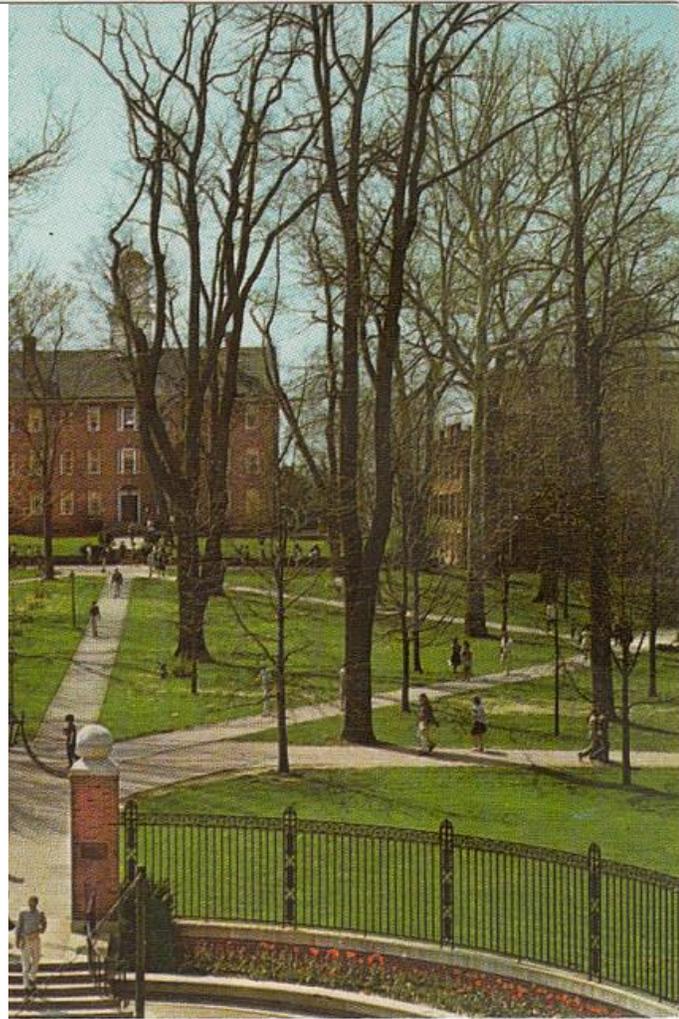

Review of OHIO's General Education Learning Outcomes



APRIL 26, 2019

Ohio University
UCC General Education Committee

The following report provides the results of an evaluation of OHIO's general education learning outcomes by the UCC General Education Committee.

The purpose of the evaluation was to review OHIO's stated general education learning outcomes (as stated in OCEAN 2.0) in the context of the ICC guidelines for learning outcomes, OHIO's common goal learning outcomes, and the state's OTM learning outcomes.

- Details about the background and context are provided in *Appendix A*.
- A list of the 35 general education learning objectives is provided in *Appendix B*.
- A list of the 62 general education learning outcomes that were written to support the learning objectives is provided in *Appendix C*.
- A list of the 42 common goal learning outcomes is provided in *Appendix D*.

Recommendations for revision of OHIO's general education learning outcomes and general education program are provided.

2018-19 Committee Members

- Carissa Anderson – Regional Higher Education
- Carla Childers – College of Business
- Timothy Goheen – Scripps College of Communication
- Katie Hartman (Chair) – College of Business
- Sara Helfrich – Patton College of Education
- Beth Quitslund – Graduate College
- Elizabeth Sayrs – University College
- Betty Sindelar – Health Sciences & Professions
- Loralyn Taylor – Institutional Research
- Joni Wadley – Institutional Research

Evaluation

In 2019, the UCC General Education Committee conducted an evaluation of the stated learning outcomes for OHIO's general education program. The goal of the evaluation was to answer three specific questions:

1. Do the stated learning outcomes for general education courses adhere to UCC's requirements for course learning outcomes?
2. Do the stated learning outcomes for general education courses match the adapted learning outcomes of common goals?
3. What are the relationship among the State's Ohio Transfer Module (OTM) learning outcomes, OHIO's general education learning objectives, and OHIO's common goals?

Question 1: General Education Learning Outcomes compared to ICC Guidelines

ICC Guidelines for student learning outcomes require learning outcomes to describe (1) what faculty members want students to know at the end of the course and (2) what faculty members want students to be able to do at the end of the course. According to the ICC Guidelines, the five characteristics of learning outcomes are:

- They specify an action by the students/learners that is observable.
- They specify an action by the students/learners that is measurable.
- They specify an action that is done by the students/learners (rather than the faculty members).
- They describe an action the students/learners are capable of carrying out after completing, and as a result of completing the course.
- They do not specify activities the students/learners carry out during the course.

