### Table 4.1 Outcomes Assessment Implementation Summary

<table>
<thead>
<tr>
<th>Assessment information collected</th>
<th>Academic Year</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2007-08</td>
</tr>
<tr>
<td>Primary source</td>
<td>Employer survey</td>
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<tr>
<td></td>
<td>Alumni survey</td>
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<td>IAB survey</td>
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<td>Exit survey</td>
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<tr>
<td>Secondary source</td>
<td>Career placement</td>
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<tr>
<td></td>
<td>Full time offers based on internship performance</td>
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<td></td>
<td>Competing in SPE/AADE student paper contests</td>
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</tbody>
</table>

- Primary source
- Secondary source
Conclusions drawn from the information collected above and how are faculty collectively involved in drawing conclusions (Data collected annually and analyzed and presented as combined data for three years 2007-10)

Primary Sources:
1) Employer Survey: Appendix figures 1 and 2 demonstrate 80-100% achievement of our Program Educational Objectives (PEO)
2) Alumni Survey: Appendix figure 3 shows close agreement between the level of expectation and achievement of program outcomes.
3) IAB Survey: Appendix figures 4 and 5 clearly indicate achievement of PEO's as well as program outcomes, based on feedback from alumni (see Appendix).
4) Exit Survey: PETE students have scored (overall basis, see figure 6) the skills learned, service provided and overall satisfaction with the UAF PETE program at 70% (scores ranged from 65-90%)

Secondary Sources:
1) Career Placement: See Appendix Table 3 (placements at 100% from 2007-2009, and 90% in 2010.
2) Full-Time Offers Based on Internship Performance: (See Appendix Figure 7)
3) Competing in SPE/AADE student paper contests: 5 awards/recognition at national/international competitions (see appendix pp 71-72.

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Curricular changes resulting from conclusions drawn above

| Senior design projects were altered to include industry mentors |
| Additional equipment was acquired and more sessions for labs were added. |
| One new (Petroleum Geology) graduate level course introduced, which our undergraduates can take as technical elective. |
| More group projects/class presentations by students in number of PETE classes |
| Dedicated faculty to teach geology/geoscience classes in PETE program was hired. |
| Please see Appendix for additional details. |

Adjuncts from industry (BP, ConocoPhillips) have taught reservoir and production engineering, which obviously includes greater emphasis on applied aspects. Additionally, SPE speakers routinely cover these areas.

New equipment in PETE303:
- Dean-Stark apparatus – for saturation measurement
- Capillary pressure – for air-mercury capillary pressure measurement
- Resistivity apparatus – for formation factor calculations
- Bench Top Relative Permeameter – for oil-water relative permeability
- Portable permeameter – for quick permeability measurements
- Anton-Paar viscometer and density meter – for density and viscosity measurements
- Cryette – for molecular weight measurement using freezing point depression

New equipment in PETE411:
- Dynamic linear swellmeter with compactor
- Mud sticking differential tester

Please see Appendix for additional details.

Additional sections of senior design class were added to meet the challenges with increased enrollment.

Additional equipment was acquired and more sessions for labs were added. 

Assessment of program was altered from indirect assessment to more direct assessment 

Please see Appendix for additional details.