TO: University Senate  
FROM: Educational Policy Committee  
SUBJECT: Revision of Embedded Outcomes, Undergraduate Core Curriculum  
CAMPUS: West Lafayette  
DISPOSITION: University Senate for Discussion

**Rationale:** The Undergraduate Curriculum Council (UCC) is charged via University Senate Document 11-7 with the administration and oversight of the core curriculum. As part of these duties the UCC is responsible for reviewing the list of foundational and embedded outcomes. In the past two years the UCC has evaluated hundreds of Purdue West Lafayette (PWL) courses for inclusion in the foundational learning outcomes core. The foundational core has been implemented on the PWL campus since fall 2013 and provides an academic structure that assures a general education as stated in University Senate Document 11-7.

During the 2013-2014 academic year members of the UCC heard concerns from faculty, staff, and administrators about the eleven embedded outcomes. Among the concerns voiced were the inability to operationalize and distinguish among embedded outcomes, the large number of embedded outcomes, and the challenge of assessing the eleven embedded outcomes. To address these concerns, the UCC reviewed the core curricula at the CIC schools seeking to understand if and how these institutions implemented a core beyond a “foundational” core. Through careful discussion and thought, the UCC distilled the eleven embedded outcomes into a more manageable and assessable set of three that would be germane to the more than 200 undergraduate majors across campus. Importantly, all of the original eleven outcomes have been incorporated into the proposed set, yet we believe this distillation allows for greater flexibility in how majors meet these outcomes. The foundational outcomes remain unchanged.

We bring forward a proposal for restructuring the embedded outcomes into the following three areas: Communication; Ways of Thinking; and Interpersonal Skills and Intercultural Knowledge. The descriptions of the three proposed revised embedded outcomes are attached. These three restructured embedded outcomes would replace the eleven embedded outcomes portions in University Senate Document 11-7 and University Senate Document 11-7 Appendices.

The revised embedded outcomes are to be addressed within all majors in ways that are pertinent to the discipline. The list of key outcomes within each embedded outcome is purposefully designed not to be exhaustive, nor to serve as a checklist. Rather, the key outcomes are examples that offer opportunities for continued learning, development, and growth that align with the description of that embedded outcome within the context of the cognate discipline. The revised embedded outcomes give each major the latitude to find the ways in which each embedded outcome can be implemented and assessed.
Proposed Revisions of University Senate Document 11-7

Current

1. Proposed PWL Undergraduate Outcomes-Based Curriculum
The core curriculum consists of two levels of outcomes, foundational and embedded (see Appendix A). All Purdue students are expected to meet the foundational learning outcomes from 25 to 30 credits hours of coursework that is portable across the campus. In contrast, the embedded learning outcomes are addressed within courses typically taught within a specific discipline or major. Faculty within each program area will be responsible for determining where and at what level embedded outcomes will be met within their programs. In addition, program area faculty will be solely responsible for assessing student learning on embedded outcomes within their courses.

Thus, the foundational learning outcomes can be viewed as the academic structure that assures a general education, while the embedded learning outcomes define the expectations of particular degrees or plans of study. In some cases, entering freshman will have met foundational levels (e.g., via credit by exam, Advanced Placement (AP) test scores, or CLEP tests). Some foundational courses may be part of a curriculum plan for a particular major.

Foundational and embedded learning outcomes differ in two key ways, 1) the areas of learning and 2) the depth of learning. Rubrics developed by the Association of American Colleges and Universities (AACU) are adapted for use at Purdue. The AACU rubrics indicate levels of knowledge and skill development increasing from “developing” (Level 1) to “emerging” (Level 2) to a “proficient” (Level 3) level (see Appendix B).

The foundational outcomes focus on a developing level of knowledge (Level 1) in five areas: 1) written communication, 2) information literacy, 3) oral communication, 4) science, technology, and mathematics, and 5) human cultures (Table 1). More than one learning outcome may be satisfied in an individual course if that course is approved by the Undergraduate Curriculum Council as fulfilling the requirements of each learning outcome rubric.

