Introductory Psychology Learning Outcomes

CENTER FOR CURRICULUM REDESIGN

About the Center for Curriculum Design

The Center for Curriculum Redesign (CCR) is a non-profit global organization dedicated to improving Education via answering the question, "*What* **should students learn for the 21st century?**" CCR brings together international organizations, jurisdictions, academic institutions, corporations, and non-profit organizations including foundations. It focuses on both designing and propagating new curricula.

Project Team

Charles Fadel, Founder, Center for Curriculum Redesign

Charles Fadel is a global education thought leader and author, futurist, inventor, founder and chairman of Center for Curriculum Redesign, project director Harvard Graduate School of Education, member President's Council at Olin College of Engineering, education committee chair at BIAC/OECD, and co-author of "Artificial Intelligence in Education" (2019), "Four-Dimensional Education" (framework in 21 languages), and best-selling "21st Century Skills."

Eve Howard, Project Manager

Eve Howard has extensive experience in post-secondary curriculum design and development, and editorial and academic product management across the humanities, business, and STEM disciplines. Before her work with CCR, Eve was VP Editor-in-Chief for Cengage Learning.

Paul Thomas, Team Lead

Paul Thomas has spent the past 25 years developing research-driven curriculum for small startups, public corporations, and nonprofits. His work includes dozens of courses for virtual, blended, and traditional classroom contexts as well as textbooks. Paul began his career as a high school math and computer science teacher and holds degrees in Mathematics and Operations Research from George Mason University

Claude Cruz, Team Member

Claude Cruz is a systems architect and learning engineer. His diverse interests include personality theory, cognitive psychology, neuropsychology, and intelligence. He holds a double BS in Electrical and Biomedical Engineering from the University of Southern California and a joint MS in those same subjects from the University of Illinois at Champaign-Urbana.

Acknowledgments

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Introduction and Executive Summary

Welcome to the Center for Curriculum Redesign Project *Introductory Psychology Learning Outcomes* funded by the Bill and Melinda Gates Foundation.

Project Goals and Definition of Learning Outcomes

Our goals are to benchmark and develop a set of faculty and discipline-association aligned and equity-centered learning outcomes for Introductory Psychology. We will demonstrate that institutions can transform to increase postsecondary attainment rates and close equity gaps (by race and income) in degree completion and post-college outcomes. Our work outputs are public goods that will help many more institutions transform and close equity gaps at scale. We define learning outcomes as measurable student performance expectations based upon what the student learned and will be able to do in each core topic area.

Project Approach

This work represents a codified and scalable approach to developing faculty and discipline-association aligned learning outcomes in addition to a database of learning outcomes that function as a roadmap of instructional goals for faculty teaching these courses; domain associations endeavoring to codify essential undergraduate domain knowledge; courseware providers developing rich, interactive, and adaptive curriculum resources to support instruction and assessment in gateway courses; and students as consumers and buyers of college credits to better understand the core knowledge and competencies they should gain by the completion of Introductory Psychology. The curriculum is defined as the organizing principles, essential and factual content, and procedures that constitute the knowledge base of a domain. Quality curriculum includes structured learning activities that foster problem-solving and inquiry enabling students to both encode new knowledge based on prior knowledge and transfer new knowledge into additional contexts.

The Center for Curriculum Redesign (CCR) is a Boston-based international non-profit research and "education engineering" organization working to define a 21st-century curriculum for students in K-12 and Higher Education. CCR is an ideal partner for this demonstration project because:

1. Global reputation: CCR was founded by Chairman/CEO Charles Fadel in 2012 to reshape the "What" of Education *in the context of social and economic justice/equity*, which are being amplified by new technologies (AI, Biotech, etc.) and planetary-wide problems (global warming, pandemic, etc.). CCR has extensive experience managing large-scale curriculum redesign and learning outcomes development projects for global organizations such as the Organization for Economic Cooperation and Development (OECD). Its organizational focus on K-12 and Higher Ed, using innovative approaches based on science- and evidence-based, precise, and diligent processes has enabled CCR to become *the only strategic partner to the OECD's Education Directorate (PreK-20)*, with a decade-long relationship. As OECD's only strategic partner to OECD's Education Directorate (PreK-20), CCR has a decade-long relationship developing equity-minded and social justice-centered policy recommendations, tools, resources, methodologies, and frameworks for how to make education more relevant for the 21st century and better prepare all students - particularly historically marginalized students - for life and work in a rapidly changing global economy.

2. CCR is *the* leading organization in Competencies - aka "21st Century Skills" and "Social-Emotional Learning" (SEL) - development, developing a sophisticated yet actionable competencies/sub-competencies [framework](#) to include 21st-century workforce skills - in addition to "Knowledge" and describes precise implementation at the instructor level, as well as formative assessments.

3. Equity is a centerpiece of this framework, as there are *[explicit intersections](#)* between the sub-competencies and elements of social justice.

4. Curriculum expertise: CCR is presently developing a new test called the "Primo" option for the OECD based on modern mathematics encompassing six major topics (stats/probability, Bayesian probability, exponentials, algorithms, complex systems, game theory).

5. Technology tools for deeper human analysis: CCR has made ongoing investments in technology tools to help synthesize and speed up the comprehension of deep structures in Knowledge and Competencies and their deployment to include analyzing the competency employment needs of the industry. CCR's pre-authoring environment will help Courseware developers effectively develop a range of formative assessment types aligned to learning outcomes and access a robust [equity](#)-enabling *instructional strategies* database

to incorporate key instructional tools into the curriculum to support faculty professional development for outcome-driven course design and delivery.

