Integration of chemistry-based technology programs in ACS guidelines and lessons learned

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Overview

• Background
• Major changes
• Resources
2009 Guidelines

• Supplement
  – 2009 separate document with appendices

• Need
  – Incorporate into main document

• Approach
  – Infuse language specific to chemistry-based technology degree programs throughout
Key Changes

• Program Definitions
• Faculty & Staff
• Infrastructure
• Curriculum
• Student Research and Scholarly Activities
• Partnerships
Programs Defined

- **Chemistry transfer programs**
  - *Primary purpose*: transfer to baccalaureate chemistry programs
  - Degree: AS or equivalent degree, no degree

- **Chemistry-based technology programs**
  - *Primary purpose*: immediate employment
  - Degree: AAS or equivalent degree

- **Chemistry-based courses that support programs in other disciplines**
  - *Primary purpose*: support allied programs and/or general education
  - Degree: no chemistry degree
Faculty & Staff

• Professional Development (3.4)
  – Opportunities for faculty will strengthen faculty’s skill in preparing students for the workplace.
  – Examples:
    • Externships
    • Job-shadowing
    • Training
Infrastructure

• Organization of Facilities (4.1)
  – Support student education
  – Align with needs of employers
• Equipment and Instrumentation (4.2)
  – Programs typically require more equipment
  – Specialty equipment may be needed
• Transferring Students (4.7)
  – Prepare students for transfer and employment
Curriculum

- Employing partners should have input into curriculum development
- Chemistry-based technology courses (5.13)
  - Address skills and knowledge specific to program partners
- Laboratory experience (5.14)
  - Provide significant, relevant hands-on experience
- Frequency of course offerings (5.15)
  - Allow qualified students to complete program in two years.
Undergraduate Research, Internships, and Other Experiential Activities

• Internships and/or co-operative learning experiences (6.2)
  – Critical for chemistry-based technology programs
  – Valued by employers
  – Best provided by the program partners as future employers
Partnerships

• Valuable to all programs for
  – Curriculum development
  – Faculty and institutional support
  – Recruitment and placement of students

• Advisory Boards (10.1)
  – Active members with vested interest in the program

• Employers (10.5)
  – Provide support and experiences that support students’ career development
Resources

• Programs & education
  – Funding
  – Partnerships
  – Preparing students for the workplace
  – Chemistry-based technology program resources

• Curriculum Development
  – Instructional materials for chemistry education
  – Chemical safety
  – Professional, student, or soft skills
  – Research and internships

• Faculty Development
  – Externships

• Other?
Symposium schedule

8:30 a.m. Introductory remarks
8:35 a.m. Integration of chemistry-based technology programs in ACS guidelines and lessons learned
8:55 a.m. Importance of partnerships in two-year college chemistry programs
9:15 a.m. Safety in the 2015 two-year guidelines
9:35 a.m. Panel discussion I
9:55 a.m. Intermission
10:10 a.m. Updated student skills in the 2015 ACS Guidelines for Chemistry in Two-Year College Programs
10:30 a.m. Student mentoring and the ACS Guidelines for Chemistry in Two-Year College Programs
10:50 a.m. Fostering alignment between the ACS Guidelines for degree programs at 2-year and 4-year institutions
11:10 a.m. Panel discussion II
11:30 a.m. Concluding remarks