Engineering Portfolios: Getting Started

NATIONAL ACADEMY OF ENGINEERING'S VISION FOR THE "ENGINEER OF 2020":

- life-long learning
- management skills
- creativity
- leadership
- practical ingenuity
- strong analytical skills
- good communication skills
- business and management skills
- high ethical standards
- dynamism, agility, resilience, & flexibility in responding to a changing world

PURPOSE OF AN ENGINEERING PORTFOLIO

Their portfolios need to convey what they can do for me (an employer) with the knowledge and skills that they have as young engineers.

There better be clear evidence that they have seized the opportunities in a rich project-based environment (Madison Engineering) to deliver value to their partners.

- Do they show consistent initiative, involvement, and the promise of leadership?
- What do they do when nobody asks them to do something? Nothing, or something remarkable?

That's why I would hire them; the portfolio would provide evidence that my investment (in them) will pay off (for my firm).

Summary: current employers seem to be appreciating that Madison Engineers are "project ready." Ready to work on a real, poorly defined project; ready to learn new material on their own, ready to work on a diverse team, ready to ask questions, ready to combine practical know-how with modern theory.

– Kurt Patterson

What are employers or graduate schools looking for?

- Both individual performance and ability to function in a team setting
- Project experience, particularly related to engineering – individual or team; focus on knowledge and skills that were used/developed; if team project, what role did the individual play and how did that contribute to team success?
- Ability to learn independently (self-directed learning) – for example, picking up a new skill like engineering software, an analysis technique not taught in class, or working on an independent study
- "Taking initiative" – this could be formal leadership roles (like student organizations or mentoring) or stepping up on a project (for example, identifying a potential problem and leading the effort to fix it)
- High quality technical communication – in this case, written and visual – ability to explain complex ideas clearly and professionally
- Passion and excitement for using engineering knowledge – solving problems!
- What does it mean to you to be a "Madison Engineer"? What is your brand?

- Elise M. Barrella