6. One key ongoing project CCR is heading is to modernize the OECD's global PISA test, by incorporating high-impact-but-low-algebraic-complexity mathematics, such as probability and statistics, and discrete and computational math.

CCR is committed to re-engineering education for the 21st century. Humanity faces severe challenges at the societal (equity, environment), economic (global), and personal levels (employability, happiness). Technology's exponential growth provides opportunities but also rapidly compounds the problems. Education can serve to meet these challenges. CCR addresses the fundamental question of "WHAT should students learn for the 21st century?" CCR combines a rigorous methodology that includes the collection and analysis of multiple points of data as well as collaborations that encourage creativity to break down boundaries and highlight salient innovations for inclusion in a modern curriculum in the various disciplines.

For this project, CCR's charter is to define the measurable, specific learning outcomes for key undergraduate courses that are "gateways" to the college undergraduate curriculum, and for which successful completion is critical for college success. More than three million students enroll in roughly 20 general education courses in US higher education each year. According to research from the National Center for Academic Transformation, just 25 courses generate roughly half of all student enrollments in community colleges and about a third of enrollments in four-year institutions. Successful completion of these courses is key to student progress toward a quality degree or credential. The Gardner Institute has identified these "gateway courses" as foundational, credit-bearing, lower-division courses, for which large numbers of students are at risk of failure, and thus stand as "gatekeepers" to degree completion.

A large part of our mission is to center equity in our work and look for opportunities to remove barriers for Black, Latino/a/x, Indigenous Peoples, and students experiencing poverty to be successful in these courses. A demonstration course for this project is Introductory Psychology, due to the following factors.

- Presents compelling opportunities for complementary exemplars with the potential to impact our focus students while also driving market innovation and setting a new standard for excellence in the market.

- Has high annual enrollments and high drop-fail-withdraw-incomplete (DFWI) rates (18% DFWI rate), making Introductory Psychology an excellent candidate for new, innovative, and more effective courseware. Targeting high enrollment courses also increases our potential to recruit sufficient populations of students from our priority populations to enable rigorous research design.
- Has relatively strong courseware adoption rates by faculty (~30%), greatly simplifying the challenge for developers to secure pilot sites. Faculty place relatively strong value on evidence-based teaching, providing a good testbed for validating assumptions about how courseware can best enable and support evidence-based teaching practices.
- Offers opportunities to test various content approaches to improving student learning outcomes such as eliminating knowledge gaps and engaging students with real-world problems, while also allowing for opportunities to measure and assess shifts and improvements in content.
- Has synergies with examples of excellence in features and function equity-centered courseware that addresses gaps in availability, curriculum alignment between learning outcomes, activities, and assessments.

To advance the work, a team of faculty who are highly experienced in teaching Introductory Psychology, and equity experts in the field of psychology were commissioned to guide the creation of course learning outcomes, identify discipline core concepts, include key missing topics, and provide profound examples to enliven the concepts and equity focus of the work. The student learning outcomes will guide the creation of the course's curriculum design and will support the development of well-aligned assessments and content. We deployed a rigorous methodology that references discipline guidelines, recommendations, standards, publications in the discipline of psychology, and the area of diversity, equity, and inclusion.

The lead subject matter experts on our team are Dr. Jennifer Thompson, Professor Garth Neufeld, and Dr. Aaron Richmond.

Jennifer Thompson is Department Chair, Sciences at University Maryland Global Campus and has been teaching Introductory Psychology for almost 20 years. Dr. Thompson is an active member of the American Psychological Association (APA), a co-author of the Student Learning Outcomes and Assessment work of APA's Introductory Psychology Initiative, and Program Chair of the Eastern Psychological Association.

Garth Neufeld is a professor of psychology at Cascadia College. He is the founder of *Teaching Introductory Psychology Northwest* and *Intro Psych Coast-to-Coast* teaching conferences, the founder of the *Teaching of Psychology Incubator* workshop, and the co-founder of the *PsychSessions* podcast. He has served the national community of psychology teachers through various leadership roles through the *Society for the Teaching of Psychology*, the *AP Psychology Reading*, and APA's *Educational Directorate*. In 2018, Garth was awarded a *Citizen Psychologist* presidential citation from the APA for co-founding *Shared Space For All* (www.sharedspaceforall.org), an organization that educates and mentors at-risk Thai children toward the prevention of prostitution. He is also the recipient of the 2019 STP Wayne Weiten Teaching Excellence Award.

Aaron S. Richmond is a professor of educational psychology and human development in the Department of Psychological Sciences at Metropolitan State University of Denver. Aaron is an award-winning teacher who has dedicated his academic career to studying the improvement of classroom practices and learning to better serve his students. He has authored more than 100 peer-reviewed journal articles, books, and book chapters and is the lead author of *An evidence-based guide to college and university teaching: Developing the model teacher* and *A pocket guide to online teaching: Translating the evidence-based model teaching criteria*.

The introductory course in psychology is the second most popular course in the college curriculum after English Composition; it may be a general education requirement, the prerequisite to a discipline specific-second course, or a time to discover a career path never considered before. Our work as follows is built upon the diligent and insightful work of others, most notably the American Psychological Association.

Feedback

Please send any feedback on this document to HigherEdLOs@curriculumredesign.org.