The committee evaluated the 62 general education learning outcomes and classified each as either (1) generally meets requirements yet may need minor revision, (2) could meet requirements with some substantial revision, and (3) does not meet requirements. The results are as follows:

1. Meets requirements = 37% (n = 23). Although minor revisions may be required, these general education learning outcomes generally adhere to the five characteristics of learning outcomes by ICC. Examples are:
 - Tier I Quantitative Reasoning: "(Students will be able to) correctly use ratios and percentages in everyday calculations."
 - Tier II Natural Science: "Students will demonstrate an understanding of the nature and uses of applied science."
2. Substantial Revision Required = 40% (n = 25). These general education learning outcomes needed substantial revision yet could be revised to adhere to ICC guidelines. For example, changing a verb in the learning outcome could revise the learning outcome to be observable and measurable. Examples are:
 - Tier II Social Science: "Students will demonstrate awareness of the relative freedom of the individual in a given society."

- Tier II Applied Science and Mathematics: “Students will demonstrate awareness of the relative freedom of the individual in a given society.”

3. Does not meet requirement = 23% (n = 14). These general education learning outcomes did not meet ICC requirements. Reasons varied yet common problems included (a) focusing on actions rather than learning outcomes and (b) using vague language that is not measurable or observable. Examples are:

- Tier I English: “Practice appropriate means of documenting their work.”
- Tier I Quantitative Reasoning: “Correctly use appropriate technology.”
- Tier II Cross-Cultural Perspectives: “Students are able to apply knowledge to unfamiliar scenarios.”
- Tier II Fine Arts: “Participate in a theater production, concert, dance, etc.”

NOTE: Several of the Tier III learning outcomes (5 of 8) did not meet requirements while 2 of 8 needed substantial revision. The primary reason was that they could not be measured or observed as written.

Question 2: General Education Learning Outcomes compared to the Common Goals

Members of the committee compared the general education learning outcomes (as listed in OCEAN 2.0) to the learning outcomes of each of the eight common goals. Learning outcomes were adapted from the AAC&U VALUE rubrics and approved by UCC in 2018. The review process started with the learning outcomes for an individual common goal. Reviewers then compared each of the 62 general education learning outcomes to the 5-6 common goal learning outcomes. The comparison process was repeated for the learning outcomes of all eight common goals.

After an initial review, it was determined that none of the 62 general education learning outcomes precisely captured any of the 42 common goal learning outcomes. As such, subsequent reviews by committee members identified general education learning outcomes where the common goal learning outcome *broadly aligned* to the core of the common goal learning outcome. As such, results provided assume the need for some revision of the general education learning outcome to adequately match the common goal learning outcome.

The analyses of the results attempted to answer two research questions:

1. Are the common goal learning outcomes captured across all 62 general education learning outcomes?
2. Are the common goal learning outcomes captured within a single general education program requirement?

The following summarizes the results. In the table, common goal learning outcomes are noted as *CLOs*, and the general education learning outcomes are noted as *GLOs*.

COMMON GOAL	SUMMARY OF RESULTS
Quantitative Literacy	The six quantitative literacy CLOs <u>are not</u> captured across all 62 GLOs. <ul style="list-style-type: none"> ○ Tier I Quantitative Reasoning: 3/6 ○ Tier II Natural Science: 2/6

	<ul style="list-style-type: none"> ○ Tier III (depending on the content of the course): 3/6 ○ 1 missing CLO = communications of quantitative information <p>The six quantitative literacy CLOs <u>are not</u> captured by any single general education program requirement.</p>
Critical Thinking	<p>The five critical thinking CLOs <u>could be</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier I Composition and Equivalency: 3/5 ○ Tier II Applied Science & Mathematics: 1/5 ○ Tier II Cross-Cultural Perspectives: 1/5 ○ Tier II Humanities & Literature: 2/5 ○ Tier II Natural Sciences: 2/5 ○ Tier II Social Sciences: 1/5 ○ Tier III: 1/5 <p>The five critical thinking CLOs <u>are not</u> captured by any single general education program requirement.</p>
Written Communication	<p>The six written communications CLOs <u>are</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier I Composition and Equivalency: 5/5 ○ Tier II Humanities & Literature: 4/5 ○ Tier II Natural Sciences: 1/5 <p>The six written communications CLOs <u>are</u> captured by a single general education program requirement: Tier I Composition.</p> <ul style="list-style-type: none"> ○ A revision of the 12 Tier I Composition GLOs could adequately capture the 5 CLOs.
Oral Communication	<p>The five oral communications CLOs <u>are not</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier I Composition and Equivalency: 2/5* ○ Tier II Fine Arts: 1/5* ○ Tier II Humanities & Literature: 1/5* ○ Tier II Natural Sciences: 2/5* ○ Tier III: a <i>single, broad statement</i> ○ 2 missing CLOs = delivery and central message <p>*Note: These would need to be rewritten to state oral communications explicitly.</p> <p>The five oral communications CLOs <u>are not</u> captured by a single general education program requirement but <u>could be</u> captured by Tier III.</p> <ul style="list-style-type: none"> ○ A Tier III GLO is stated as “Students will have the ability to present information orally effectively.”
Teamwork	<p>The five teamwork CLOs <u>are not</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier I Composition and Equivalency: 1/5 ○ Tier II Fine Arts: 1/5 ○ Tier II Social Sciences: 1/5 ○ Tier III: a <i>single, broad statement</i> ○ 3 missing CLOs = contributions to team meetings, constructive team climate, and conflict management <p>The five teamwork CLOs <u>are not</u> captured by a single general education program requirement but <u>could be</u> captured by Tier III.</p> <ul style="list-style-type: none"> ○ A Tier III GLO is stated as “Students will have the ability to work collaboratively.”
Intercultural Knowledge and Competence	<p>The six intercultural knowledge and competence CLOs <u>are not</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier I Composition and Equivalency: 1/6

