

**Chemistry Curriculum, Outcomes and Assessment Diagram
(Draft April 14, 2011)**

Institutional Learning Outcome	Department Learning Outcomes	Program Learning Outcomes	Introduced	Reinforced	Mastery	Measure
<p>Learning: Informed by our Christian Faith: Members of the PLNU community will display openness to and mastery of foundational knowledge and perspectives; think critically, analytically, and creatively; and communicate effectively.</p>	<p>Learning/Teach: Students will demonstrate a broad knowledge of chemistry and develop an increasingly sophisticated understanding of chemistry related concepts and theories.</p>	<p>Students will demonstrate a foundational knowledge of the principles of physical and inorganic chemistry, including the structure of matter, fundamental chemical reactions, and the factors that regulate such processes.</p>	CHE151 CHE152 CHE153	CHE213	CHE325 CHE326 CHE466 CHE467 CHE468	<p>ETS Exam ACS Exam (General.Chemistry) ACS Exam (Thermodynamics)</p> <p>Research Projects Peer Reviewed Publications</p>
		<p>Students will demonstrate facility with basic concepts and reactions of organic chemistry.</p>	CHE294	CHE304	CHE351 CHE453 CHE454 CHE450 CHE450L	<p>ACS Exam (Organic) Research Projects Peer Reviewed Publications</p>
		<p>Students will demonstrate a understand of the basic principles and operating procedures of the major instruments used in chemical characterization and analysis.</p>	CHE294L	CHE304L CHE213L CHE327 CHE370 CHE370L	CHE495 CHE499	<p>Certification by Faculty</p>
<p>Growing: In a Christian Faith Community: Members of the PLNU community will demonstrate God-inspired development and understanding self and others and live hospitably within complex professional, environmental and social contexts.</p>	<p>Growing/Shape: Students will mature as science students and will design and execute a plan that moves them toward their career goals.</p>	<p>Students will participate in the life of the department assuming various positions of responsibility such as graders, tutors, and teaching assistants.</p>	<p>This occurs in the sophomore, junior, and senior years in the chemistry departments.</p>	<p>This occurs in the sophomore, junior, and senior years in the chemistry departments.</p>	<p>This occurs in the sophomore, junior, and senior years in the chemistry departments.</p>	<p>Student involvement will be tracked and recorded. At least 80% of our students will participate in one of these positions during their time at PLNU.</p> <p>Data Collected (who does what)</p>

		Students will develop career goals and define a path by which to achieve these goals	This occurs via faculty advising throughout the student's education.	This occurs via faculty advising throughout the student's education.	This occurs via faculty advising throughout the student's education.	In order to be cleared for course registration each semester, students will answer a questionnaire regarding their career goals and their plan by which to achieve those goals and then discuss the questionnaire with their faculty advisor.
<p>Serving: In a Context of Christian Faith: Members of the PLNU community will engage in actions that reflect Christian discipleship in a context of communal service and collective responsibility, serve both locally and globally in a vocational and social setting.</p>	<p>Serving/Send: Graduates will be prepared to engage a complex world with spiritual maturity and professional abilities</p>	<p>Some graduates will be admitted to post graduate schools for additional professional training in science or the medical arts and then move into positions of leadership and service.</p> <p>Some graduates will begin careers of service in secondary education or scientific endeavors in the laboratory or field.</p>	<p>Total curriculum</p> <p>Total curriculum</p>	<p>Total curriculum</p> <p>Total curriculum</p>	<p>Total curriculum</p> <p>Total curriculum</p>	<p>Alumni Statistics In a 5 year period, at least 60% of the graduates will continue with post graduate studies in science or medicine</p> <p>Alumni Statistics In a 5 year period, at least 20% of the graduates will assume positions in education or industry</p>