Key Understandings

The work we present is based, in part, on a survey of current trends in national work on Introductory Psychology and include APA's Introductory Psychology Initiative (Gurung & Neufeld, 2021), Gurung et al. (2016), APA Guidelines 3.0 for the Undergraduate Psychology Major (under review), Advance Placement (AP) Psychology Framework 2023 (College Board, 2022), and APA's most recent iteration of the National Standards for High School Psychology Curricula (APA, 2022). The proposed material was also cross-referenced with numerous Introductory Psychology texts and resources and was reviewed by content experts for an equity lens.

As in much of the current writing on Introductory Psychology, we have adopted the APA Pillar Model (Gurung et al, 2016; Gurung & Neufeld, 2021) when conceptualizing content in the course. This content selection model describes five options of basic content areas in psychology (i.e., pillars), to select and teach, with the notion that scientific research and foundations of psychology thread throughout the content areas of the course. In addition to scientific foundations, intersectional determinants and issues of equity are threaded throughout the course. The list of LOs reflects the five pillars and is comprehensive for a course in Introductory Psychology.

The following pages present tables of Learning Outcomes (LOs) logically grouped by Introductory Psychology anchoring "Topics" which primarily follow the Pillar Model (American Psychological Association, 2016) rather than a linear sequence suggesting a single way to move through the material in a classroom. A course developer could design a course that progresses through these Topics in order, however, it is quite reasonable to create other sequences that cover all the same Psychology Topics and LOs. The psychology team designed this framework for the non-major student audience in a one semester course. The LOs take the form of statements of **what students should be able to do with the capabilities they develop in the course as well as their knowledge** of concepts and key topics. The LOs highlighted in blue below were added to address equity considerations and/or modern demands on the content coverage of psychological concepts, topics, and outcomes.

We centered equity in the work by researching how the study of psychology can represent diversity, equity, and inclusion in the course content. In our view, there are two opportunities to address equity within introductory psychology. The first is the application of the specific, relevant content including topics like cognitive bias, perception, and social thinking and relating. The second is by making course outcomes and content accessible to academically vulnerable students. This approach includes utilizing the APA suggestion to limit course breadth in favor of depth (Gurung et al, 2016), to meaningfully emphasize psychological skills (i.e., scientific reasoning), and to assess, whenever possible, through application. To increase accessibility (and thus equity) to our least prepared students, outcomes should be written at a level that all college students can understand. We also captured the main ideas that will impact the ultimate course content and pedagogy for the use of faculty, course designers, and courseware developers. You'll see these notes in sections of the work labeled: "Equity Connections."

Since the goals of education are both Expertise *AND* Transfer, our work has focused on paying deep attention to three facets, which need to be intertwined - "braided" together - during courseware development:

- Essential Content: These are the core course LO's, expanded to include the equity and modernization aspects discussed above.
- Discipline Core Concepts: They represent the epistemological lens that experts apply when looking at the world (see further description below).
- Competencies: Life and work require the mastery of "21st Century Skills/Social-Emotional Learning," yet precious little is done in education to ensure their explicit identification and their learning - *deliberately, systematically, comprehensively, demonstrably.*

Our work provides this guidance to the course developer, by explicitly identifying the relevant (top 4, mid 4, bottom 4) competencies for Social Sciences:

Competencies												
Disciplines	Skills				Character						Meta-Learning	
	Creativity	Critical thinking	Communication	Collaboration	Mindfulness	Curiosity	Courage	Resilience	Ethics	Leadership	Metacognition	Growth Mindset
Social sciences		Core									Core	

It is the *combination* of all these aspects - content, concepts, interdisciplinarity (examples), competencies, and pedagogy - that not only reinforces Expertise but ensures Transfer. Given such design complexity, we have developed - for our own courseware needs for OECD a pre-authoring environment that assists the course developer in keeping track of all these possibilities, filters the extraneous choices, and makes recommendations to the designer (teacher/professor or developer).

Core Concepts

Core Concepts are abstract principles that can be used to organize broad areas of knowledge for a given domain, make inferences within a domain, and solve a wide range of problems. Each Core Concept describes a lens that experts use to see their domain and the world. Standards and Learning Outcomes convey what should be learned, while Core Concepts describe the "so what."

The set of Core Concepts creates a scaffold that helps students develop meaningful connections which lead to deeper real-world understanding and a more robust ability to solve problems. They are essential to Transfer.

Concept	Tagline	Description
Scientific Inquiry	Psychology is a science.	Psychology uses research methods to explore thoughts, feelings, and behaviors. Psychological findings are most robust and reliable when they are observed repeatedly. Psychology promotes scientific literacy and critical thinking.
Determinants	Thoughts, feelings, and behaviors are shaped by intersecting factors.	Biological, psychological, social, environmental, and cultural factors interact to shape people's thoughts, feelings, and behaviors. Substantial evidence shows that "nature" vs. "nurture" is a false dichotomy. Rather, psychological

