

DRAFT – August 28, 2025

**Teachers College
Columbia University
Fall 2025**

HUDK4011 – Networked and Online Learning

Course Overview

A Learning Journey

The course is organized as a learning journey that will allow students to explore various dimensions of online and networked learning as they are evolving and will continue to evolve over the course of their careers. The journey consists of four projects. Students will work in teams to accomplish each project and produce a learning experience housed within the common platform so that their work can be readily shared. The first project will require teams to come to consensus about an approach to learning and create one team product. The second project will ask students to create learning resources or an online program for an existing institution. The third project will engage students in developing a networked learning experience. The final project will charge individual team members with designing a personal learning network of tools and affordances to support their self-directed learning and presenting them as a team to illustrate the range of possibilities.

Course Requirements

Assigned Readings

There are assigned common or shared readings throughout the semester. These are essential for providing perspectives and background for all of our work in the course. All readings and resources will be provided by the instructor. Readings are distributed on the syllabus across the weeks of the semester, but students should plan their reading to meet the needs of the projects.

Team Design Projects (40%)

Students will be organized in small teams to work on the four design projects. Teams will draw on the principles developed in the readings or discussed in class sessions to work on the projects. In some cases the project will result in a single integrated product; in other cases team members will create individual parts of a final deliverable that will be presented as a coordinated team product. In addition to a final team deliverable for each project, students will be responsible for posting in the team discussion on their work weekly. Each of the four team projects will be worth 10%. Projects will be evaluated on: a) responsiveness to the assignment, b) use of readings and resources, and c) originality.

Individual Self-Directed Learning Reflections (30%)

Students will be expected to write reflections on their learning in each project in the course. Reflections will be submitted at the end of each project on the project page. Reflections will be evaluated on: a) analytical treatment of course materials, b) inclusion of additional materials identified through independent research, c) thoughtfulness of observations of teamwork, and d) overall statement on what was learned.

Team Participation (15%)

Attentive and active engagement in team activities and weekly postings on your role in the team discussion thread.

Class Participation Thread (15%)

Attentive and active engagement in class sessions and weekly postings in the class discussion thread.

Project 1 Orientation, Learning, and Social Context

In this project you will work in teams to \ review a wide variety of theories of learning in order to arrive at a shared theory of learning to serve as a foundation for all of your work in the course. Teams will be engaged in collaborative activities to reach a shared understanding.

Resource Group 1 – Theories of Learning

Natriello, G. (2023) Varieties of learning. Chapter 1. Pp. 1-25 in *Creating Learning Settings: Physical, Digital, and Social Configurations for the Future of Education*. New York: Routledge.

Sawyer, R. (2022). Introduction: The new science of learning. Pp. 1-25 in *The Cambridge handbook of the learning sciences*. New York: Cambridge University Press.

Downes, S. (2022). Connectivism. *Asian Journal of Distance Education* 17(1), 58-87.

Resource Group 2 – The Context for Networked and Online Learning

Kumar, K. (2004). From post-industrial to post-modern society. Chapter 8, pp. 103-120 in Frank Webster, (ed). *The Information Society Reader*. New York: Routledge.

Schwab, K. (2016). Introduction and The fourth industrial revolution, pp. 7-17 in *The Fourth Industrial Revolution*. Geneva, Switzerland: World Economic Forum.

Resource Group 3 – Knowledge and the Curriculum in the Information Age

Cormier, D. (2008). Rhizomatic education: Community as curriculum. *Innovate: Journal of Online Education*, 4(5), Article 2.

Viana, J., & Peralta, H. (2021). Online learning: From the curriculum for all to the curriculum for each individual. *Journal of New Approaches in Educational Research*, 10(1), 122-136.

Reigeluth, C. M. (2011). An instructional theory for the post-industrial age. *Educational Technology*, 51(5), 25-29.

Project 2 Designing Institutionally Based Online Learning

For this project your team will design a new online course as part of the online program in Data, Learning, and Society in the Department of Human Development at Teachers College. Your goal is to create learning resources that will offer students in the program a superior learning experience.

Resource Group 4 – Online Courses

Bouchrika, I. (2023). 50 Online education statistics: 2023 data on higher learning and corporate training. *Research Dot Com*.

Mayer, R. (2018). Thirty years of research on online learning. *Applied Cognitive Psychology*, 3, 152-159.

Moldoveanu, M. (2013). Case Study F: The Neurophysiology of eLearning: Designing the Mind-Brain-Body-Optimized Learning Experience. Pp. 160-174 in R. Kesner (ed.). *The Online University: Building Viable Learning Experiences for Higher Education*. Champaign, IL: Common Ground Publishing.

Tellakat M, Boyd RL, Pennebaker JW (2019) How do online learners study? The psychometrics of students' clicking patterns in online courses. *PLOS ONE* 14(3):

Resource Group 5 – Online Schools and Universities

Levin, R. (2024). Online learning and the transformation of global higher education. *Daedalus*, 2, 262-274.

Natriello, G. (2005). Modest changes, revolutionary possibilities: Distance learning and the future of education. *Teachers College Record*, 107, 6, 1885-1904.

Picciano, A. (2016). Chapter 9 – The Fifth Wave: Maturation (2021-2029). Pages 180-194 in *Online Education Policy and Practice: The Past, Present, and Future of the Digital University*. New York: Routledge.

Marcus, J. (2017). Competency-based education put to the test: An inside look at learning and assessment at Western Governors University. *Education Next*, 17(4), 26 pages.

