, International Engineering Agreements

⁸ "Guidelines for Establishing Mutual Recognition Agreements with Quality Assurance Organizations Outside the United States of America", ABET, Inc. June 2003

⁹ "Rules and Procedures - International Educational Accords" International Engineering Agreement: August 2006

¹⁰ Lisa R. Lattuca, Patrich T. Terenzini, and J. Fredricks Volkwein, "Engineering Change: A Study of the Impact of EC2000 – Executive Summary," ABET, Inc. (2006): 1.

¹¹ Ibid

¹² Lisa R. Lattuca, Patrich T. Terenzini, and J. Fredricks Volkwein, "Engineering Change: A Study of the Impact of EC2000 – Executive Summary," ABET, Inc. (2006): 1-9

¹³ "Seoul Declaration", Seoul, South Korea, November 2007

¹⁴ Muriel Zhou, "The Importance and Value of ECEI Foreign Credentials Evaluation Service," ABET, Inc. (2006).

¹⁵ "White Paper On: International Travel fro ABET Volunteers", ABET Task Group on International Activities, December 2006

¹⁶ "Viewpoints: Issues of Accreditation in Higher Education," Industry Advisory Council of ABET, Inc. (2000)

Memorandum of Understanding

Memorandum of Understanding (MOU): Entering into MOUs with appropriate higher education agencies or organizations in other countries is a mechanism to promote the continuing quality improvement of applied science, computing, engineering and technology education. Please see Attachment A for detailed MOU Guidelines.

ABET, Inc. and the listed organizations have signed MOU's and have agreed to collaborate on matters related to engineering education and accreditation activities. To establish linkages for cooperation, they agree to:

- Facilitate the exchange of representatives to observe ABET's and the organizations' accreditation evaluation activities and the interchange of experiences between ABET and the organization.
- Collaborate in the development of accreditation workshops and seminars to promote accreditation principles and facilitate the training of evaluators.
- Promote and facilitate each other's participation in seminars and workshops about accreditation systems worldwide
- Exchange information including documents, papers and surveys concerning accreditation processes and higher education quality assurance
- Explore the feasibility of mutual recognition based on the collaboration, exchange, and assessment of their respective accreditation systems.
- Negotiate and mutually agree upon any expenses associated with the implementation of this Memorandum of Understanding prior to the execution of any projects or services.

Country	Organization	Date Signed
Latin America & Caribbean	Regional Office for Science and Technology for Latin America and the Caribbean (ROSTLAC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO)	November 1994
Argentina	Comision Nacional de Evaluacion y Acreditacion Universitaria (CONEAU)	November 1997
France	Commission des Titres D'Ingenieur (CTI)	April 1998
Japan	Japan Accreditation Board for Engineering Education (JABEE)	March 2000
China	National Board of Civil Engineering Accreditation (NBCEA)	October 2000
Germany	Akkreditierungsagentur Fur Studiengange in Ingenieurwissenschaften und Informatik (ASII)	November 2001
Portugal	Ordem dos Engenheiros (OE)	November 2001
Mexico and Canada - Western Hemisphere Initiative	Consejo de Acrediacion de la Ensenanza de la Ingenieria (CACEI) and the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professional Engineers (CCPE)	November 2002
Peru	Instituto Para la Calidad en la Acreditacion en la Carrera de Ingenieria y Tecnologia (ICACIT)	August 2003
Chinese Taipei	Institute of Engineering Education Taiwan (IEET)	March 2004
Korea	Accreditation Board for Engineering Education of Korea (ABEEK)	March 2005
Chile	ACREDITA CI	February 2007
Israel	Council for Higher Education	December 2007

Letter of Intent

Letter of Intent: A Letter of Intent is a signed recognition that ABET, Inc. and the organization aim to begin work in establishing an MOU with the potential for an eventual MRA.