		processes are the product of both nature and nurture interacting across the lifespan.
Equity and Inclusion	Equity and inequity can be explained by cognitive, social, and cultural factors. Psychology can be used to promote equity and inclusion.	Inequity and the exclusion of individuals and groups occur because of interacting cognitive, social, and cultural factors. Over long periods of time, these factors may form systems of oppression based on race/ethnicity, sex/gender, sexual orientation, and social class that shape the economic, social, and personal lives of individuals. These systemic biases cause stress and affect mental and physical health. Psychology seeks not only to discover and explain these factors but to present ways that these factors can be mitigated to decrease harm to affected groups.
Trends and Variations	Psychologists focus on behavioral trends in groups from which individuals may vary.	Psychologists study trends in thought and behavior within different groups and populations but recognize that individuals may vary from these larger trends to greater or lesser degrees.
Biases	Individuals do not construct exact representations of reality.	We construct individual realities that are informed and influenced by personal biases. Biases may arise from cognition, individual experiences, or unchallenged traditions promoted within families and communities. Biases deeply shape our perceptions of the world and influence our behaviors. As such, the thoughts, language, and behavioral patterns and practices of individuals and groups provide frameworks through which humans construct an approximation of the "real" world around them.
Application	Psychological skills and knowledge can improve our lives, interactions, and the world around us.	Psychological skills like statistical literacy, critical thinking, metacognition, and emotional regulation can contribute to a holistic improvement for individuals, communities, organizations, and social interactions. Psychological concepts and theories can be used to solve individual and global problems.

Definition of Core and Stretch LOs

LOs are presented in two columns labeled "Core" and "Stretch."

- **Core:** These LOs are for our main audience, the group of students at most institutions who are not pursuing a Psychology major. These students need to master concepts and apply them in their work and lives, but this could be their final and only course in the subject.
- **Stretch:** These are the LOs that push students further. These LOs, which often use more cognitively challenging verbs and rely on more complex ideas, are the foundations for further study in Psychology.

The column headings include an approximate indication of time it may take to cover all the LOs within the Topic. This is not meant to suggest a precise number of hours equally spread across the LOs within that Topic. The table column "Time on Task" gives general guidance about the priority and time commitment at the Core level, legend below.

A = priority, substantial part of the class period
B = priority, notable amount of time in the class period
C = cover, doesn't take notable time
D1 = optional coverage, but it will take a notable amount of time
D2 = optional coverage, won't take much time
Spiral = not a once-and-done concept, needs revisiting at various other points in the curriculum

IMPORTANT: The non-optional CORE LOs are the ones we advocate faculty and courseware developers use for our target audience's core learning experience. These are the LOs that should inform an Introductory Psychology course for non-majors.

Introduction to Psychology Learning Objectives
The LOs described in this document are also in a spreadsheet available at https://curriculumredesign.org/wp-content/uploads/CCR-LOs-Intro-Psychology-Protected-1.xlsx

Introduction to Psychology Learning Outcomes

TOPIC 1: Research Methods

Psychology is a science, using the scientific method to observe, predict, and explain human behavior and thought processes. Various methods of research, from surveys to experiments, are the foundation for the knowledge that makes up psychology. This means that modern psychology seeks to be evidence-based and to build upon prior scientific knowledge in order to draw increasingly accurate conclusions about human beings. The scientific foundations will be revisited again and again throughout other topics.

Core Concepts: Scientific Inquiry, Equity and Inclusion, Trends and Variations, Biases

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
Spiral	Explain what makes psychology an empirical science.	Explain what makes psychology an empirical science.
Spiral	Distinguish between experimental and correlational research.	Provide examples of experimental and correlational research.
B	Analyze advantages and limitations of various research designs.	Analyze advantages and limitations of various research designs.
C	Identify independent variables and dependent variables.	Distinguish between non-manipulated independent variables and randomly assigned independent variables.
C	Interpret the strength and direction of correlation coefficients.	Interpret the strength and direction of correlation coefficients
Spiral	Explain the importance of ethics in research.	Describe applications of ethical principles.
Spiral	Explain the importance of replication in research.	Discuss where replications tend to not occur and where there is strong replication.
Spiral	Discuss how researcher biases influence research.	Discuss the falsification of data in several subfields of psychological science.

Spiral	Discuss the limitations of generalizability when using samples based on non-representative social groups.	Discuss the limitations of generalizability when using samples based on non-representative social groups.
C	Explain findings presented in simple graphs.	Explain findings presented in simple graphs.

Equity Connections:
- The Hidden Biases in WEIRD Psychology Research (https://www.youtube.com/watch?v=Ho6OlPrD7sA)
- Tuskegee Syphilis Study (https://www.cdc.gov/tuskegee/timeline.htm)
- Havasupai case with Arizona State University (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5310710/)
- Quaker Oats study (https://www.smithsonianmag.com/history/spoonful-sugar-helps-radioactive-oatmeal-go-down-180962424/)
- The History of the Lab Rat Is Full of Scientific Triumphs and Ethical Quandaries (https://www.smithsonianmag.com/science-nature/history-lab-rat-scientific-triumphs-ethical-quandaries-180971533/)
- Delivering Indigenous Data Sovereignty (https://www.youtube.com/watch?v=NCsCZJ8ugPA)
- More social science studies just failed to replicate. Here's why this is good. (https://www.vox.com/science-and-health/2018/8/27/17761466/psychology-replication-crisis-nature-social-science)
- More than Tuskegee: Understanding Mistrust about Research Participation (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4354806/)
- No Meaningful Apology for American Indian Unethical Research Abuses (https://www.tandfonline.com/doi/abs/10.1080/10508422.2012.730788)
- Indigenous Statistics: A Quantitative Research Methodology (https://www.routledge.com/Indigenous-Statistics-A-Quantitative-Research-Methodology/Walter-Andersen/p/book/9781611322934)
- DEI and qualitative research

TOPIC 2: Biological Basis of Psychology

Core learning outcomes in this area focus on the foundational understanding students should have about the dynamic relationship between the nervous system and behavior. In addition to the focus on neurological structure and function, suggested content includes discussion of the intersectional influence of biology, individual differences, culture, and socio-economic context on behavior.

