1. Core Communication and Quantitative Skills

**Definition:** The ability of students to express and interpret information, perform quantitative analysis, and use information resources and technology—the foundational skills necessary for all IUPUI students to succeed.

**Outcomes:** Core communication and quantitative skills are demonstrated by the student's ability to
a. express ideas and facts to others effectively in a variety of formats, particularly written, oral, and visual formats;
b. comprehend, interpret, and analyze ideas and facts;
c. communicate effectively in a range of settings;
d. identify and propose solutions for problems using quantitative tools and reasoning;
e. make effective use of information resources and technology.

**Nota Bene:** For PUL designations on students' transcripts the core communication and quantitative skills categories were administratively collapsed into the following scheme:
1A: Language Skills = 1a, b, c
1B: Quantitative Skills = 1b, c, d
1C: Information Resources Skills = 1b, c, e

2. Critical Thinking

**Definition:** The ability of students to engage in a process of disciplined thinking that informs beliefs and actions. A student who demonstrates critical thinking applies the process of disciplined thinking by remaining open-minded, reconsidering previous beliefs and actions, and adjusting his or her thinking, beliefs and actions based on new information.

**Outcomes:** The process of critical thinking begins with the ability of students to remember and understand, but it is truly realized when the student demonstrates the ability to
a. apply,
b. analyze,
c. evaluate, and
d. create
knowledge, procedures, processes, or products to discern bias, challenge assumptions, identify consequences, arrive at reasoned conclusions, generate and explore new questions, solve challenging and complex problems, and make informed decisions.

3. Integration and Application of Knowledge

**Definition:** The ability of students to use information and concepts from studies in multiple disciplines in their intellectual, professional, and community lives.

**Outcomes:** Integration and application of knowledge are demonstrated by the student’s ability to
a. enhance their personal lives;
b. meet professional standards and competencies;
c. further the goals of society; and
 d. work across traditional course and disciplinary boundaries.

4. Intellectual Depth, Breadth, and Adaptiveness

**Definition:** The ability of students to examine and organize disciplinary ways of knowing and to apply them to specific issues and problems.

**Outcomes:** Intellectual depth, breadth, and adaptiveness are demonstrated by the student’s ability to
a. show substantial knowledge and understanding of at least one field of study;
b. compare and contrast approaches to knowledge in different disciplines;
c. modify one's approach to an issue or problem based on the contexts and requirements of particular situations.
5. Understanding Society and Culture
[Definition:] The ability of students to recognize their own cultural traditions and to understand and appreciate the diversity of the human experience.
[Outcomes:] Understanding society and culture is demonstrated by the student’s ability to
a. compare and contrast the range of diversity and universality in human history, societies, and ways of life;
b. analyze and understand the interconnectedness of global and local communities; and
c. operate with civility in a complex world.

6. Values and Ethics
[Definition:] The ability of students to make sound decisions with respect to individual conduct, citizenship, and aesthetics.
[Outcomes:] A sense of values and ethics is demonstrated by the student’s ability to
a. make informed and principled choices and to foresee consequences of these choices;
b. explore, understand, and cultivate an appreciation for beauty and art;
c. understand ethical principles within diverse cultural, social, environmental and personal settings.

Principles of Undergraduate Learning (PULs) – Brief Reference Version

1 = Core Communication and Quantitative Skills
   1A = Language Skills (= 1a, b, c)
   1B = Quantitative Skills (= 1b, c, d)
   1C = Information Resources Skills (= 1b, c, e)

2 = Critical Thinking

3 = Integration and Application of Knowledge

4 = Intellectual Depth, Breadth, and Adaptiveness

4 = Understanding Society and Culture

6 = Values and Ethics
Principles of Undergraduate Learning (PULs)
Interwoven with Dublin Descriptors (Associate and Non-Major) and General Competencies (A) Developed as Part of Cambridge Measures

