RUTGERS–NEW BRUNSWICK
Graduate School of Applied and Professional Psychology

Fall 2025

18:820:508:01 System Theory and Analysis
Credits: 3
Level: Graduate
Thursday 6:15 pm to 8:45 pm ET Hybrid | Synchronous

Instructor: Prof. Preston V.L. Lindsay, Ph.D

https://gsapp.rutgers.edu/preston-lindsay

Course Description

This required core course introduces doctoral students to the intellectual foundations and applied practice of systems science as it informs organizational psychology. Systems science is the study of dynamic, interdependent processes, feedback loops, nonlinear interactions, and emergent behavior that shape the complexity of living systems, including organizations. It provides us with both a language and a set of tools to see beyond surface-level problems and intervene at the level of patterns, structures, and purpose.

If you've taken courses with me before, you are already well-oriented to this perspective. In this course, we take the next step: deepening your fluency in systems theory and expanding your organizational development toolkit with mapping techniques, diagnostic frameworks, and intervention strategies grounded in systems science.

You won't only study systems, you will experience them through simulation, gamification, and case-based learning that replicate the unpredictability of real organizational life. These experiential methods allow you to test ideas, anticipate unintended consequences, and practice designing interventions that move systems toward resilience, effectiveness, and health.

Ultimately, this course emphasizes systems thinking not only as an analytic discipline, but as a humanistic and ethical stance. By the end of the term, you will leave with both the intellectual grounding and practical confidence to see organizations as living systems and to engage them with rigor, creativity, and purpose.

Teaching Philosophy and Pedagogical Approach

I am committed to delivering an innovative and engaging learning experience, grounded in the principles of Socratic dialogue and the Paideia method. This course utilizes gamification and simulation-based learning to foster a highly interactive and immersive educational environment. Gamification incorporates game-design elements to increase motivation and engagement. Simulation-based learning places students in realistic, interactive scenarios, allowing them to apply theoretical concepts to practical, real-world situations.

Through gamification scenarios, compelling AI-assisted case simulations, and advanced-level writing, I aim to implement learning activities that encourage curiosity, critical thinking, and practical application. My goal is to guide students through advanced concepts, theories, and practices in organizational development and systems science, while fostering intellectual dialogue and collaborative learning. This environment thrives on active participation, where contributions and insights lead to a deeper understanding of the subject matter. Together, we will cultivate an

atmosphere of thoughtful engagement and academic excellence as we explore organizational science and practice.

Course Objectives

1. Practice the foundational principles of systems thinking.
2. Develop proficiency in using various systems analysis tools.
3. Apply systems thinking to analyze and solve complex organizational issues.
   a. Analyze the nature of organizational dynamics through the lens of open system theory.

Statement on Disabilities

Rutgers University welcomes students with disabilities into all of the University's educational programs. To receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where they are officially enrolled, participate in an intake interview, and provide documentation. If the documentation supports their request for reasonable accommodations, their campus's disability services office will provide them with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible.

Statement on Academic Integrity

The University's academic integrity policy, to which this class will adhere, can be reviewed on the University website.

Guidance on the Use of Artificial Intelligence (AI)

In this class, the use of artificial intelligence (AI) tools, such as ChatGPT, Grammarly, Perplexity, or other platforms, is not just allowed, it's welcome. AI can be a powerful resource to support your learning, helping with tasks like formatting papers, generating ideas, organizing your thinking, and even exploring complex topics through dialogue or drafting assistance.

However, while AI can enhance your learning process, it should never *replace* it.

An **overdependence on AI** can quietly diminish your capacity to think critically, develop original ideas, and express yourself with clarity and authenticity. These are essential skills, not only for your academic growth, but for your long-term development as a professional and human being. Your creativity is not something to be outsourced.

There are also **broader implications** to be aware of:

- The widespread use of large-scale AI models consumes a significant amount of energy and contributes to carbon emissions, placing an environmental burden on our already fragile ecosystems.
- As AI becomes more normalized, we risk reinforcing models of knowledge production that may sideline human nuance, cultural context, and imaginative thinking.

So while you are encouraged to use AI as a **thought partner**, please do so with intention, reflection, and respect for your mind, for others, and the planet.