Core Concepts: Scientific Inquiry, Determinants, Equity and Inclusion, Trends and Variations, Biases, Application

Subtopic 2.1: Neuroscience

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Discuss the interaction of heredity and the environment.	Discuss the interaction of heredity and the environment.
A	Describe the major structures and functions of the brain.	Describe the major structures and functions of the brain.
B	Classify different divisions and subdivisions of the nervous system.	Describe the functions of the divisions and subdivisions of the nervous system.
C	Identify the basic structure and function of a neuron.	Apply the process of neuronal messaging to everyday experience.
C	Discuss contextual factors such as environmental pollution, availability of adequate nutrition, poverty, and prenatal alcohol/drug use that affect brain development.	Discuss contextual factors such as environmental pollution, availability of adequate nutrition, poverty, and prenatal alcohol/drug use that affect brain development.
D2	Describe the structures and function of the endocrine system.	Describe the structures and function of the endocrine system.
D2	Explain the basic principles of evolutionary psychology.	Explain the basic principles of evolutionary psychology.

Equity Connections:
- Poverty and brain development
- Pollution and the developing brain
- Nutrition and brain development
- Fetal/Prenatal exposure to drugs and brain development
- Diabetes and racism

Subtopic 2.2: Consciousness

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Describe the sleep cycle.	Describe the sleep cycle.
C	Explain the physiological and psychological benefits of sleep.	Explain the physiological and psychological benefits of sleep.
B	Discuss factors that positively and negatively affect sleep.	Discuss factors that positively and negatively affect sleep.
C	Discuss cross-cultural variations in sleep habits.	Discuss cross-cultural variations in sleep habits.
C	Describe various sleep disorders.	Describe various sleep disorders.
C	Discuss disparities between racial and ethnic groups in the prevalence of sleep disorders.	Discuss disparities between racial and ethnic groups in the prevalence of sleep disorders.
C	Describe theories of dreaming.	Discuss cultural differences in dream theories.
B	Identify psychological and physiological responses to psychoactive drugs.	Identify psychological and physiological responses to psychoactive drugs.
C	Discuss individual, environmental, and cultural factors that influence drug use.	Discuss individual, environmental, and cultural factors that influence drug use.

Equity Connections:
- Sleep differences due to age
- Ethnic disparities and sleep (National Sleep Foundation, 2010)
- Siesta culture (Barone, 2000; Webb & Dinges, 1989)
- Culture and Dreams (Lohmann, 2007)
- Familial, Social, and Individual Factors Contributing to Risk for Adolescent Substance Use (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4008086/#:~:text=Risk%20factors%20categorized%20as%20familial,factors%20include%20ADHD%20and%20depression.)

Subtopic 2.3: Sensation

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
C	Differentiate absolute and difference thresholds.	Differentiate absolute and difference thresholds.
C	Describe the process of transduction.	Describe the process of transduction.
C	Describe the function of sensory adaptation.	Describe the function of sensory adaptation.
B	Define the structures and functions of the visual system.	Explain the functional impairment of damage to various structures of the visual system.
B	Define the structures and functions of the auditory system.	Define the structures and functions of the auditory system.
B	Describe chemical and tactile sensory systems.	Describe chemical and tactile sensory systems.

TOPIC 3: Cognition

Core learning outcomes in this area suggest students not only gain an understanding of how cognitive systems work, but also how they may be used to improve self-regulation and student success across courses, across communities, in the workplace, and in everyday life.

Core Concepts: Scientific Inquiry, Determinants, Equity and Inclusion, Trends and Variations, Biases, Application

Subtopic 3.1: Perception

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
C	Describe the relationship between sensation and perception.	Describe the relationship between sensation and perception.
C	Describe the role of attentional processes in perception.	Differentiate between attentional blindness and change blindness
C	Distinguish between top-down and bottom-up processing.	Apply top-down and bottom-up processing to real life experiences.
C	Describe how perceptual constancies and sets affect perception.	Describe how perceptual constancies and sets affect perception.
B	Identify the Gestalt principles of perception.	Identify the Gestalt principles of perception.
D2	Explain how visual illusions demonstrate the nature of perception.	Explain how visual illusions demonstrate the nature of perception
C	Discuss the impact of bias, culture, experience, and expectations on perception.	Discuss the impact of bias, culture, experience, and expectations on perception.

Equity Connections:
- Muller-Lyer Illusion (Henrich et al., 2010)
- How Bias influences perception
- How expectations influence perception

- The effect of culture on perception and cognition

Subtopic 3.2: Cognition

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Identify factors that influence judgment and decision-making.	Identify factors that influence judgment and decision-making.
B	Define different theories and strategies of problem-solving.	Define different theories and strategies of problem-solving.
C	Explain how cognitive heuristics and biases can lead to prejudice and discrimination.	Explain how cognitive heuristics and biases can lead to prejudice and discrimination.
D2	Discuss creativity and how to foster its growth.	Discuss creativity and how to foster its growth.
C	Describe metacognition and how it relates to everyday learning.	Define the developmental differences in metacognitive awareness.