1. Core Communication and Quantitative Skills
[Definition:] The ability of students to express and interpret information, perform quantitative analysis, and use information resources and technology—the foundational skills necessary for all IUPUI students to succeed.
[Outcomes:] Core communication and quantitative skills are demonstrated by the student’s ability to
a. express ideas and facts to others effectively in a variety of formats, particularly written, oral, and visual formats;
   A:III:1 communicate orally in English
   A:III:2 communicate in writing in English
   A:III:3 communicate in a second language
b. comprehend, interpret, and analyze ideas and facts;
   A:I:1 think abstractly, analyze, and synthesize ideas
   A:III:4 use information and communication technologies
   A:I:11 collect, process, and analyze data from diverse sources
   A:III:1-8 communication, reasoning, analysis
   A:III:4 use information and communication technologies
[Definition:] Dublin Descriptors -- Communication: Student communicates information, ideas, problems, and solutions to peers, supervisors, and external audiences
[Definition:] Cambridge Measures -- Communication Competencies (A:III:1-8); Thinking and Analytical Competencies (A:I:1, 9, 11)

c. communicate effectively in a range of settings;
   A:III:5 work in a team
   A:III:6 apply appropriate interpersonal skills
   A:III:7 communicate about one’s chosen field to the public
   A:III:8 communicate with and understand people from diverse backgrounds
d. identify and propose solutions for problems using quantitative tools and reasoning;
   A:I:9 compute and analyze quantitative data
   A:III:1-8 communication, reasoning, analysis
   A:III:4 use information and communication technologies

2. Critical Thinking
[Definition:] The ability of students to engage in a process of disciplined thinking that informs beliefs and actions. A student who demonstrates critical thinking applies the process of disciplined thinking by remaining open-minded, reconsidering previous beliefs and actions, and adjusting his or her thinking, beliefs and actions based on new information.
[Outcomes:] The process of critical thinking begins with the ability of students to remember and understand, but it is truly realized when the student demonstrates the ability to
a. apply,
   A:I:2 apply knowledge in practical situations
   A:I:6 identify, pose, and resolve problems
b. analyze,
   A:I:3 think critically
   A:I:9 compute and analyze quantitative and qualitative data
c. evaluate, and
   A:I:4 self-evaluate
   A:I:10 interpret and apply research
d. create
   A:I:5 generate new ideas (creativity)
   A:I:7 design and manage projects
knowledge, procedures, processes, or products to discern bias, challenge assumptions, identify consequences, arrive at reasoned conclusions, generate and explore new questions, solve challenging and complex problems, and make informed decisions.

Dublin Descriptors -- Application of Knowledge: Student applies knowledge to a vocation or profession, understands and develops more complex arguments drawing on exiting research

Cambridge Measures – Thinking and Analytical Competencies (A:I:2-4, 5-7, 9-10)

3. Integration and Application of Knowledge
[Definition:] The ability of students to use information and concepts from studies in multiple disciplines in their intellectual, professional, and community lives.

[Outcomes:] Integration and application of knowledge are demonstrated by the student’s ability to
a. enhance their personal lives;
   - A:II:1 plan and manage time
   - A:II:2 self-direct learning
   - A:II:6 work independently
   - A:II:7 take initiative
b. meet professional standards and competencies;
   - A:II:3 stay current in one’s chosen field
   - A:II:8 persevere in the tasks giving and responsibilities taken
c. further the goals of society; and
   - A:II:5 lead and motivate people toward a common goal
d. work across traditional course and disciplinary boundaries.
   - A:II:4 adapt to and act in new situations

Dublin Descriptors -- Learning Autonomy and Application of Knowledge: Student learns in a structured environment, develops skills sufficient to continue more independent studies; applies knowledge to a vocation or profession, understands and develops more complex arguments drawing on exiting research

Cambridge Measures – Personal Motivation and Initiative Competencies (A:II:1-8)

4. Intellectual Depth, Breadth, and Adaptiveness
[Definition:] The ability of students to examine and organize disciplinary ways of knowing and to apply them to specific issues and problems.