If you're ever unsure how or when to incorporate AI into your work ethically, just ask.

Also, it is essential to use these tools responsibly and in alignment with the University's academic integrity guidelines. Specifically:

1. **Cite Artificial Intelligence (AI) Appropriately**: If you use AI in your work, you must acknowledge it by citing the tools according to APA guidelines. Transparency is key to maintaining academic integrity.

2. **Use AI as a Supplemental Tool**: While AI can assist with research and writing, the primary authorship, critical thinking, and intellectual effort must come from you. Think of AI as a collaborator, not the author.

3. **Write Responsibly**: Always verify the accuracy of AI-generated content and ensure it aligns with your understanding and the course objectives.

4. By using AI thoughtfully, you can enhance your learning experience, work more efficiently, and engage deeply with course material, all while adhering to the academic standards of the Rutgers University. If you have questions about how to use or cite AI tools, don't hesitate to ask.

Names and Pronouns

Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Respect for Diversity

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are always encouraged and appreciated.

Required Readings

All texts and scholarly works are supplied. Readings from additional primary sources will also be provided in advance on Canvas. These readings are listed in the weekly course outline.

Course Assessments

All written assignments in this course must follow APA 7th edition formatting standards. This includes proper citations, references, and adherence to scholarly writing conventions. If you need guidance, please refer to the APA 7th Edition Manual available in the Student Resource Center on the course site. In addition to written work, this course includes in-class, experiential learning through case-based simulations and gamified systems challenges. These activities are not associated with formal written deliverables.

However, your active engagement is essential. You are expected to come prepared, collaborate with your team, and fully participate in each session. As part of your engagement, you will be required to contribute to oral team presentations in which you and your peers will present your systems analysis and propose a design intervention. These presentations are part of the assessment of your applied learning and systems thinking in action.

25% In-Class, Team-Based AI Assisted Case-Based Simulations - Applied in Class Experience

In this course, you'll regularly take part in live, team-driven simulations that immerse you in the complexity of real organizational systems. These are real-world-like exercises. You'll be stepping into dynamic situations where patterns are messy and wicked, stakeholders are unpredictable, and clear-cut answers don't always exist. That's the point. These simulations are designed to help you think and act like an OD practitioner. As you work through each scenario, you'll use tools from systems science, such as causal loop diagrams, feedback analysis, and system mapping, to make sense of what's happening beneath the surface. You'll be challenged to identify leverage points, test your assumptions, and intervene in ways that are adaptive rather than reactive. You'll see firsthand how small actions can ripple across a system, and how delays, resistance, and unintended consequences are part of any real change process.

You won't do this alone. These simulations are built around team collaboration, just like real organizational change efforts. Together, you'll navigate tension, ambiguity, and emergence while practicing the kind of systemic diagnosis and intervention that defines applied organization

development work. You'll walk away not just with a better grasp of systems concepts, but with the lived experience of applying them in motion.

25% In-Class, Team-Based Systems Gamification Activities - Applied in Class Experience

Alongside simulations, you'll take part in gamified learning activities that blend systems science with playful, interactive design. While these sessions are enjoyable and include trivia elements tied to course content, they are not just about fun; they are carefully crafted to deepen your understanding of complex systems through structured, intellectually rigorous engagement. These gamified sessions will also place you inside rich, systems-based challenges where you'll have to recognize patterns, identify system archetypes, and collaboratively respond to evolving organizational dynamics. You'll engage with the same principles that drive our simulations: feedback, emergence, and complexity, but through formats that invite creativity, fast thinking, and real-time collaboration.

By layering in elements of surprise, competition, and content-based trivia, these activities help make the learning more memorable. They are designed to reinforce key ideas by embedding them in high-energy moments of discovery and problem-solving. You'll have the opportunity to experiment, reflect, and "fail forward" in a low-risk environment that supports deeper learning and long-term retention.Ultimately, this modality exists to bring energy and focus to your learning, anchoring rigorous systems theory in engaging, applied practice. The goal is to make the material not only understandable, but unforgettable.

