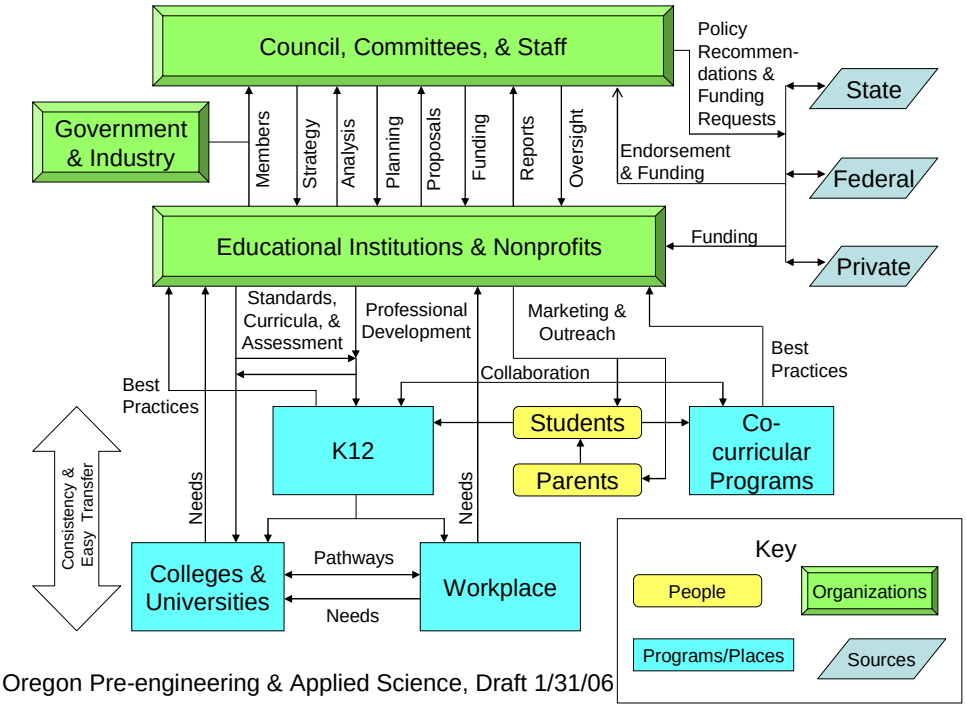
OPAS Vision 2020

All of Oregon's diverse students have educational opportunities that expose them to engineering and applied sciences, and prepare them for collegiate study and careers; with engagement of Oregon's education, industry and government stakeholders who will assure high quality and efficient delivery of these opportunities, resulting in a growing number of graduates who successfully pursue these careers with Oregon employers.

Goals for OPAS 2020

- All students have access to engaging and motivating coursework in K-12 programs that prepare them for collegiate study in engineering and applied science while developing skills for life-long learning and career success, including understanding key organizing concepts like scientific inquiry and practical problem solving.
- Educational pathways are flexible, well coordinated and clearly articulated, allowing students to efficiently plan their education and successfully transition among Oregon educational institutions and the workplace.
- Public and private schools, colleges, and universities as well as non-profit organizations and employers share leadership and responsibility for program improvement, efficiency, enhanced learning, and accountability.
- Curricular and co-curricular programs work closely together, assuring all students have a strong combination of theory and hands-on education through a variety of individual and team experiences.
- All Oregonians have the opportunity to pursue advanced technical education regardless of ethnicity, gender, income, geography or cultural barriers.
- Graduates
    - have the basic knowledge and skills to begin a successful technical career in rapidly changing world; and
    - are employed by and contributing to the success of existing and new Oregon businesses.

Summary of Five-Year Strategy



Oregon Pre-engineering & Applied Science, Draft 1/31/06

- **Standards & Curricula:** Enhance K-20 science, technology, engineering & mathematics (STEM) standards and curricula. These enhancements must provide for all students engaging experiences that
  - provide insight into the relevance of these subjects to solving problems in the world around us and motivation to pursue challenging technical fields;
  - develop research and problem solving skills;
  - assure literacy in science and technology and preparation for the next level of study.
- **Alignment:** Support the development and implementation of policies and practices throughout the educational system that
  - increase the *consistency between standards and assessment* at one level *and* the *prerequisites* for the next level; and
  - assure that *credit can be easily transferred* in the pursuit of an associate degree or a four-year degree.
- **Professional Development:** Grow and enhance professional development programs that allow K12 and college faculty to more effectively deliver STEM curricula and assure consistency between the outcomes of courses and the prerequisites of subsequent courses.
- **Pathways:** Create a customizable framework for career and degree pathways in applied science and engineering.
- **Collaboration:** Facilitate the adoption of appropriate best practices from the traditional classroom in co-curricular programs and vice versa. Integrate engaging experiences and skill development featuring research methods and problem solving.

into the delivery of curricula to enhance motivation, understanding, and retention of both key principles and detailed knowledge.

- **Marketing and Outreach:** Initiate and enhance marketing and outreach efforts to assure that all students, parents and school personnel understand the educational and career opportunities available to students and the steps required to reach them.
- **Diversity:** Make these opportunities available to students *regardless of gender, race, or socioeconomic background*, with specific focus on under-represented populations.
- **Funding:** Enhance funding to achieve these goals from federal, state, and private sources through collaboration among stakeholders.
- **Planning & Oversight:** Use council and committee structure that provides planning, oversight and endorses the development of these programs and initiatives.

Measurable Outcomes

[Work in progress]

Number of Oregonians choosing engineering and applied science as field of study increases by x% by 2010 compared to the baseline year of 2005.

Number of Oregonians completing Bachelor's degree in engineering or applied science increases by x% by 2010 compared to the baseline year of 2005.

Number of women completing Bachelor's degree in engineering or applied science increases by x% by 2010 compared to the baseline year of 2005.

Number of under represented minorities completing Bachelor's degree in engineering or applied science increases by x% by 2010 compared to the baseline year of 2005.

The number of percentage of recent bachelor's degrees that are employed by Oregon companies increases to x% by 2010 compared to the baseline year of 2005.