



PURDUE
UNIVERSITY

College of Engineering

Purdue's Future Engineer:

A Vision and Strategies for Change

Vision

- › Purdue will engage a fully diverse population who will be prepared to lead the global engineering profession of the 21st century in addressing the priorities of Indiana, the needs of the nation, and the grand challenges facing humanity.

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Mission

To use the power of the engineering profession to solve societal problems by educating diverse engineers through the creation of new education experiences

*Goals and strategies in three areas:
why, who, what*

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Goals: *Why?*

› **Bring the full power of the engineering profession to bear on critical societal challenges**

- Health
- Environment
- Poverty
- Infrastructure
- Energy
- Economic opportunity

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Strategies for *Why*

- › **Articulate mission and purpose in the context of new global challenges**
- › **Provide opportunities for students to connect engineering with society**
- › **Create educational experiences that personalize the role of engineers in society**

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Goals: *Who?*

- › **Create a population of engineers reflecting the demographics of the society they will serve by educating diverse traditional and non-traditional students**

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Strategies for *Who*

- › **Reflect the values and priorities of the full spectrum of cultures in our engineering education and outreach**
- › **Engage and collaborate w/ K-12 teachers and students to reach young minds**
- › **Engage faculty in outreach, retention, and financial support for diversity programs**

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Goals: *What?*

- › **Create educational experiences to prepare engineers to address complex global problems, including skills in:**
 - Leadership
 - Multidisciplinary
 - Flexibility
 - Global/societal context
 - Performance in complexity and ambiguity
 - Transcultural communication & teamwork
 - Lifelong learning
 - Innovation
 - Creativity
 - Managing change

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Strategies for *What*

- › **Complete the development of a curriculum to educate Purdue's *Future Engineer***
 - Engineering-wide task force; dialogs with faculty, alumni, students, industry; August 2005 workshop with national leaders
- › **For each attribute, create objectives/metrics and use PD to develop blueprints for curricular approaches**
- › **Leverage Purdue's School of Engineering Education to co-create the body of knowledge that will inform and drive our practice**

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Next Steps

- › **Share the plan with Purdue's Engineering Leadership Team**
- › **Develop objectives and metrics**
- › **Refine the strategies**
- › **Develop actions**
- › **Act**

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