	<ul style="list-style-type: none"> ○ Tier II Applied Science & Mathematics: 1/6 ○ Tier II Cross-Cultural Perspectives: 1/6 ○ Tier II Humanities & Literature: 1/6 ○ Tier II Social Sciences: 2/6 ○ Tier III: 1/6 ○ 4 missing CLOs = empathy, verbal & non-verbal communications, curiosity, and openness <p>The six intercultural knowledge and competence CLOs <u>are not</u> captured by any single general education program requirement.</p>
Ethical Reasoning	<p>The five ethical reasoning CLOs <u>could be</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier II Applied Science & Mathematics: 1/5 ○ Tier II Social Sciences: 5/5* ○ Tier III: 1/5 <p>*Note: These would need to be rewritten to state ethical reasoning explicitly. The five ethical reasoning CLOs <u>could be</u> captured by any single general education program requirement.</p> <ul style="list-style-type: none"> ○ 3 of 6 Social Science GLOs broadly reflect the ethical reasoning CLOs.
Integrative Learning	<p>The five integrative learning CLOs <u>are not</u> captured across all 62 GLOs.</p> <ul style="list-style-type: none"> ○ Tier I Composition and Equivalency: 1/5 ○ Tier II Cross-Cultural Perspectives: 2/5 ○ Tier II Humanities & Literature: 1/5 ○ Tier III: a <i>single, broad statement</i> ○ 2 missing CLOs = connection to experience and reflection & self-assessment <p>The five integrative learning CLOs <u>are not</u> captured by a single general education program requirement but <u>could be</u> captured by Tier III.</p> <ul style="list-style-type: none"> ○ A Tier III GLO is stated as “Students will have a capacity for synthesis.”

Question 3: OTM, General Education Objectives, and Common Goals¹

The State of Ohio’s Department of Higher Education (ODHE) coordinates the Ohio Transfer Module (OTM). It is intended to allow students to complete specified general education courses anywhere in the public system. The discipline categories include:

- English Composition
- Oral Communication
- Mathematics, Statistics and Logic
- Arts & Humanities
- Social and Behavioral Sciences
- Natural Sciences

ODHE provides five broad learning outcomes for the OTM.

¹ This evaluation does not address course-by-course matchings nor does it address discipline-specific learning outcomes. In the future, it will be important for courses included in the OTM to be evaluated individually on a course-by-course basis.

Learning Outcomes:

The course directly emphasizes at least one of the learning outcomes for the Transfer Module. Which of these learning outcomes are addressed and how?

- a. *Communicate effectively*: All general education programs include a component for writing; many also include a component for oral communication or presentation.
- b. *Evaluate arguments in a logical fashion*: Competence in analysis and logical argument are explicit learning goals for most general education programs, although these skills go by a variety of names (e.g., critical thinking, analysis, logical thinking, etc.)
- c. *Employ the methods of inquiry characteristic of natural sciences, social sciences, and the arts and humanities*: The tools for solving problems vary across disciplines; general education introduces students to methods of inquiry in several fields of study and thereby prepares students to integrate information from different disciplines.
- d. *Acquire an understanding of our global and diverse culture and society*
- e. *Engage in our democratic society*: One of the overarching goals of general education is to prepare students to be active and informed citizens, the development of a disposition to participate in and contribute to our democracy is full of equal importance to the goal of having the skills to do so intelligently.

A comparison of the OTM learning outcomes, OHIO's general education learning objectives, and OHIO's common goals are provided below.