Higher levels learning (rubric levels 2 and 3) should be a focus for three outcomes at the embedded level: written communication, information literacy, and oral communication. For the remaining embedded outcomes, (creative thinking, critical thinking, ethical reasoning, global citizenship and social awareness, intercultural knowledge, leadership and teamwork, quantitative reasoning, and integrative learning), faculty within each academic unit will determine the appropriate level of knowledge (rubric levels 1-3) with which students will meet outcomes.

Proposed

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**Current**

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2. Critical Ways of Thinking
3. Ethical Reasoning Interpersonal Skills and Intercultural Knowledge
4. Global Citizenship and Social Awareness
5. Intercultural Knowledge
6. Leadership and Teamwork
7. Quantitative Reasoning
8. Integrative Knowledge
9. Written Communication (levels 2 and 3)
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11. Oral Communication (levels 2 and 3)

**Current**

- **Change of Degree Objective (CODOs):**
  - Recommends that once a student meets an outcome (whether foundational or embedded), the student receives credit for meeting that outcome.
  - If a student CODOs to another program or college, the previously met foundational outcomes will still be considered to have been met for that student.

**Proposed**

- **Change of Degree Objective (CODOs):**
  - Recommends that once a student meets an outcome a foundational outcome (whether foundational or embedded), the student receives credit for meeting that outcome regardless of program of study. If a student CODOs to another program or college, the previously met foundational outcomes will still be considered to have been met for that student. Program faculty will determine if and at what level previously completed embedded outcomes will be considered fulfilled by students who CODO into their programs.
Proposed Revisions of University Senate Document 11-7 Appendices

Current

Appendix A: Learning Outcomes

Foundational Learning Outcomes

1. Written Communication* -- Clear expression of ideas in writing; includes grammar, organization, and structure. Varying levels and types of writing skills are required for different jobs. The ability to convey ideas concisely and coherently is important.

2. Information Literacy* – Information literacy is the ability to recognize the extent and nature of information need, then to locate, evaluate, and effectively use the needed information. It involves designing, evaluating and implementing a strategy to answer questions or achieve a desired goal.

3. Oral Communication* – activity of conveying meaningful information verbally; communication by word of mouth typically relies on words, visual aids and non-verbal elements to support the conveyance of the meaning. Oral communication is designed to increase knowledge, foster understanding, or to promote change in the listener's attitudes, values, beliefs, or behaviors.

* Foundational outcomes also should be embedded within disciplinary areas and students should demonstrate higher levels of learning in each area as determined by program area faculty and suggested within rubrics.

Proposed

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Current Embedded Learning Outcomes

1. **Creative Thinking** – the capacity to combine or synthesize existing ideas, images, or expertise in original ways and the experience of thinking, reacting, and working in an imaginative way characterized by innovation and divergent thinking.

   Key Skills:
   - Acquires strategies and skills within a particular domain: adapts an appropriate exemplar to his/her own specifications; creates an entirely new object, solution or idea appropriate to the domain; evaluates creative process and product using domain-appropriate criteria.
   - Takes risks: considers new directions or approaches; incorporates new directions or approaches to the assignment; actively seeks out and follows through on untested directions or approaches to the assignment.
   - Solves problems logically and using a plan; considers consequences and alternatives.
   - Includes, incorporates, and integrates alternative or divergent perspectives or ideas.
   - Experiments with, creates, and extends a novel or unique idea, question, format or product to create new knowledge or knowledge that crosses boundaries.

Proposed Embedded Learning Outcomes

1. **Communication** – Students graduating from Purdue should be able to communicate, orally and in writing, in ways appropriate to their fields of study and future careers. Effective communication is founded on information literacy, which involves the ability to use appropriate information to learn and explore ideas, demonstrate understanding of a subject, and convey one’s conclusions. At the embedded outcome level, effective communication assumes basic fluency with such things as grammar, organization and structure. It also focuses on being able to convey ideas concisely in ways appropriate for the context, audience and purpose. At this level, students should recognize that communication occurs within and across communities, such as academic, public or professional, where ideas are formulated, debated, and weighed against one another.

