Participation with Industry

Desired Attributes of an Engineer

- A good understanding of engineering science fundamentals.
  - Mathematics (including statistics)
  - Physical and life sciences
  - Information technology (far more than "computer literacy")
- A good understanding of design and manufacturing processes.
  - (i.e., understands engineering)
- A multi-disciplinary, systems perspective.
- A basic understanding of the context in which engineering is practiced.
  - Economics (including business practices)
  - History
  - The environment
  - Customer and societal needs
- Good communication skills.
  - Written, oral, graphic and listening
- High ethical standards.
- An ability to think both critically and creatively - independently and cooperatively.
- Flexibility. The ability and self-confidence to adapt to rapid or major change.
- Curiosity and a desire to learn for life.
- A profound understanding of the importance of teamwork.

Note: This is a list of basic, durable attributes into which can be mapped specific skills reflecting the diversity of the overall engineering environment in which we in professional practice operate. In specifying desired attributes (i.e., desired outcomes of the educational process), we avoid specifying how a given university goes about meeting industry needs. Curriculum development is viewed as a university task to be done in cooperation with their "customers," and in recognition of their own local resources and constraints. Industry, as an important customer, must be an active partner in this process.