OTM	GE Learning Objectives	Common Goal
Communicate effectively	Tier I English Composition	<ul style="list-style-type: none">○ Written Communications○ Oral Communications
Evaluate arguments in a logical fashion	Tier I Quantitative Reasoning	<ul style="list-style-type: none">○ Quantitative Reasoning○ Critical Thinking
Employ the methods of inquiry characteristic of natural sciences, social sciences, and the arts and humanities	<ul style="list-style-type: none">○ Tier II Applied Science & Mathematics○ Tier II Cross-Cultural Perspectives○ Tier II Fine Arts○ Tier II Humanities & Literature○ Tier II Natural Sciences○ Tier II Social Sciences	<ul style="list-style-type: none">○ Breadth of Knowledge*
Acquire an understanding of our global and diverse culture and society	<ul style="list-style-type: none">○ Tier II Cross-Cultural Perspectives○ Tier II Humanities & Literature	<ul style="list-style-type: none">○ Intercultural Knowledge & Competence
Engage in our democratic society	<ul style="list-style-type: none">○ Tier II Social Sciences○ Tier III	<ul style="list-style-type: none">○ None

*Note: Breadth of knowledge is not listed as one of the eight, VALUE rubric-driven common goals yet is listed as the foundations of the common goals. Specifically, the common goals passed by the Faculty Senate states: All Ohio University graduates will complete programs of study that value and promote: Knowledge of Human Cultures and the Physical and Natural World through: (1) A broad, basic understanding of the natural sciences, social sciences, technology, arts, and humanities and (2) In-depth knowledge and advanced skills acquired through completion of a major program of study.

Conclusions

Based on the three evaluation questions, the committee draws the following broad conclusions.

General Education Learning Outcomes. The 62 general education learning outcomes (as stated in OCEAN 2.0) do not align with the five stated characteristics of learning outcomes required by UCC's Individual Course Committee Guidelines.

- Even with minor revisions, less than 40% effectively achieve all five characteristics.
- Approximately 40% would require substantial revision to align with ICC guidelines.
- Approximately 25% severely violated at least one of the five characteristics in the ICC guidelines.

Common Goals. With some exceptions, the 62 general education learning outcomes (as stated in OCEAN 2.0) do not adequately map to the 42 common goals learning outcomes.

- With relatively minor revisions to existing general education learning outcomes, 1 of 8 common goals could be achieved: written communications.
- With relatively major revisions to existing general education learning outcomes, 1 of 8 common goals could be achieved: ethical reasoning.
- With additions to existing general education learning outcomes, 6 of 8 common goals could be achieved: quantitative literacy, critical thinking, oral communications, teamwork, intercultural knowledge & competence, and integrative learning.

OTM. Broadly, OHIO's general education program learning objectives adequately reflect ODHE's learning outcomes for the OTM. With the exception of "engage in our democratic society," OHIO's common goals adequately reflect ODHE's learning outcomes for the OTM.

Recommendation

Based on the conclusions of three evaluation questions, the committee suggests that the Faculty Senate, UCC, and the Provost task a General Education Revision committee to revise OHIO's general education program, courses, learning outcomes, and systems.

Revisions to general education should accomplish the following principles:

1. OHIO's general education program must explicitly acknowledge the common goals.
2. OHIO's statement of intent for general education must explicitly acknowledge the common goals in the Undergraduate Catalog.
3. Across the general education program, general education learning outcomes must achieve all common goals learning outcomes.
4. Within individual general education requirements, at least one common goal must be achieved.
5. General education learning outcomes must be written to meet ICC guidelines.
6. Select courses should be "tagged" as meeting at least one common goal.
7. Common goal tagged courses must achieve all learning outcomes for the common goal.
8. Common goal tagged courses should clearly communicate common goal learning outcomes in the syllabus.
9. Common goal tagged courses must produce periodic, meaningful assessment of student learning in order to determine the extent to which students are achieving stated learning outcomes.
10. Faculty teaching common goal tagged courses should be held accountable for meaningfully improving courses to better achieve common goal learning outcomes.
11. Any general education revision should identify general education needs / requirements for OHIO associate degrees as well as consider how OHIO builds a general education program from associate degrees to baccalaureate degrees.
12. General education should be in compliance with the OTM.

Appendix A: Context Information

OHIO's general education program was adopted by the Faculty Senate in May 1979. Since 1979, a number of major reforms have been attempted yet only minor have been made. Two major reform initiatives (in 1995 and 2005) were introduced yet failed to be adopted by the Faculty Senate. However, two changes have been made. In 2005, the Faculty Senate approved changes to Tier III. The revision allowed major capstone courses to count as Tier III courses. In 2006, the Faculty Senate approved revisions to Tier II. The revision reorganized the breadth of knowledge into six areas.