50% Signature Project: Systems Analysis Proposal

This semester, you will take on the role of an **Organization Development (OD) professional**, tasked with **designing a formal proposal for a systems analysis** of a real-world organizational case. Your proposal will outline how the analysis would be conducted if it were implemented, but you are **not expected to collect data, conduct interviews, or implement any part of the study**.

This project intends to assess your ability to use systems science concepts, theories, and methodologies to frame and design an analysis process that could be carried out by a practitioner, consultant, or internal team at a later date.

You may select an organization where you currently or previously worked, or one you are interested in analyzing. Examples include:

i. A nonprofit healthcare network
ii. A city-wide food distribution system
iii. A struggling college or university
iv. A global supply chain
v. A local government department or agency
vi. A coalition of partner organizations
vii. Any other organizational system facing complexity, fragmentation, or change

Project Goal

By the end of this project, you will have developed a **professional-grade proposal** for a systems analysis study that could realistically be presented to your chosen organization. While the project remains hypothetical, it may open the door to real-world engagement, or even paid consulting work, if your proposal resonates with organizational stakeholders.

Proposal Requirements

Your proposal should be professionally formatted and include the following components:

1. **Introduction and Background**

    - Brief overview of the organization or system of interest
    - Explanation of why a systems analysis is relevant or needed
    - Statement of purpose and focus of the proposed analysis

2. **System Boundary Definition**

    - A clear articulation of what part(s) of the organization or system will be analyzed
    - Justification for the boundaries and focus areas you define, grounded in systems theory

3. **Theoretical and Conceptual Framework**

    - Identification of the **systems science theory or framework(s)** that will guide your analysis (e.g., soft systems methodology, causal loop analysis, socio-technical systems theory, system dynamics, etc.)
    - Explanation of how the framework informs the study design

4. **Analytical Methodology**

    - Description of the proposed approach to conducting the systems analysis
    - Justification for your choice of methods (e.g., stakeholder interviews, document review, systems mapping, feedback loop analysis, scenario modeling, etc.)
    - Explanation of how data would be collected, analyzed, and used to generate insights into system functioning

5. **Proposed Data Sources & Tools**

    - Identification of the kinds of data (qualitative and/or quantitative) the analysis would require
    - Discussion of tools or techniques to be used (e.g., mapping software, interview protocols, survey instruments, logic models, etc.)

6. **Implementation Timeline**

    - A hypothetical timeline for conducting the analysis, including:
        - Preparation and onboarding
        - Data collection
        - Analysis and synthesis
        - Final reporting

7. **Expected Outcomes and Usefulness**

    - A forward-looking section on what the organization could learn or gain from the analysis
    - How this study could inform strategy, transformation, or problem-solving

Final Deliverables

- **Written Proposal**: A **Systems Analysis Proposal** written in professional format (guidelines provided on Canvas), suitable for presentation to a real organization.
- **Oral Presentation**: A 7–10 minute **briefing-style presentation** delivered to the class, simulating a pitch to stakeholders. Your job is to clearly communicate the purpose, structure, and value of the proposed analysis.

Important Notes

- You are **not expected to conduct the analysis**, collect any data, or reach out to the organization.

- Across the term, you'll have four ungraded checkpoints, built-in opportunities to meet with me, share progress on your project, and get supportive feedback to help you strengthen your work.
- This is an **exercise in systems design thinking;** your grade will reflect the clarity, rigor, and coherence of your proposed analysis plan.
- All assignment details, templates, and grading rubrics are available on Canvas under the **"Signature Project"** section.

NOTICE *– Requests for assignment extensions must be submitted at least 48 hours prior to the due date. Extension requests made within this timeframe are guaranteed approval. Late submissions without prior approval will receive a grade of zero. Adhering to deadlines ensures fairness, fosters accountability, and allows for timely feedback. Unplanned late submissions disrupt grading schedules, hinder learning, and compromise academic standards. Please manage your time effectively to uphold the integrity of the learning process.*