   Key outcomes may include:
   - Demonstrates successful execution of organization, content, presentation, format and stylistic choices through appropriate genres of written or oral communication.
   - Demonstrates the ability to critically evaluate, select, analyze and synthesize relevant information sources for communicative purposes.
   - Demonstrates the ability to select and successfully convey ideas through modes of communication appropriate for specific purposes and audiences, which may include an essay, report, scientific poster, video, social media, etc.
   - Engages with and uses information sources to communicate that are in accord with ethical standards and legal requirements, such as giving credit to the original ideas of others through proper attribution and citation.
Current

2. **Critical Thinking** -- Critical thinking is "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based...The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results, which are as precise as the subject and circumstances of inquiry permit." (Facione, P. A., ED 315 423. http://www.eric.ed.gov/PDFS/ED315423.pdf)

Key Skills:
- Examines explanation of issues: Issue/problem to be considered critically is stated clearly and described comprehensively delivering relevant information necessary for understanding
- Evaluates evidence: Information is taken from source(s) with enough interpretation/evaluation to develop an analysis or syneth. Viewpoints of experts are questioned thoroughly.
- Questions assumptions: Analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.
- Assumes/takes a position on a topic: Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.
- Identifies conclusions: Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); related outcomes (consequences and implications) are identified clearly.

Proposed

2. **Ways of Thinking** — Success in life requires the ability to think critically, practically, and creatively within an ethical framework. Critical thinking is the process of gathering information, analyzing it in various ways including quantitative and qualitative methods, and evaluating it for the purpose of solving a problem or making a decision. Practical thinking is the ability to adapt to changing environmental conditions and to shape the environment so as to produce the desired results. Creative thinking is the ability to generate novel ideas that can lead to change. It is essential that the ethical implications of actions that result from these thought processes are carefully considered.

Key outcomes may include:
- Demonstrates the ability to gather, analyze and evaluate information.
- Connects disparate pieces of information to infer relationships.
- Demonstrates open-mindedness and flexibility in expression, decision making, and problem solving.
- Applies knowledge and skills previously learned to new circumstances.
- Considers multiple possible explanation or solutions rather than one.
- Accepts mistakes and learns from them.
- Acts in a fair and thoughtful manner.
3. **Intercultural Knowledge and Effectiveness** -- Defined as a set of behaviors, attitudes, and policies that come together to enable systems, agencies, or professionals to work effectively in cross-cultural situations. Culturally effective systems integrate and transform knowledge about individuals and groups of people into specific standards, policies, practices, and attitudes used in appropriate cultural settings to increase the quality of services; thereby producing better outcomes. Culturally effective services are respectful of and responsive to the beliefs and practices, and cultural and linguistic needs of diverse populations. Cultural competence is a developmental process that evolves over an extended period. Both individuals and organizations are at various levels of awareness, knowledge and skills along a cultural competence continuum.

**Key Skills:**
- Identifies, recognizes new perspectives, and articulates insights into own cultural rules and biases
- Demonstrates understanding of other cultures in relation to history, values, politics, communication styles, economy, or beliefs and practices.
- Identifies, recognizes, and interprets intercultural experiences from the perspectives of one and more than one worldview
- Identifies, recognizes, and articulates understanding of cultural differences in verbal and nonverbal communication
- Asks questions about other cultures, seeks out information about other cultures.
- Interacts with culturally different others.

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3. **Interpersonal Skills and Intercultural Knowledge** — Students graduating from Purdue University should be able to work effectively with others in various ways including in cross-cultural situations and in a global civil society. Interpersonal skills include the ability to work effectively with others both in professional practice and in relating to those outside of the discipline, in leadership roles, and as members of a team. Intercultural knowledge is founded on the ability to appreciate and critique multiple perspectives including one’s own and to engage in civil discourse on complex global issues. It requires respect for and responsiveness to the beliefs and practices and cultural and linguistic needs of diverse populations. Students can acquire and practice these skills in ways appropriate to their fields of study and future careers.