[Outcomes:] Intellectual depth, breadth, and adaptiveness are demonstrated by the student’s ability to
a. show substantial knowledge and understanding of at least one field of study;
   - A:II:3 stay current with information in one’s chosen field
b. compare and contrast approaches to knowledge in different disciplines;
   - A:I:10 interpret and apply research
c. modify one’s approach to an issue or problem based on the contexts and requirements of particular situations.
   - A:II:4 adapt to and act in new situations

Dublin Descriptors -- Learning Autonomy and Knowledge and Understanding: Student learns in a structured environment, develops skills sufficient to continue more independent studies; demonstrates broad knowledge built on prior studies, supported by textbooks, prepares for profession or further study

Cambridge Measures – Thinking and Analytical Competencies (A:I:10); Personal Motivation and Initiative Competencies (A:II:3, 4)

5. Understanding Society and Culture
[**Definition:**] The ability of students to recognize their own cultural traditions and to understand and appreciate the diversity of the human experience.

[**Outcomes:**] Understanding society and culture is demonstrated by the student's ability to
a. compare and contrast the range of diversity and universality in human history, societies, and ways of life;
   A:IV:1 understand and respect diversity and multiculturalism
   A:IV:2 work in a broader context (International, national, state, local)
b. analyze and understand the interconnectedness of global and local communities; and
   A:IV:4 demonstrate and apply knowledge of environmentally responsible behaviors
c. operate with civility in a complex world.
   A:IV:5 act with social responsibility and civic awareness
   A:IV:6 act without discrimination toward all people

[**Dublin Descriptors** -- **Knowledge and Understanding:** Students demonstrates broad knowledge built on prior studies, supported by textbooks, prepares for profession or further study

[**Cambridge Measures** – **External Awareness Competencies** (A:IV:1, 2, 4-6)]

**6. Values and Ethics**

[**Definition:**] The ability of students to make sound decisions with respect to individual conduct, citizenship, and aesthetics.

[**Outcomes:**] A sense of values and ethics is demonstrated by the student’s ability to
a. make informed and principled choices and to foresee consequences of these choices;
   A:I:8 act on the basis of ethical reasoning
b. explore, understand, and cultivate an appreciation for beauty and art;
c. understand ethical principles within diverse cultural, social, environmental and personal settings.
   A:IV:4 demonstrate and apply knowledge of environmentally responsible behaviors
   A:IV:5 act with social responsibility and civic awareness
   A:IV:6 act without discrimination toward all people

[**Dublin Descriptors** -- **Judgment:** Student gathers and interprets data, can use data to make decisions and judgments, reflects on social or ethical questions

[**Cambridge Measures** – **Awareness Competencies** (A:IV:4-6)]
Cambridge Measures

A: General Competencies

(Associate to Bachelor’s Degree Qualification Descriptions [Dublin Descriptors] are preceding the competencies and are highlighted in grey)

**Application of Knowledge:** Applies knowledge to a vocation or further studies, understands, and develops routine arguments

I. Thinking and Analytical Competencies

**Ability to:**

1) think abstractly, analyze, and synthesize ideas
2) apply knowledge in practical situations
3) think critically
4) self-evaluate
5) generate new ideas (creativity)
6) identify, pose, and resolve problems
7) design and manage projects
8) act on the basis of ethical reasoning
9) compute and analyze quantitative and qualitative data
10) interpret and apply research
11) collect, process and analyze data from diverse sources

**Judgment and Learning Autonomy:** Uses data to solve clearly-defined problems; learns in a structured environment, develops skills sufficient to continue studies

II. Personal Motivation and Initiative Competencies

**Ability to:**

1) plan and manage time
2) self-direct learning
3) stay current with information in one’s chosen field
4) adapt to and act in new situations
5) lead and motivate people toward a common goal
6) work independently
7) take initiative
8) persevere in the tasks given and responsibilities taken

**Communication:** Communicates information, problems, and solutions to peers and supervisors

III. Communication Competencies

**Ability to:**

1) communicate orally in English
2) communicate in writing in English
3) communicate in a second language
4) use of information and communication technologies
5) work in a team
6) apply appropriate interpersonal skills
7) communicate about one’s chosen field to the public
8) communicate with and understand people from diverse backgrounds

Knowledge and Understanding: Demonstrates specific knowledge, supported by textbooks, prepares for vocation or further study

IV. External Awareness Competencies

Ability to:

1) understand and respect diversity and multiculturalism
2) work in a broader context (international, national, state, local)
3) act with a commitment to safety
4) demonstrate and apply knowledge of environmentally responsible behaviors
5) act with social responsibility and civic awareness
6) act without discrimination toward all people