Equity Connections:
- Cultural differences in problem-solving (Nisbett, 2001)
- Cognitive biases and discrimination
- Cognitive biases and prejudice
- Confirmation Bias (Darley & Gross, 1983)

Subtopic 3.3: Memory

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Describe the process of how memories are created.	Describe the process of how memories are created.
B	Explain how memories are stored.	Explain how memories are stored.
B	Describe the various theories of forgetting.	Describe the various theories of forgetting.
B	Differentiate among types of memory.	Differentiate among types of memory.
B	Discuss the accuracy and fallibility of memory.	Discuss the accuracy and fallibility of memory.
C	Describe the biological nature of memory.	Describe the biological nature of memory.
C	Apply learning strategies for improving memory.	Explain why some learning strategies work better than others.

Equity Connections:

- The influence of race on eyewitness memory

Subtopic 3.4: Intelligence

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Define intelligence.	Define intelligence.
A	Discuss the biases inherent in theories of intelligence.	Discuss the impact of the bias inherent in early theories of intelligence.
C	Describe current theories of intelligence.	Describe current theories of intelligence.
B	Explain the influence that environment and genetics have on intelligence.	Explain the influence that environment and genetics have on intelligence.
B	Describe how psychologists measure intelligence.	Explain what makes an intelligence test reliable and valid.
C	Explain the difference between reliability and validity in test development.	Explain the difference between reliability and validity in test development.
C	Distinguish between fixed and growth mindsets.	Discuss how growth mindset interventions work best with marginalized populations.
C	Define emotional Intelligence.	Define emotional Intelligence.
B	Discuss the variables that challenge intelligence test results, including the role of test bias, familiarity with concepts, worldview, and language differences.	Discuss the variables that challenge intelligence test results, including the role of test bias, familiarity with concepts, worldview, and language differences.

Equity Connections:

- Development of Eugenics/Galton
- Terman, the Stanford-Binet scale, and segregation
- George I. Sanchez
- Albert Beckham
- Even the Rat was White
- Audrey Shuey

- Arthur Jensen - Heritability of IQ
- Cross-cultural difference in IQ testing
- Effect of environment on IQ
- IQ and cultural differences

Subtopic 3.5: Motivation

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
C	Differentiate between intrinsic and extrinsic theories of motivation.	Describe goal setting theory.
A	Compare biological, psychological, and biopsychosocial theories of motivation.	Compare biological, psychological, and biopsychosocial theories of motivation.
B	Describe the psychological and physiological influence hunger and sex have on motivation.	Discuss motivation as it relates to achievement.
C	Discuss how motivation may vary across different cultures and communities.	Discuss how motivation may vary across different cultures and communities.

Equity Connections:
- Cultural differences and motivation
- "How does culture shape motivation?" (https://www.youtube.com/watch?v=YpSkHRhpors)
- Race and ethnicity in the study of motivation and competence (https://psycnet.apa.org/record/2005-08058-022)

Subtopic 3.6: Emotion

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Define components of emotional experience	Define components of emotional experience
B	Identify current theories of emotion.	Identify current theories of emotion.
C	Explain the biological basis of emotion.	Explain the biological basis of emotion.
C	Describe how emotion may influence behavior and thought.	Describe how behavior, thought, and emotion interact.
C	Discuss cultural differences in experiencing and expressing emotion.	Discuss cultural differences in experiencing and expressing emotion.
C	Explore gender norms related to emotional expression.	Explore gender norms related to emotional expression.

Equity Connections:
- Cross-cultural similarities and differences in emotion (Shaver et al., 1992)
- Culture and emotion
- Gender and emotional expression
- Are women really more emotional than men? (https://www.youtube.com/watch?v=w6N88n9koUg)

TOPIC 4: Developmental

Psychology seeks to describe, predict, and explain behavior and cognition, not only at a given point in time, but also over the lifespan, from conception to death. Many future healthcare professionals and educators benefit from the insight and understanding that developmental psychology provides.

Core Concepts: Scientific Inquiry, Determinants, Equity and Inclusion, Trends and Variation, Biases, Application

Subtopic 4.1: Lifespan

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
A	Describe the periods of human development.	Describe the stages of human development across cultures.
A	Explain bio-physical changes that occur across the lifespan.	Explain bio-physical changes that occur across the lifespan.
A	Describe cognitive development theories.	Discuss the limitations and advancements of cognitive theories such as Piaget.
A	Summarize the theories of social, emotional, and moral development.	Discuss the limitations and advancements of cognitive theories such as Vygotsky.
C	Discuss how environmental and cultural factors influence development.	Discuss how environmental and cultural factors influence development.
C	Identify threats to development and longevity that arise from sociocultural disparities.	Identify threats to development and longevity that arise from sociocultural disparities.

Equity Connections:
- Impact of Environmental factors on human growth and development
- Environmental factors that influence development
- Cultural influences on child development
- Role of culture in social development

- Social determinants of health

Subtopic 4.2: Learning

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
C	Summarize the biological foundations of learning.	Explain how the dopamine reward pathway relates to learning.
A	Explain the basic processes of operant and classical conditioning.	Apply the principles of shaping in everyday life.
A	Describe observational learning theory.	Describe observational learning theory.
C	Discuss the prosocial and antisocial outcomes of observational learning.	Discuss the prosocial and antisocial outcomes of observational learning.
D2	Differentiate among classical, operant, and observational learning.	Differentiate among classical, operant, and observational learning.
C	Use principles from learning theories to explain personal and societal inequities.	Use principles from learning theories to explain personal and societal inequities.
B	Apply the principles of learning theories to improve conditions of everyday life.	Apply the principles of learning theories to improve conditions of everyday life.

