I. Project Goals

- Enculturate new students into STEM community at BSU
- Promote success in first Math class
- Develop faculty pedagogical expertise and practice to effectively support student success/student retention
- Build a culture/community that supports early research experiences for freshmen and sophomore STEM majors

II. Strategies to Achieve Goals

- Create a common STEM Orientation program with deliberate branding for STEM majors
- Create a series of STEM Learning Communities (SLC’s) to facilitate student success; develop a GenSci class for non-calculus ready students
- Mathematics: student review, staffing and collaboration
- Form STEM Faculty Learning Communities
- Create Undergraduate Research internships in STEM fields

III. Implementation Progress in Year Two; Opportunities in Year Three

- Nine Undergraduate Research interns participated in a 2 semester long program; this program expanded to 12 students this year

IV. Challenges in Year Three

- Seeking accurate STEM data highlighted both the need and difficulty of acquiring data on Boise State University STEM majors
- Recruiting STEM summer bridge program participants from underserved communities

V. Unintended Beneficial Consequences

- Increasing the number of undergraduate and graduate STEM students who graduate is now a priority in the university strategic plan
- Resulting from a static level of 13% female engineering undergraduate enrollment, the College of Engineering added recruitment and retention specialist for women

- Math Review Year Two Results
  - Approximately 170 students voluntarily participated in ALEKS®, an online math learning module. This more than doubled the number compared with last year
  - Collaborative math – higher mathematics were taught with real world applications in large classroom format. The pass rate for Calculus III increased by 9%
  - Opportunity to discuss teaching skills in relation to tenure and promotion policies

- First STEM Faculty Learning Community completed; First STEM Teaching Symposium launched (below)

• Opportunity to enhance STEM community building by using Blackboard tools as the communication method to notify students of events focused on their majors. Considering offering the seminar portion as a 1 credit course to build scientific presentation skills
• Institutionalized and expanded STEM orientation advising sessions to first day with emphasis on determining math preparation and encouraging students take math placement test prior to advising
• Opportunity to contact students before they attend summer orientation to recommend math placement testing
• Over 166 students from all STEM majors enrolled in 17 STEM SLCs
• Opportunity to enhance Fall SLCs by piloting facilitated study session courses within the SLCs
• General Science1 course for students underprepared in math was offered and assessed; scientific reasoning showed a large, significant gain
• Opportunity to revise curriculum and include as a disciplinary lens course in the new general education core (Foundational Studies)


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