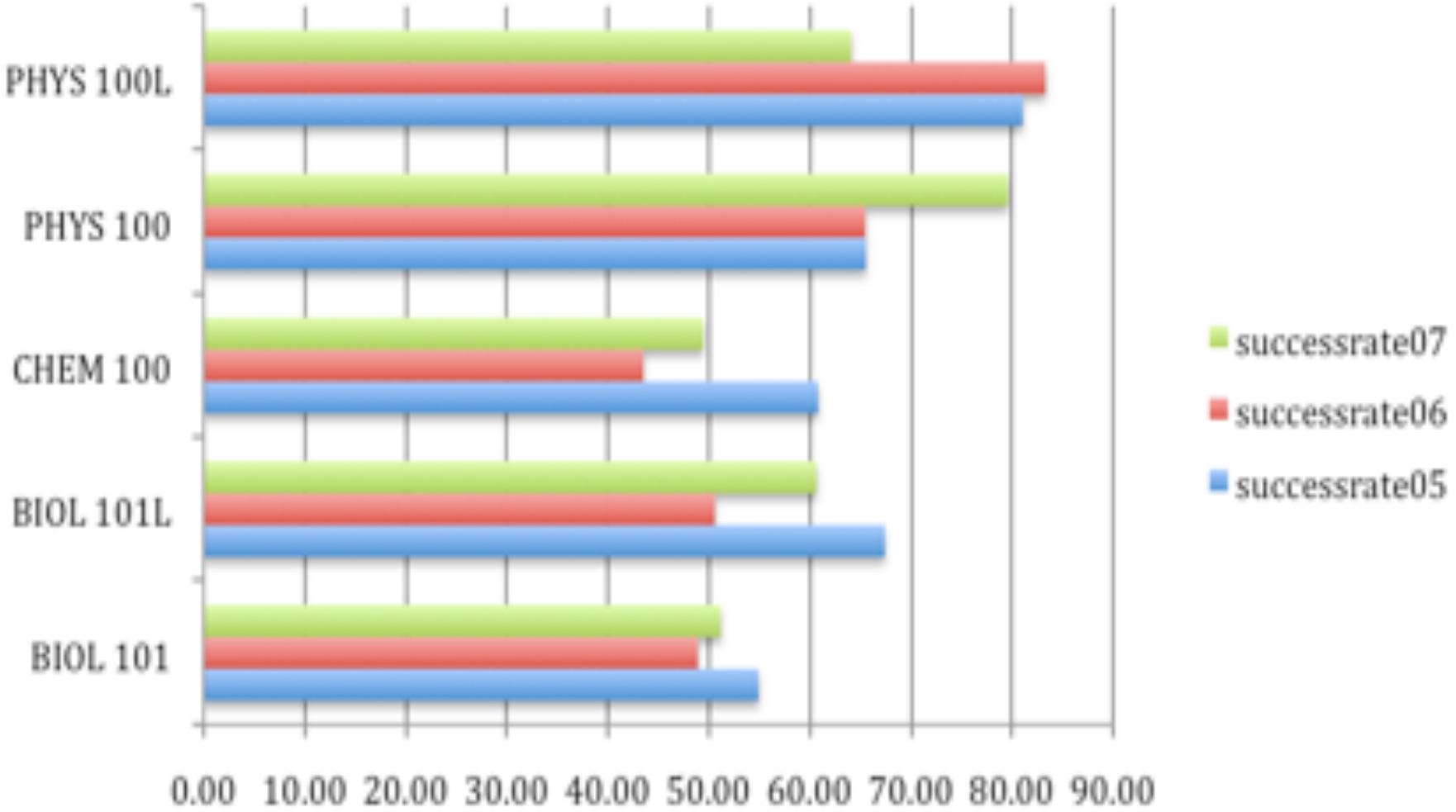