Country	Organization	Date Signed
Ukraine	The Ministry of Higher Education of Ukraine	November 1991
China	China Association for Science and Technology (CAST)	October 2006



Mutual Recognition Agreement							
<p>Mutual Recognition Agreements recognize the substantial equivalency of mature accreditation systems and agree that the graduates of accredited programs are prepared to begin practice of the profession. ABET views the entering into MRAs with appropriate higher education agencies or organizations in other countries as a further mechanism to promote the continuing quality improvement of applied science, computing, engineering and technology education. Please see Attachment B for detailed MRA Guidelines. ABET has served as the Secretariat of the WA from 2001 to 2007 with responsibilities for the management and administration of the Rules and Procedures adopted by the Signatories.</p>							
Country	Organization	Date of Full Signatory Status	Activity				
			Exchange of Observers	Assisted in Developing Quality Assurance System	Monitoring/ Verification Visit	Mentoring	Accreditation Training
Canada	Canadian Council of Professional Engineers (CCPE)	1980	x				x
Washington Accord - Full Signatories							
Canada	Engineers Canada	1989	x				x
Australia	Engineers Australia	1989	x				x
Ireland	Engineers Ireland	1989					x
New Zealand	Institution of Professional Engineers New Zealand (IPENZ)	1989					x
United Kingdom	Engineering Council United Kingdom (ECUK)	1989	x				x
Hong Kong China	Hong Kong Institution of Engineers (HKIE)	1995					x
South Africa	Engineering Council of South Africa (ECSA)	1999					x
Japan	Japan Accreditation Board for Engineering Education (JABEE)	2005	x	x	x	x	x
Singapore	Institution of Engineers Singapore (IES)	2006	x	x			x
Chinese Taipei	Institute of Engineering Education Taiwan (IEET)	2007	x	x	x		x
South Korea	Accreditation Board for Engineering Education of Korea (ABEEK)	2007	x	x	x	x	x
Washington Accord - Members with Provisional Status*							
Germany	German Accreditation Agency for Study Programs in Engineering & Informatics (ASHN)	2003	x				
Malaysia	Board of Engineers Malaysia (BEM)	2003	x	x		x	x
India	National Board of Accreditation of All India Council for Technical Education (NBA-AICTE)	2007					x
Russia	Russian Association for Engineering Education (RAEE)	2007		x			x
Sri Lanka	Institution of Engineers Sri Lanka (IESL)	2007					x
<p>* A Member with Provisional Status has demonstrated that the accreditation system for which it has responsibility appears to be conceptually similar to those of the other signatories of the Washington Accord. By conferring provisional status, the signatories have indicated that they consider that the provisional has the potential capability to reach full signatory status. Award of provisional status in no way implies any guarantee of the granting of full signatory status. Equivalence of the engineering programs concerned shall normally become effective from the date on which the new signatory was admitted to full signatory status.</p>							

Substantial Equivalency Recognition*												
Substantial Equivalency Recognition: "Substantial Equivalency" means comparable in program content and educational experience, but such programs may not be absolutely identical in format or method of delivery. It implies reasonable confidence that the program has prepared its graduates to begin professional practice at the entry level.												
Country	Initial Recognition Year	Number of Institutions	Total Number of Programs	Activity								
				Exchange of Observers	Faculty Workshops on Program Assessment	Faculty Workshops for Program Improvement	Request for ABET Accreditation	Substantial Equivalency Evaluation Visit	Consultation	Accreditation Training	ABET Accreditation Evaluation Visit	Exchange of Information
Kuwait	1990	1	7				X	X	X		X	X
Colombia	1992	2	7					X	X			X
Mexico	1992	7	26	X			X	X	X	X		X
South Korea	1992	1	11	X	X	X		X	X	X		X
Iceland	1993	1	3					X	X			X
Turkey	1994	5	45			X	X	X	X		X	X
The Netherlands	1995	2	11				X	X	X			X
United Arab Emirates	1998	1	6				X	X	X		X	X
Germany	2001	1	1	X			X	X	X	X	X	X
Chile	2003	1	5		X		X	X	X			X
Saudi Arabia	2003	2	27					X	X			X
Spain	2004	1	1				X	X	X			X
Qatar	2005	1	4				X	X	X			X
Russian Federation	2005	2	2		X		X	X	X			X
Peru	2006	1	1	X			X	X	X			X
Singapore	2006	1	2	X				X	X			X
Sultanate of Oman	2006	1	4				X	X	X			X

* In December 2006, the ABET Board of Directors voted to discontinue Substantial Equivalency Recognition and begin the process of accrediting programs outside the US.