General Education Learning Outcomes

In June 2007, the General Education Outcomes Committee provided recommendations for course learning objectives and outcomes for OHIO's General Education program. Although the committee recommended continuous improvement of the learning objectives and outcomes, substantial revision has not been achieved since objectives and outcomes were originally proposed. Currently, slightly modified versions of the 2007 learning outcomes for each general education course classification are provided in OCEAN 2.0. In total, there are 35 learning objectives and 62 learning outcomes across the 12 general education course designations.

Common Goals for Baccalaureate Programs

In May 2014, OHIO's Faculty Senate (FS) passed a resolution to adopt common goals for all baccalaureate programs. Goals were proposed by OHIO's General Education Task Force and approved by OHIO's University Curriculum Council. Following the directives of the May 2014 Faculty Senate Resolution, the 2017-18 UCC General Education Committee defined each common goal, prepared student learning outcomes for each goal commons, and identified AAC&U's VALUE rubrics as the measurement instruments. Definitions and outcomes were approved by UCC and Faculty Senate in 2018. In total, there are 42 learning outcomes across the 8 common goals.

Individual Course Committee (ICC) Guidelines

In April 2018, OHIO's University Curriculum Council adopted guidelines for submission of new course proposals and course changes. In addition to general information requirements, guidelines specify the following requirements for course learning outcomes:

Course learning outcomes are what the instructor expects students to know or be able to do upon the completion of the course. All courses submitted to ICC are expected to have observable and measurable learning outcomes (for example, outcomes based on "understand" are not generally measurable). This includes all course change documents.

There should be more than one learning outcome, but there is no exact number of outcomes that are required or expected. Typically, courses have between 5 and 10 learning outcomes. The inclusion of action words is expected (e.g., define, explain, describe, solve, apply, analyze, compare, evaluate, create, etc.). See Appendix D for examples of verbs and course learning outcomes. **The outcomes must be worded as follows: "Students will be able to..."** The outcomes as provided in OCEAN are expected to form the basis for the learning outcomes on course syllabi. Learning outcomes are published in the course catalog.

The outcomes specified for General Education at the university utilize some of the language such as understanding, appreciation, awareness, and the like. These should be interpreted as broadly-based outcomes for the General Education tiers rather than learning outcomes for specific courses. Outcome goals must not describe course activities.

Appendix B: General Education Learning Objectives

The following table lists the general education learning objectives stated in the 2007 Learning Objectives and Outcome Goals report. State learning objectives are organized by general education code including:

- T1F_EC: Tier I Freshman Composition and Tier I Junior Composition
- T1-QR: Tier I Quantitative Reasoning
- T2-ASM: Tier II Applied Science and Mathematics
- T2-CSP: Tier II Cross-Cultural Perspectives
- T2-FA: Tier II Fine Arts
- T2-HL: Tier II Humanities and Literature
- T2-NS: Tier II Natural Sciences
- T2-SS: Tier II Social Sciences
- T3_T3E: Tier III and Tier III Equivalent Courses

Code	General Education Outcome Goals (from 2007 Learning Objectives and Goals Report)
T1_EC	Communicate effectively in writing to a variety of audiences and for a variety of purposes.
T1_EC	Use writing as a tool for thinking and learning.
T1_EC	Develop skill in planning writing and completing tasks
T1_EC	Appropriately apply conventions of writing
T1-QR	Reason clearly and use logic to support arguments and draw valid inferences.
T1-QR	Correctly understand and interpret quantitative and logical statements and data.
T1-QR	Develop sufficient computational skill to manipulate mathematical and graphical information useful in their discipline.
T1-QR	Express quantitative and logical ideas clearly and accurately.
T1-QR	Be competent in the use of appropriate technology in the learning process.
T2-ASM	Students will understand the process by which scientific knowledge is applied to meet the needs of individuals, society, and the environment.
T2-ASM	Students will understand the impact of technology upon society and the impact of society upon technology
T2-CSP	Students possess knowledge of a society other than their own.
T2-CSP	Students analyze and interpret cultural phenomena.
T2-FA	Demonstrate an understanding of at least one principal form of artistic expression and the creative process inherent within.
T2-FA	Be able to use the appropriate vocabulary to articulate a reflective, critical evaluation of examples in that art form.
T2-FA	Create, collaborate, participate in, or interpret a work of art.
T2-HL	Form strategies for critically reading both printed and visual texts
T2-HL	Develop an appreciation and enjoyment of the humanities as well as analytical perspectives and vocabularies that are portable to a variety of professions and disciplines.
T2-HL	Develop a respect for the richness and diversity of language and literature across cultures, ethnic groups, geographical regions, and social situations.
T2-HL	Develop analytical writing skills, with an emphasis on the construction of cogent arguments and the marshalling of supporting evidence.
T2-NS	Students will have a substantive knowledge of some portion of the physical universe and/or life.
T2-NS	Students will have an understanding of the ways in which the scientist works.
T2-NS	Students will have some acquaintance with the achievements of science.