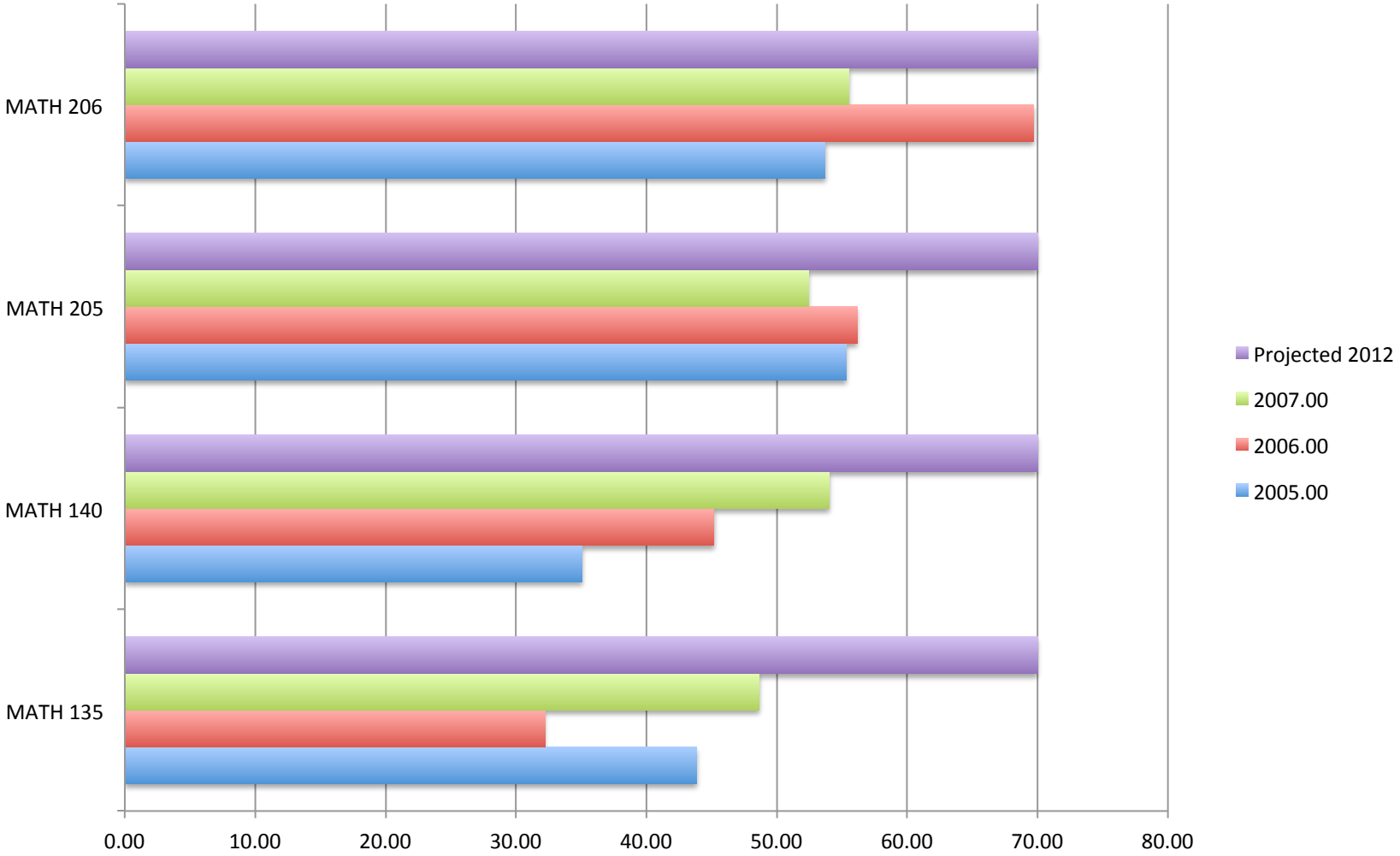
Math/Chem Student Succes