**Key outcomes may include:**
- Demonstrates the ability to work with others in leadership and/or team roles in professional practice and in relating to the public.
- Demonstrates understanding of diverse populations in relation to history, values, politics, communication styles, economy, or beliefs and practices.
- Demonstrates understanding of the rights and obligations that students have as citizens in communities, nations and the world.
- Demonstrates interpersonal skills and intercultural knowledge in discipline-specific ways, which may include but are not limited to courses, study abroad, internships, community service, fieldwork, undergraduate research, capstone projects, student teaching, performances and exhibitions, and honors theses.
Current and Proposed: Delete Embedded Outcomes 4-8

4. **Ethical Reasoning**—is reasoning about right and wrong human conduct. It requires students to assess their own ethical values and the social context of problems, recognize ethical issues in a variety of settings, think about how different ethical perspectives might be applied to ethical dilemmas and consider the ramifications of alternative actions. Students’ ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues.
   
   **Key Skills:**
   - Articulate one’s ethical beliefs and approach to ethical decisions;
   - Identifies major theories supporting ethical perspectives and concepts;
   - Recognize ethical issues in personal, professional, and civic life;
   - Identify competing values in ethical dilemmas; Understand different ethical perspectives and ethical concepts;
   - Defend a position with good reasoning and consideration of opposing views.

5. **Global Citizenship and Social Awareness**—Civil discourse on complex issues. Ability to appreciate and critique multiple perspectives including one’s own, Self-reflective examination of values, Self-reflective awareness of oneself as a global citizen, Ethical citizenship and leadership in a global civil society. Commitment to community service.
   
   **Key Skills:**
   - Understanding of a citizen’s responsibilities to others, to society and to the environment;
   - Examine the meaning of democracy and citizenship from differing points of view including non-dominant, non-western perspectives;
   - Explore the rights and obligations that citizens have in their communities, nations and in the world;
   - Discuss or write about their lives, careers, and interests in relation to participatory democracy and the general welfare of the global society;
   - Explore the relationship of global citizenship and responsibility to the environment;
   - Understand how governmental laws, policies, and regulations affect their careers and personal economic and social lives.

6. **Integrative Learning**—Integrative learning is an understanding and a disposition that a student builds across the curriculum and co-curriculum, from making simple connections among ideas and experiences to synthesizing and transferring learning to new, complex situations within and beyond the campus.
   
   **Key Skills:**
   - Connects relevant experience with academic knowledge;
   - Makes connections across disciplines, perspectives;
   - Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations;
   - Demonstrates a developing sense of self as a learner, building on prior experiences to respond to new and challenging contexts (may be evident in self-assessment, reflective, or creative work).

7. **Quantitative Reasoning**—Quantitative literacy is knowledge of and confidence with basic mathematical/analytical concepts and operations required for problem solving, decision-making, economic productivity and real-world applications.
   
   **Key Skills:**
   - Explains information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words);
   - Converts relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words);
   - Competently performs basic computational/arithmetic operations;
   - Makes judgments and draws appropriate conclusions based on the quantitative analysis of data while recognizing the limits of this analysis.
• Makes and evaluates important assumptions in estimation, modeling, and data analysis
• Expresses quantitative evidence in support of the argument or purpose of the work

8. Leadership and Teamwork—Leadership and Teamwork are interpersonal skills and behaviors under the control of individuals and team members (effort they put into team tasks, their manner of interacting with others on team, and the quantity and quality of contributions they make to organizational and team discussions). The leader is one who practices management as a trainable skill with technical and administrative aspects which serve to direct people for the good of the enterprise. Leadership is the art and science of getting the job done through the willing efforts of others.

Key Skills
• Facilitates change for the good of the organization
• Contributes to team meetings, discussions, and work products
• Facilitates the contributions of team members
• Individual contributions outside of team meetings
• Fosters constructive team climate
• Responds to conflict

Current (page 7) Proposed

Appendix B

Learning Outcome Rubrics

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Approved by the Undergraduate Curriculum Committee

Submitted by Educational Policy Committee

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Frank Blalark Evelyn Blackwood
Ryan Cabot Monica Cox
Julie Cox
Jennifer Dennis
Frank Dooley
Patrick Kain
Christine Hrycyna
Hal Kirkwood – Chair
David Pick
Jordan Ross
Anastasia Rynearson
Victoria Walker
Whitney Walton