Equity Connections:
- Learning theory through a social justice lens (Parson & Major, 2020)
- Sociocultural approaches to learning and development

Subtopic 4.3: Language

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Summarize the basic characteristics and structure of language.	Summarize the basic characteristics and structure of language.
C	Explain the difference between language and thought.	Explain the difference between language and thought.
C	Explain the biological basis of language.	Discuss how language is both innate and learned.
B	Describe different theories of language development.	Describe different theories of language development.
C	Discuss cross-cultural differences in how language is formed.	Discuss cross-cultural differences in how language is formed.
C	Identify cultural and environmental factors that influence language development.	Identify cultural and environmental factors that influence language development.
C	Discuss how language perpetuates prejudice and discrimination.	Discuss how language perpetuates prejudice and discrimination.

Equity Connections:
- Effects of bilingualism
- The effect of language on culture
- Cultural factors that influence language acquisition
- Cross-cultural studies on language and concept formation
- Language and prejudice
- Linguistic racism

TOPIC 5: Social and Personality

Human beings are rarely ever alone. They exist in families, communities, and workplaces, in relationship to one another. For this reason, psychologists study human beings both individually, and in relationship to one another. Psychology explains the fundamental categories that make a person unique, as well as those that are common across humanity. Psychologists observe, predict, and explain how those individuals are influenced and relate in groups.

Core Concepts: Scientific Inquiry, Determinants, Equity and Inclusion, Trends and Variations, Biases, Application

Subtopic 5.1: Social Psychology

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
C	Explain how attributions influence our perceptions of others.	Apply attribution theory to various personal experiences.
B	Distinguish between affective, behavioral, and cognitive components of attitude formation.	Distinguish between affective, behavioral, and cognitive components of attitude formation.
C	Describe how attitudes can be changed by persuasion.	Identify the principle of persuasion in various personal experiences.
C	Describe the emotional experience of cognitive dissonance and how to reduce it.	Identify cognitive dissonance in one's own life.
B	Explain how groups influence individual behavior.	Explain how groups influence individual behavior.
D2	Differentiate between conformity and obedience.	Differentiate between conformity and obedience.
D2	Describe the determinants of prosocial relationships.	Describe the determinants of prosocial relationships.
B	Discuss the determinants of prejudice, stereotypes, and discrimination.	Explain real acts of prejudice, stereotypes, and discrimination using psychological knowledge.
B	Discuss how to reduce prejudice, stereotypes, and discrimination.	Discuss how to reduce prejudice, stereotypes, and discrimination.

Equity Connections:

- Attribution theory and racism
- Prejudice, stereotypes, and discrimination
- Cognitive dissonance and racism
- Effects of Self-Construal Differences on Cognitive Dissonance Examined by Priming the Independent and Interdependent Self (Lee & Jeyaraj, 2014)
- Reducing prejudice

Subtopic 5.2: Industrial Organizational Psychology

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
D2	Differentiate the fields of industrial and organizational psychology.	Differentiate the fields of industrial and organizational psychology.
D2	Describe theories of workplace motivation.	Apply theories of workplace motivation through case studies.
D2	Explain how industrial and organizational psychology can benefit employees and organizations.	Explain how industrial and organizational psychology can benefit employees and organizations.
D2	Discuss the influence of power and politics in organizations.	Discuss the influence of power and politics in organizations.
D2	Describe how industrial and organizational psychology can help establish more equitable practices in the workplace.	Describe how industrial and organizational psychology can help establish more equitable practices in the workplace.

Equity Connections:
- Motivation in different cultures at work
- Cognitive biases and racism and work
- Reducing racism and discrimination in the workplace
- Power and politics in organizations

Subtopic 5.3: Sex and Gender

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Differentiate among sex, gender expression, gender identity, and sexual orientation.	Differentiate among sex, gender expression, gender identity, and sexual orientation.
C	Contrast biological, psychological, and socio-cultural influences on gender development.	Contrast biological, psychological, and socio-cultural influences on gender development.
C	Describe similarities and differences among sexes.	Describe similarities and differences among sexes.
C	Explain masculinity and femininity.	Explore the dynamic socio-cultural factors related to masculinity and femininity.
C	Describe biological, psychological, and socio-cultural influences on sexual orientation.	Describe biological, psychological, and socio-cultural influences on sexual orientation.
C	Discuss sex- and gender-based discrimination.	Discuss sex- and gender-based discrimination.

Equity Connections:
- Two spirit: Counseling Native American gay, lesbian, and bisexual people (Garrett & Barret, 2003)
- US proposal for defining gender has no basis in science (https://www.nature.com/articles/d41586-018-07238-8)
- Biological, Psychological, and Sociocultural influence on sexual orientation
- Sex and gender-based discrimination

Subtopic 5.4: Personality

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Contrast evidence-based and non-evidence-based personality assessments.	Contrast evidence-based and non-evidence-based personality assessments.
C	Discuss how historical personality theories differ from contemporary theories based on empirical evidence.	Explain why some classic theories of personality are not evidence-based.
D2	Describe the impact of perceived external and internal locus of control.	Describe the impact of perceived external and internal locus of control.
C	Explain the dynamic processes within reciprocal determinism.	Explain the dynamic processes within reciprocal determinism.
C	Describe how self-efficacy affects performance.	Describe how self-efficacy affects performance.
C	Distinguish between surface and source traits.	Distinguish between surface and source traits.
B	Describe the big-five factor model.	Describe oneself using the big-five factor model.
C	Discuss cultural and genetic influences on personality.	Explain collectivist and individualistic values about the big-five factor model.