Rates fall 2005-spring 2008

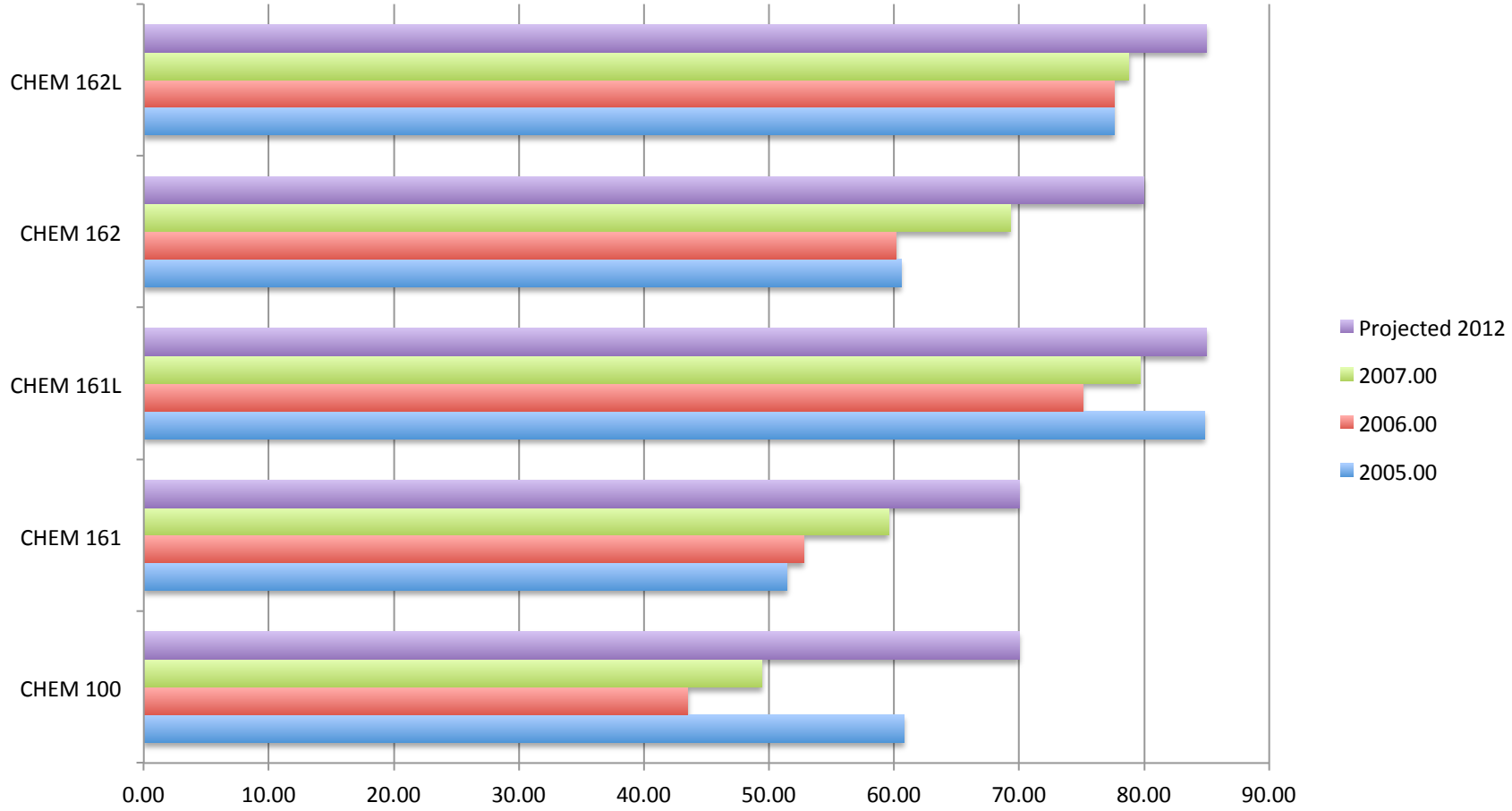
Introductory Science Baseline



Projected Math Improvement by 2012



Projected CHEM Improvement by 2012



Best Practices

In 2007, the AAC&U publication, *College Learning for the New Global Century* (Schneider, C.G.), identified the following ten specific high-impact pedagogical practices:

1. First Year Seminars and Experiences;
2. Common Intellectual Experiences;
3. Learning Communities;
4. Service Learning and Community-based Learning;
5. Writing Intensive Course;
6. Collaborative Assignment and Projects;
7. Undergraduate Research;
8. Diversity/Global Learning;
9. Internships;
10. Capstone Courses and Projects.

The Science of Learning

From the research of Bransford et al (2000 and 2005) on *How People Learn* and other advances in the science of learning (Sawyer 2005, *Handbook of the Learning Sciences*) the College has identifed ten science of learning principles for improved student success.

Faculty and learners must

- ✓ 1. Relate new ideas and concepts to prior knowledge.
- ✓ 2. Integrate their knowledge into interrelated conceptual systems.
- ✓ 3. Look for patterns and underlying principles.
- ✓ 4. Evaluate new ideas and relate them to conclusions
- ✓ 5. Understand the process of dialog through which knowledge is created.

Faculty and learners must

- ✓ 6. Examine the logic of argument critically
- ✓ 7. Reflect on their own understanding and their own process of learning.
- ✓ 8. Be intentionally engaged in a continuum of learning from routine practice to flexibly adaptive in compelling real world contexts.
- ✓ 9. Enrich their understandings through continuing engagement with and research on “real time” situations and unscripted problems.
- ✓ 10. Engagement must be at all levels, for all learners, in all disciplines.