Weekly Course Schedule and Reading List

***** Assignment parameters, including due dates, are provided on Canvas*****

Week, Modality, and Dates	Module	The Weekly Digest (Readings and Multimedia Content)	Weekly Assignments
Week 0 | 9/4/25 | Online	Module 0: Orienting to Applied System Theory and Analysis (ASTA)	Course Syllabus + American Psychological Association Manual 7th Edition	No Assignments. Just Read material ahead of class.
Week 1 | 9/11/25 Online	Module 1: Introduction to Systems Thinking - Conceptual Framing of General Systems Theory & Open Systems Theory	Ackoff, R.L. (1994), Systems thinking and thinking systems. Syst. Dyn. Rev., 10: 175-188. https://doi.org/10.1002/sdr.4260100206	Gamification
Week 2 | 9/18/25 | Online	Module 2: Purposeful Systems and Organizational Wholes	Ackoff, R. L. (2004). Transforming the systems movement. *The Systems Thinker*, *15*(8), 2-5.	Gamification
Week 3 | 9/25/25 | Online	Module 3: Messes and Problem Formulation	Ackoff, R. L. (1981). The art and science of mess management. *Interfaces*, *11*(1), 20-26.	Gamification
Week 4 | 10/2/25 | Online	Mental Health Break + Signature Project Development	No readings assigned.	Signature Project Checkpoint
Week 5 | 10/9/25 | Online	Module 4: Interactive Planning and Participatory Design	Ackoff, R. L. (2001). A brief guide to interactive planning and idealized design. *Retrieved on March*, *19*, 2006.	Gamification
Week 6 | 10/16/25 | Online	Module 5: Systems Mapping & Whole-Systems Thinking	Bastedo, M. N. (2004). Open systems theory. *Encyclopedia of educational leadership and administration*, *711*. Von Bertalanffy, L. (1972). The history and status of general systems theory. *Academy of management journal*, *15*(4), 407-426.	Gamification
Week 7 |10/23/25 | Online	Module 6: Feedback, Learning, and Organizational Adaptation	Carreno, A. M. (2024). Building a Continuous Feedback Loop for Real-Time Change Adaptation: Best Practices and Tools.	Simulation
Week 8 | 10/29/25 | Online	Mental Health Break + Signature Project Development	No readings assigned.	Signature Project Checkpoint

Week 9 | 11/6/25 | Online	Module 7: Designing Organizational Systems for Purposeful Change	Ackoff, R. L. (1974). The systems revolution. *Long range planning*, *7*(6), 2-20.	Gamification
Week 10 | 11/13/25 | Online	Module 8: Diagnosing and Reframing Complex Problems	Ackoff, R. L. (1962). Some unsolved problems in problem solving. *Journal of the Operational Research Society*, *13*(1), 1-11. McFillen, J. M., O'Neil, D. A., Balzer, W. K., & Varney, G. H. (2013). Organizational diagnosis: An evidence-based approach. *Journal of Change Management*, *13*(2), 223-246. Weisbord, M. R. (1976). Organizational diagnosis: Six places to look for trouble with or without a theory. *Group & Organization Studies*, *1*(4), 430-447.	Gamification
Week 11 | 11/20/25 | Online	Module 9: Organizational Psychology & Human Systems	LaPointe, G. (1998). Human nature, humanistic social systems, and design. *Systems Research and Behavioral Science: The Official Journal of the International Federation for Systems Research*, *15*(3), 193-208.	Simulation
Week 12 | 11/27/25 | Online	Module 10: Systems of Purpose and Stakeholder Alignment	Graetz, F., & Smith, A. C. (2010). Managing organizational change: A philosophies of change approach. *Journal of change management*, *10*(2), 135-154.	Gamification
Week 13 | 12/4/25 | Online	Module 11: Managing Organizational Change as a Systemic Process + Ethics, Power, and Responsibility in Systems Design	Cao, G., & McHugh, M. (2005). A systemic view of change management and its conceptual underpinnings. *Systemic Practice and Action Research*, *18*(5), 475-490.	Gamification
Week 14 | 12/11/25 | Online	Module 12: Organizational Learning, Reflexivity, and Continuous Improvement	Beers, P. J., & Van Mierlo, B. (2017). Reflexivity and learning in system innovation processes. *Sociologia Ruralis*, *57*(3), 415-436.	Simulation
Week 15 | 12/18/25 | On-Campus (optional for non-international students)	Module 13: Final Presentations + Course Reflection	Nothing assigned.	Course Signature Presentations
