

2010 Transportation Industry Skills Innovation Award
Sponsored by the IBM Academic Initiative
An Award Competition for Participating Faculty
Smarter Transportation Skills for a Smarter Planet

SmarterTransportation



2010 Transportation Industry Skills Innovation Award

IBM is pleased to announce the 2010 Transportation Industry Skills Award program, a competition designed to encourage the thoughtful development and incorporation of Smarter Transportation skills into existing Transportation and IT curriculum.

BACKGROUND: It took all of history for human population to reach 2 billion, and only one generation to more than triple to nearly 7 billion. With this population explosion, the world will spend about \$30 trillion over the next two decades on new roads and similar projects according to CIBC economist Benjamin Tal. Traffic congestion now costs the European Union over 1% of GDP, or over 100 billion Euros per year. And in the U.S., road traffic congestion during 2007 wasted 2.8 billion gallons of fuel and 4.2 billion hours. Total cost of wasted fuel and time was \$87.2 billion.

By 2020 there may be global demand for 7 billion air passenger trips, yet airports and airlines will only have capacity for 6 billion. Airlines worldwide generate 3% of all greenhouse gas emissions. Some say that because aircraft operate in the upper atmosphere, the impact may be equivalent to 13% of emissions from all sources. Additionally, with increased global security risks, airlines spend \$5.9 billion per year on security (IATA) and airports spend >60% of their operating cost on safety and security (ACI).

The transportation industry is undergoing rapid/massive transformation and requires solutions which are instrumented, interconnected and intelligent. IBM is seeking to partner with universities who desire to create and teach innovative courseware/curriculum which develops professionals who have the combination of industry and technical skills needed to lead this transformation now and into the future.

Proposals requested

The IBM Academic Initiative is seeking proposals for the design and development of teaching materials which will provide university instructors with courseware focused on the values and principles of adopting [Travel and Transportation Software Solutions](#) and technologies. The courseware will focus on at least one of the following solutions areas:

- [Reservation System Modernization](#) - Airline, passenger rail, and hotel reservation and ticketing systems, primarily in the mainframe and TPF environment. Includes modernizing existing systems or building new systems using a new SOA enabled, customer-centric model.
- [Asset Optimization](#) - Improve utilization and decrease operating expense for assets including trains, aircraft, fleets and fixed infrastructure.
- [Safety, Security and Surveillance](#) - Use sensors, RFID, digital video, biometric identification, and wireless devices, coupled with analytic tools to monitor operations, identify risks to safety or security, and take action instantly to mitigate those risks.
- [Multi-Channel Sales and Service](#) - Deliver a differentiated end-to-end customer experience and save cost by understanding customers and catering to their needs in the most efficient manner through all channels including web, call center, kiosk, and mobile devices. Transform sales through market insight and channel optimization. Create loyal customers who become advocates, thus increasing revenue and share.
- [Operations Control Systems](#) - Improve operational effectiveness and reduce environmental impact by predicting demand and optimizing capacity through integration of data, better planning of routes, schedules, load plans, facilities, crews and equipment.

Note: To see specific examples that contribute to [Smarter Transportation](#), visit IBM's Smarter Planet website.

A course module which enables Smarter Transportation is defined as one which combines the disciplines of 1) transportation management, operations/logistics management or a relevant career path with 2) open standards based information technology, and 3) social-organizational change. The course module must also demonstrate the interactions of diverse types of complex service systems and the need to use information to create real insight into data and organizational performance.

The materials should be organized so that they may be used in whole or in part to teach students in regular university courses and/or train internal university employees. All materials should be reproduction-ready and be electronically deliverable.

Teaching materials should include:

- Chapter-by-chapter course notes
- Presentation slides and/or multimedia files for easily presenting the material to students
- Course data sets for easily demonstrating the concepts being discussed
- Practice exercises to enhance students' comprehension

The proposed curriculum should ideally build towards the following business and IT skills:

- Transportation IT best practices
- Leadership, collaboration, and teaming
- Communications across disciplines (example: [The Smarter City-Transportation](#))
- Creative and critical thinking, analysis and synthesis
- Organizational change management
- Business case development and analysis
- Business project management
- Solution service strategy through understanding value creation
- Solution service design and modeling
- Solution service management and lifecycles to ensure quality

The proposal should include an advisory listing of different general methods and techniques which are recommended to be covered for each skill and corresponding technologies.

Materials submitted by award winning recipients will be made publicly available at no cost to other universities through the IBM Academic Initiative and may be cited on [ibm.com](#) and in workshops, conferences, and publications. Awards will be US \$10,000.

To qualify for these competitive awards, the submitter must be a full-time faculty member at an accredited college or university which offers Baccalaureate, Master's or Doctoral programs.

How to submit proposals

PROCESS: Your proposal should be approximately four to five pages and should outline the goal, approach and benefit of the curriculum. Each proposal should also include an outline plan showing milestones, current funding (if any), the staff involved, and any interested collaborators or sponsors.

Proposals will be reviewed based on the following criteria:

- Impact in demonstrating the problem/solution scenarios for [Travel and Transportation Software Solutions](#) and open source technologies
- Simplicity of introducing need for Transportation-specific IT solutions
- Clarity of definition, deployment, and use of solution areas
- Methods to discover, document, and share detailed knowledge about key processes/data specific to solution areas selected
- Variety and volume of data sources
- End-user programmability
- End-user configurability
- Scalability of the selected solution areas
- [Membership in IBM Academic Initiative](#) program

Submitted entries will be judged by a panel of experts from IBM. IBM assumes no responsibility for computer system, hardware, software, network program, or other errors, failures, delays or malfunctions of any kind, whether human or technical in nature, in the transmission or receipt of emails or proposals.

Note: The proposal review committee will be announced shortly.

After the proposal committee reviews and identifies the winners, the winners will be assigned an IBM liaison who will work and collaborate with their assigned research group, monitor their progress, and provide helpful insight to improve the final submission. Moreover, the needed software and tools will be available to the winners through IBM's Academic Initiative. As this is a collaborative effort, the materials produced by award winners will be shared publicly available at no cost to other universities through the IBM Academic Initiative and may be cited on ibm.com, workshops, conferences, and publications.

To submit a nomination, send an email to: awards@us.ibm.com with the subject line "Smarter Transportation Curriculum Innovation Award proposal request".

You will receive an e-mail response with a link to a website where you will be able to submit your proposal.

Key dates - deadline times are 11:59 PM U.S. Eastern Time

Carefully note deadlines!

August 24, 2010	Online submission opens.
	Email requests for proposal submitted before this date will be rejected.
September 21, 2010	Midnight deadline for initiating a nomination.
September 28, 2010	Midnight deadline for submitting a proposal.
November 4, 2010	Award winners notified by e-mail.