Equity Connections:
- Cross-cultural Big 5 (https://open.maricopa.edu/culturepsychology/chapter/big-five-as-universals/)
- Cultural understanding of personality (https://opentext.wsu.edu/psych105/chapter/10-9-cultural-understanding-of-personality/)
- Extravert individualists or introvert collectivists? (https://link.springer.com/article/10.1007/s12144-019-00480-x)

TOPIC 6: Mental and Physical Health

Psychology has much to share about mental and physical health. There are many predictors of both an individual's health and disease, which include interactions of biological, psychological, and socio-cultural factors. With an understanding of the major findings of psychology with regards to health, individuals, communities, and humanity can work toward better health outcomes.

Core Concepts: Scientific Inquiry, Determinants, Equity and Inclusion, Trends and Variations, Application

Subtopic 6.1: Stress and Health

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Define stress.	Explain how stress and stressors interact.
C	Provide examples of stressors.	Provide examples of stressors.
A	Explain biological, psychological, social, and cultural determinants of stress.	Explain biological, psychological, social, and cultural determinants of stress.
B	Differentiate between physiological and psychological responses to stress.	Explain the interaction of physiological and psychological responses to stress.
C	Explain how stress affects the immune system.	Describe the role of General Adaptation Syndrome on immune system functioning.
B	Explain how stress is associated with mental and physical health.	Explain how stress is associated with mental and physical health.
B	Contrast physiological and psychological stress management techniques.	Distinguish between evidence-based and non-evidenced-based stress management techniques.
C	Describe strategies for building resilience.	Describe strategies for building resilience.
C	Identify how health disparities may be related to marginalization.	Identify how health disparities may be related to marginalization.

Equity Connections:

- Marginalization: Conceptualizing patient vulnerabilities in the framework of social determinants of health – An integrative review (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6342665/)
- Without Inclusion, Humankind Is Becoming Less Resilient (https://www.forbes.com/sites/glennllopis/2019/06/02/without-inclusion-humankind-is-becoming-less-resilient/?sh=5734984c1746)
- Risk and Resilience in Minority Youth Populations (https://www.annualreviews.org/doi/10.1146/annurev-clinpsy-071119-115839)
- Cultural stress

Subtopic 6.2: Psychopathology

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Describe psychopathology and its prevalence in various cultures.	Describe psychopathology and its prevalence in various cultures.
C	Discuss how notions of normality are culturally based.	Discuss how notions of normality are culturally based.
D2	Distinguish between normal levels of psychological distress and psychopathology.	Distinguish between normal levels of psychological distress and psychopathology.
C	Explain the biological and environmental factors that contribute to psychopathology.	Explain the biological and environmental factors that contribute to psychopathology.
C	Explain the physical, psychological, and socio-cultural impacts of psychopathology.	Explain the physical, psychological, and socio-cultural impacts of psychopathology.
B	Describe how psychologists classify psychopathology.	Describe the benefits and drawbacks of the medical model in psychopathology classification.
D2	Analyze the benefits and drawbacks of diagnosis using DSM standards.	Analyze the benefits and drawbacks of diagnosis using DSM standards.
B	Identify symptoms related to various types of psychopathologies like schizophrenia, depressive disorders, and anxiety disorders.	Identify symptoms related to various types of psychopathologies like schizophrenia, depressive disorders, and anxiety disorders.
C	Describe factors related to differential rates of psychopathology in marginalized individuals.	Describe factors related to differential rates of psychopathology in marginalized individuals.

Equity Connections:
- Culture based normality
- Mental health disparities
- Culture and psychopathology (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6097026/)
- Disparities at the intersection of marginalized groups (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5350011/)

- Psychopathology and socioeconomic status
- Environmental influence on mental health

Subtopic 6.3: Therapies

Time on Task	Core Learning Outcomes	Stretch Learning Outcomes
B	Contrast modern psychological approaches to treating psychological disorders.	Contrast modern psychological approaches to treating psychological disorders.
C	Describe what is meant by evidence-based treatment.	Explain the research methods that are used to measure therapy effectiveness.
B	Describe the process of seeking treatment for mental health.	Create a personal plan for seeking mental health treatment.
C	Contrast ethical and unethical treatment in therapy.	Contrast ethical and unethical treatment in therapy.
B	Describe effective drug therapies for treating psychological disorders.	Discuss scientific findings related to the combination of drug therapy and talk therapy.
B	Identify effective medical procedures for treating certain psychological disorders.	Identify effective medical procedures for treating certain psychological disorders.
C	Explain when group therapy is most beneficial.	Describe principles of group therapy.
C	Describe cultural and environmental factors that may influence help-seeking behavior.	Describe cultural and environmental factors that may influence help-seeking behavior.

Equity Connections:
- Evidence based treatment practices and diversity (Sue & Zane, 2006)
- Cultural competence
- Why mental healthcare is less accessible to marginalized communities (https://www.medicalnewstoday.com/articles/why-mental-healthcare-is-less-accessible-to-marginalized-communities)
- Cultural aspects of ethics in psychotherapy
- Cultural Determinants of Help Seeking (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2796597/)

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