T2-NS	Students will have an understanding of the main concern of science - the discovery of certain uniformities and the development of convenient ways of thinking about things through painstaking observation.
T2-SS	Students acquire a foundational knowledge of contemporary and historical social theories and issues along with an understanding of how critical application of these theories can contribute to informed citizenship.
T2-SS	Students demonstrate the ability to apply the logic and methods of scientific inquiry within linguistic, psychological, social, cultural, economic, geographic, or political contexts.
T2-SS	Students demonstrate an understanding of human differences and similarities and how they are manifest in interaction with social contexts and social processes.
T3_T3E	Students will have a "capacity for synthesis".
T3_T3E	Students will have the ability to effectively present information orally.
T3_T3E	Students are able to appropriately utilize technology to present, acquire and analyze information.
T3_T3E	Students will have the "ability to work collaboratively."
T3_T3E	Students will be able to participate effectively in the society and culture in which they will live.
T3_T3E	Students will have a "sense of personal responsibility".
T3_T3E	Students will be able to live and participate effectively in a culture and society that is "multicultural, both nationally and internationally."
T3_T3E	Students will have the ability to "acquire increasingly complex intellectual skills."

Appendix C: General Education Learning Outcomes

The following table lists the general education outcome goals as currently stated in OCEAN 2.0. State learning outcomes are organized by general education code including:

- T1F_T1J: Tier I Freshman Composition and Tier I Junior Composition
- T1-JE: Tier I Junior Composition Equivalency
- T1-QR: Tier I Quantitative Reasoning
- T2-ASM: Tier II Applied Science and Mathematics
- T2-CSP: Tier II Cross-Cultural Perspectives
- T2-FA: Tier II Fine Arts
- T2-HL: Tier II Humanities and Literature
- T2-NS: Tier II Natural Sciences
- T2-SS: Tier II Social Sciences
- T3_T3E: Tier III and Tier III Equivalent Courses

Code	General Education Outcome Goals (from OCEAN 2.0)
T1F_T1J	Be aware that it takes multiple drafts to create and complete a successful text
T1F_T1J	Develop flexible strategies for generating, revising, editing, and proof-reading
T1F_T1J	Develop knowledge of genre conventions ranging from structure and paragraphing to tone and mechanics
T1F_T1J	Integrate their own ideas with those of others
T1F_T1J	Learn to critique their own and others' works
T1F_T1J	Practice appropriate means of documenting their work
T1F_T1J	Respond appropriately to diverse rhetorical situations
T1F_T1J	Understand how genres shape reading and writing
T1F_T1J	Understand the relationships among language, knowledge, and power
T1F_T1J	Understand writing as a series of tasks, including finding, evaluating, analyzing, and synthesizing primary and secondary sources
T1F_T1J	Use a variety of strategies to address a range of audiences
T1F_T1J	Use writing and reading for inquiry, learning, thinking, and communicating
T1F_T1J	Write in several genres
T1-JE	Competency in critically assessing one's own writing and the writing of others.
T1-JE	The ability to construct compelling and effective arguments using logic, rhetoric, and supporting evidence appropriate to the discipline.
T1-JE	The ability to discover, analyze, evaluate, and synthesize core sources appropriate to the discipline (e.g. primary and secondary sources, data, images, and scores), and to properly cite those sources.
T1-JE	The ability to improve writing through multiple drafts by developing flexible strategies for generating, revising, editing, and proofreading text.
T1-JE	Understanding of how a discipline's genre(s) and writing conventions shape reading, writing, knowledge, and power as appropriate to the discipline.
T1-JE	Writing competency in the specific discipline's genre(s) and writing conventions.
T1-QR	Correctly interpret quantitative data from everyday settings, such house bills and budgets
T1-QR	Correctly use appropriate technology.
T1-QR	Correctly use ratios and percentages in everyday calculations
T1-QR	Interpret quantitative data described in print and electronic media, including newspapers, magazines, television, and the internet
T1-QR	Interpret the output of a quantitative operation in their discipline

