Importance of partnerships in two-year college chemistry programs

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SOCED Task Force on *ACS Guidelines for Chemistry in Two-Year College Programs* (2015)

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Overview

Expansion of the importance of partnerships

- Professional development (3.4)
- Infrastructure (4)
- Curriculum (5, 5.8, 5.10, 5.14)
- Partnerships (10)
Who are the key stakeholders/program partners?

• Academia
• Employers
• Professionals
• Workforce organizations
Academia

- K-12
- Career centers
- Two-year colleges
- Four-year colleges and universities
- Technical program students and graduates
Employers

• Local and state industries/businesses:
  – Paper and pulp
  – Oil and gas
  – Chemical
  – Petrochemical
  – Biotech
  – Environmental
  – Health-related areas (health complexes, hospitals, urgent care facilities, medical offices)
  – Start-ups
  – …other regional employers
Employers

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Prosperity Regions Talent Map - An interactive tool allowing employers to access talent system partners and resources.

An interactive tool allowing employers to access talent system partners and resources.
Professional Organizations

- American Chemical Society (national, regional, local)
- National Organization of Black Chemists and Chemical Engineers
- Society for Advancement of Chicanos/Hispanics and Native Americans in Science
- Manufacturing Chemists Association
- Marine Chemists Association
- American Institute of Chemical Engineers
- Others?
Workforce Organizations

United States Department of Labor (www.doleta.gov)
Workforce Organizations

United States Department of Labor: Employment and Training Administration (www.doleta.gov/usworkforce)
Examples of Michigan Workforce Organizations

- Michigan Economic Development Corporation
  - www.michiganbusiness.org/grow/find-talent/
- MichiganWorks!
- WorkFirst
- CareerWorks, Inc.
- Workforce Development
Professional Development (3.4)

2009: Professional development opportunities provided by institutions

- Sabbaticals, professional meetings, mentoring
- “Training” in safety, technology, and assessment

2015: Program partners

- Workplace experiences
- Externships
- Job shadowing
- Local ACS section activities
Infrastructure (4)

Specifically mentions program partners of chemistry-based technology programs but applicable to most chemistry transfer programs (4.1, 4.2)

- Essential equipment
- Standard items
- Chemistry instrumentation
Curriculum (5 and 10)

(5) An effective chemistry curriculum is driven by the

- Needs of the students
- Mission of the institution
- Standards of the discipline
- Needs of the partners

(10) Key stakeholders should participate in curriculum development
## Partnerships (10)

### 1997: Articulation and Alliances

<table>
<thead>
<tr>
<th>2009</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>• Campus Units</td>
<td>• Advisory Board</td>
</tr>
<tr>
<td>• Higher Education Institution</td>
<td>• Campus Units</td>
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<tr>
<td>• K-12 Institutions</td>
<td>• Higher Education Institutions</td>
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<tr>
<td>• Nonacademic institutions (included employers)</td>
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<td></td>
<td>• Employers</td>
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<tr>
<td></td>
<td>• Other non-academic institutions</td>
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Partnerships (10)

Partnerships should:

- Benefit all participants
- Involve members who actively collaborate to maintain the partnership
- Have clearly established responsibilities and regular communications
- Help leverage resources and expertise to respond to changes in education and the workforce
Partnership activities

• Develop/update
  – Employer-based competencies
  – Curricula, course content, program requirements
• Provide student workplace experiences
• Provide program professional development activities
• Link K-16 educational systems
Partnership activities (con’t)

• Share financial, capital, and human resources
• Monitor employment, occupational trends, and other regional trends
• Provide public relations, outreach, and other career guidance
• Communicate about events, activities, and findings
  – Share examples of how partners impact your two-year college chemistry programs.
Tools and Resources

- [www.acs.org/2YColleges](http://www.acs.org/2YColleges)
- [Assessment Tool for Chemistry in Two-Year College Programs](http://www.acs.org/2YColleges)

Funding for partnerships

- [ACS Collaborative Opportunities Grants](http://www.acs.org/2YColleges)
Comments?

Questions?
# Symposium schedule

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