The American Society for Engineering Education (ASEE)’s Use of Web-based Technology to Promote Excellence in Engineering Education

An interview with
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JDM: What is the American Society for Engineering Education (ASEE)?

ASEE is a nonprofit association of more than 10,000 engineering faculty members, U.S. and Canadian colleges of engineering and engineering technology, corporations, and other organizations dedicated to promoting excellence in engineering and engineering technology education. ASEE plays a key role in developing and promoting policies that will enable engineering education to work with allied branches of science and technology to meet the new challenges of global competition and changing demographics.

JDM: What is ASEE's Mission?

The Society seeks to encourage local, national, and international communication and collaboration; influence corporate and government policies and lifelong learning; utilize effectively the Society’s human and other resources; recognize outstanding contributions of individuals and organizations; encourage youth to pursue studies and careers in engineering and engineering technology; and influence the recruitment and retention of young faculty and under-represented groups.

JDM: How does ASEE promote information sharing among its members?

The ASEE’s Surveying and Management System (SAMS) is used to collect, manage, and store, academic engineering data from institutions in the United States and Canada which offer at least one accredited degree program at the bachelor’s degree level. The accreditation status must be from the Accreditation Board for Engineering and Technology (ABET). Additionally, all institutions which offer graduate engineering degree programs are eligible to submit data.

JDM: Who participates in the survey and what data is collected?

Academic data is collected from engineering institutions in the United States and Canada which offer at least one ABET accredited degree program at the bachelor’s degree level. Additionally, all institutions which offer a graduate engineering degree program are eligible to submit data.

Broad institutional data is collected early in the surveying process in addition to collecting data which establishes a school, department, and degree program data hierarchy (or dependency). This hierarchy serves as the basis for which 60% of the academic data is collected. Detailed academic data (e.g., number of industrial engineering bachelor’s degrees awarded to African Americans) is also collected.

JDM: What motivated ASEE to change from a traditional database environment to web-based technology?

The motivating factors include: cost, faster cycle time, technology, and compatibility.

- Cost - The Internet is cheap when compared to ASEE’s traditional diskette-based data collection instrument. We estimate that a diskette-based data collection system is about $25,000 per year more expensive than the web-based instrument.

- Faster Cycle Times - Times ASEE is on its way to becoming a major supplier of academic engineering data. Time-to-market will be radically reduced because transaction costs have been drastically reduced. The web-based surveying instrument allows us to shorten cycle times of our annual survey.

- Technology - The academic community was the first to embrace the Internet through uses for communication and collaborative research. ASEE has tried to capitalize on the familiarity of the academic community with the Internet by providing a familiar interface by which the data is submitted.
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