T2-ASM	Students will demonstrate an understanding of how to critically analyze and evaluate the impact of technology upon individuals and society.
T2-ASM	Students will demonstrate an understanding of the nature and uses of applied science.
T2-ASM	Students will demonstrate an understanding of the process by which scientific knowledge is applied to individual, social, and environmental needs.
T2-CSP	Students are able to apply knowledge to unfamiliar scenarios.
T2-CSP	Students are able to recognize and weigh multiple perspectives regarding cultural phenomena.
T2-CSP	Students demonstrate knowledge of various characteristics of another society (history, politics, everyday life, kinship, taboos vs. accepted behavior, religion, gender, etc.)
T2-FA	Demonstrate a knowledge of the vocabulary used to describe the art form
T2-FA	Demonstrate the ability to perceive meanings and organizational systems in traditional and contemporary visual arts
T2-FA	Have a strengthened sense of curiosity about the art form studied.
T2-FA	Participate in a theater production, concert, dance, etc.
T2-FA	Utilize the appropriate vocabulary to evaluate examples of art or the creative process.
T2-HL	Become familiar with and employ a variety of scholarly resources, including electronic and printed databases.
T2-HL	Comprehend a variety of literary expressions from diverse cultures and social situations and be aware of the importance of gender, class, race, and/or geographical locations as categories for literary analysis
T2-HL	Produce written, oral, electronic, or visual works that demonstrate interpretive skills
T2-HL	Read widely across cultures, geographical regions, social contexts, and chronological periods
T2-HL	Understand the fundamentals of literary analysis, with attention to the importance of genres and forms as well as the cultural contexts of literature
T2-NS	Students will be able to describe (what, who, when and how) a historical scientific achievement that has led to an improvement in their life.
T2-NS	Students will be able to organize physical phenomena, species, into established categories.
T2-NS	Students will be able to perform an experiment to test a hypothesis including the collection and analysis of data.
T2-NS	Students will be able to provide a scientific explanation of natural phenomenon.
T2-NS	Students will be able to use an equation or analytic model to predict physical behavior.
T2-NS	Students will demonstrate the use of key scientific principles
T2-NS	Students will have a broad understanding of basic (Jr. High and High School level) scientific principles.
T2-NS	Students will have the background to be able to solve problems related to the natural sciences.
T2-SS	Students will acquire tools to understand and participate constructively in their family community, country, and/or the world
T2-SS	Students will demonstrate awareness of the citizen's role in an always evolving, interactive, world of individual rights, governmental responsibilities and entrepreneurial opportunities.
T2-SS	Students will demonstrate awareness of the relative freedom of the individual in a given society
T2-SS	Students will gain an understanding of at least one other culture and demonstrate the ability to analyze the impact of cultural differences on operating effectively in that culture.

T2-SS	Students will understand the nature and path of development of Social-Emotional, Physical, Cognitive, and Language Development in particular populations
T2-SS	The students will be able to identify and apply information about development processes in the physical, cognitive, language, and social emotional domains of human growth and development.
T3_T3E	Students will be able to participate effectively in the society and culture in which they will live.
T3_T3E	Students are able to appropriately utilize technology to present, acquire and analyze information.
T3_T3E	Students will be able to live and participate effectively in a culture and society that is "multicultural, both nationally and internationally."
T3_T3E	Students will have a "capacity for synthesis".
T3_T3E	Students will have a "sense of personal responsibility".
T3_T3E	Students will have the "ability to work collaboratively."
T3_T3E	Students will have the ability to "acquire increasingly complex intellectual skills."
T3_T3E	Students will have the ability to effectively present information orally.

Appendix D: Common Goal Learning Outcomes

The following provides definitions of the common learning goals for all baccalaureate programs at Ohio University as well as learning outcomes for each learning goal. Goals, definitions, and outcomes were developed using the LEAP Essential Learning Outcomes (AAC&U, 2009).²

Learning Goal: Critical Thinking

Definition: Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Learning Outcomes

1. *Explanation of issues.* Students will be able to critically state, describe, and consider an issue or problem
2. *Evidence.* Students will be able to use information from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis.
3. *Influence of context and assumptions.* Students will be able to systematically and methodically analyze assumptions and carefully evaluate the relevance of contexts when presenting a position.
4. *Student's position.* Students will be able to state a specific position (i.e., perspective, thesis, or hypothesis) that is imaginative, recognizes complexities, and acknowledges limitations.
5. *Conclusions and related outcomes.* Students will be able to state conclusions and related outcomes (consequences and implications) logically and in a priority order.

Learning Goal: Written Communications

Definition: Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.

Learning Outcomes

1. *Context and purpose.* Students will be able to demonstrate an understanding of the context and purpose for writing such that the text has the writer's intended effect on an audience
2. *Content development.* Students will be able to use appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.
3. *Genre and disciplinary conventions.* Students will be able to use formal and informal rules for particular kinds of texts and/or media that guide formatting, organization, and stylistic choices appropriate for a specific academic field.
4. *Sources and evidence.* Students will be able to use and source texts (written, oral, behavioral, visual, or other) to extend, argue with, develop, define, or shape the writer's ideas.

² Definitions and learning outcomes have been developed from Association of American Colleges and Universities (AAC&U). (2009). VALUE rubrics. Retrieved from <https://www.aacu.org/value-rubrics>

-
5. *Control of syntax and mechanics.* Students will be able to use syntax and mechanics effectively to communicate ideas.

Learning Goal: Oral Communications

Definition: Oral communication is a prepared, purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.

Learning Outcomes

1. *Organization.* Students will be able to group and sequence ideas and supporting material such that organization reflects the purpose of the presentation, is cohesive, and accomplishes the goal(s).
2. *Language.* Students will be able to use appropriate, unbiased vocabulary, terminology, and sentence structure appropriate to the topic and audience
3. *Delivery.* Students will be able to use posture, gestures, eye contact, and voice to enhance the effectiveness of a presentation and to make the speaker appear polish / confident.
4. *Supporting material.* Students will be able to provide credible, relevant, and convincing information (e.g., explanations, analogies, quotations, statistics, examples, contexts) that supports the principle ideas of the presentation or establishes the presenter's credibility on the topic.
5. *Central message.* Students will be able to articulate a precise, compelling, and memorable purpose or main point of a presentation.

Learning Goal: Quantitative Literacy

Definition: Quantitative Literacy (QL) – also known as Numeracy or Quantitative Reasoning (QR) – is a "habit of mind," competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).

Learning Outcomes

1. *Interpretation.* Students will be able to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
2. *Representation.* Students will be able to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words).
3. *Calculation.* Students will be able to calculate relevant information using various mathematical formulas.
4. *Application / Analysis.* Students will be able to make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis.
5. *Assumptions.* Students will be able to make and evaluate important assumptions in estimation, modeling, and data analysis.
6. *Communications.* Students will be able to express quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized).

Learning Goal: Teamwork

Definition: Teamwork refers to the behaviors under the control of individual 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 team discussions.).

Learning Outcomes

1. *Contributes to team meetings.* Students will be able to contribute ideas, solutions, and courses of action during team meetings
2. *Engagement of team members.* Students will be able to engage other team members constructively and respectfully.
3. *Individual contributions.* Students will be able to provide meaningful contributions to the team that advance the work of the group
4. *Constructive team climate.* Students will be able to foster a constructive team climate.
5. *Conflict management.* Students will be able to manage team conflict.

Learning Goal: Intercultural Knowledge and Competence

Definition: Intercultural Knowledge and Competence is "a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts."³

Learning Outcomes

1. *Cultural self-awareness.* Students will be able to articulate insights about one's own cultural rules and biases.
2. *Cultural worldwide frameworks.* Students will be able to demonstrate an understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.
3. *Empathy.* Students will be able to interpret intercultural experience from own and others' worldview and to act in a supportive manner that recognizes the feelings of another cultural group.
4. *Verbal and non-verbal communications.* Students will be able to demonstrate an understanding of cultural differences in verbal and non-verbal communication and to negotiate a shared understanding based on those differences.
5. *Curiosity.* Students will be able to ask complex questions of other cultures and to articulate answers to these questions that reflect multiple cultural perspectives.
6. *Openness.* Students will be able to initiate and develop interactions with culturally different others while suspending judgment in value his / her interactions with culturally different others.

Learning Goal: Ethical Reasoning

³ Bennett, J. M. 2008. Transformative training: Designing programs for culture learning. In Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations, ed. M. A. Moodian, 95-110. Thousand Oaks, CA: Sage.

Definition: Ethical Reasoning is reasoning about right and wrong human conduct. It requires students to be able 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.

Learning Outcomes

1. *Ethical self-awareness.* Students will be able to recognize one's own ethical core beliefs and how they shape ethical thinking conduct and thinking in situations
2. *Perspectives / concepts.* Students will be able to understand ethical perspectives, theories, and/or concepts.
3. *Ethical issue(s).* Students will be able to recognize, evaluate, and connect ethical issues.
4. *Application.* Students will be able to apply ethical perspectives, theories, or concepts to a decision-making situation.
5. *Evaluation.* Students will be able to evaluate alternative ethical perspectives within a decision-making situation.

Learning Goal: Integrative Learning

Definition: 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.

Learning Outcomes

1. *Connection to experience.* Students will be able to connect relevant experience and academic knowledge.
2. *Connections to discipline.* Students will be able to see and make connections across disciplines and perspectives.
3. *Transfer.* Students will be able to adapt and apply skills, abilities, theories, or methodologies gained in one situation to a new situation.
4. *Integrated communication.* Students will be able to complete assignment using a format, language, or visual representation in way that enhance meaning.
5. *Reflection and self-assessment.* Students will be able to demonstrate a developing sense of self as a learner and to build on prior experience to respond to new and challenging contexts