Meyer, K. (2009). Western Governors University: Creating the first virtual university. *New Directions for Higher Education*, 2009(146), pp. 35-43.

Resource Group 6 – Online Venues Attached to Workplaces

Shackleton-Jones, N. (2023). Learning design. Chapter 5 Pp. 101-138 in *How People Learn: A New Model of Learning and Cognition to Improve Performance and Education*, (2nd Ed.). London: Kogan Page.

Shackleton-Jones, N. (2023). Learning elimination. Chapter 6 Pp. 139-151 in *How People Learn: A New Model of Learning and Cognition to Improve Performance and Education*, (2nd Ed.). London: Kogan Page.

Shackleton-Jones, N. (2023). Learning design. Chapter 9 Pp. 214-239 in *How People Learn: A New Model of Learning and Cognition to Improve Performance and Education*, (2nd Ed.). London: Kogan Page.

Resource Group 7 – Adaptive Learning Technologies and Learning Analytics

Natriello, G. (2017). The adaptive learning landscape. *Teachers College Record*, 119(3), 1-46.

Cavalcanti, A., Barbosa, A., Carvalho, R., Freitas, F., Tsai, Y., Gasevic, D., & Mello, R. (2021). Automatic feedback in online learning environments: A systematic literature review. *Computers and Education: Artificial Intelligence*, 2, 1-17.

Natriello, G. (2021). Learning analytics to accelerate change. Chapter 23, Pp. 282-292 in S. Jagannathan (ed.). *Reimagining Digital Learning for Sustainable Development: How*

Upskilling, Data Analytics, and Educational Technologies Close the Skills Gap. New York: Routledge.

Project 3
Designing Networked Learning

For this project your four team members will each focus on a major networked learning approach: a) Digital Content and Search, b) MOOCs, c) Networked Media, and d) Online Communities. In each case the team member will create a short account of their experience as a student using the learning approach they experienced. The team will then review these assessments and prepare a presentation on the relative strengths and weaknesses of the approaches and the implications for further development of the overall networked learning environment.

Resource Group 8 – Digital Content, Network Search and Learning

Natriello, G. (2004). Beyond courses: The search for new forms of education online. New York: EdLab at Teachers College.

Natriello, G. (2015). Networked learning. Pp. 337-348 in *Handbook of Educational Psychology*, APA Division 15. New York: Routledge.

Natriello, G. (2023). Wikipedia, Chapter 7, Pp. 164-169 in *Creating Learning Settings: Physical, Digital, and Social Configurations for the Future of Education*. New York: Routledge.

Vakkari, P. (2016). Searching as learning: A systemization based on literature. *Journal of Information Science*, 42(1), 7-18.

Reih, S., Collins-Thompson, K., Hansen, P., & Lee, H. (2016). Toward searching as a learning process. *Journal of Information Science*, 42(1), 18-34.

Kammerer, Y., Brand-Gruwel, S., & Jarodska, H. (2018). The future of learning by searching: Mobile, social, and multimodal. *Frontline Learning Research*, 6(2), 81-91.

Yu, R., Gadiraju, U., & Dietz, S. (2018). Detecting, understanding, and supporting everyday learning in web search. LILE workshop at ACM WebSci conference. 1-6.

Resource Group 9 – Courses Unmoored – The MOOC Movement

Papadakis, S. (2023). MOOCs 2012-2022: An overview. *Advances in Mobile Learning Educational Research*, 3(1), 682-693.

Buhl, M., Andreasen, L. (2018). Learning potentials and educational challenges of massive open online courses (MOOCs) in lifelong learning. *International Review of Education*, 64, 151–160.

Lambert, S. R. (2020). Do MOOCs contribute to student equity and social inclusion? A systematic review 2014-18. *Computers & Education*, 145, 103693.

Loizzo, J., & Ertmer, P. (2016). MOOCocracy: the learning culture of massive open online courses. *Education Tech Research Dev* 64, 1013–1032.

Ruipérez-Valiente, J., Halawa, S., Slama, R., & Reich, J. (2020). Using multi-platform learning analytics to compare regional and global MOOC learning in the Arab world, *Computers & Education*, 146, 103776.

Ruipérez-Valiente, J., Staubitz, T., Jenner, M., Halawa, S., Zhang, J., Despujol, I., et al. (2022). Large scale analytics of global and regional MOOC providers: Differences in learners' demographics, preferences, and perceptions, *Computers & Education*, 180, 104426.

Yu, Z., Xu, W., & Sukjairungwattana, P. (2024) A meta-analysis of eight factors influencing MOOC-based learning outcomes across the world. *Interactive Learning Environments*, 32(2), 707-726.

Resource Group 10 - Networked Media

Natriello, G. (2023). YouTube, Chapter 7, Pp. 169-174 in *Creating Learning Settings: Physical, Digital, and Social Configurations for the Future of Education*. New York: Routledge.

Pires, F., Masanet, M.-J., Tomasena, J. M., & Scolari, C. A. (2022). Learning with YouTube: Beyond formal and informal through new actors, strategies and affordances. *Convergence*, 28(3), 838–853.

Yi, Y. (2023): Negotiating performance between policy and platform — heritage practice of a Chinese craftsperson on Douyin (TikTok), *International Journal of Heritage Studies*,

Garcia, M., Juanatas, I. & Juanatas, R. (2022) TikTok as a knowledge source for programming learners: a new form of nanolearning?, *10th International Conference on Information and Education Technology (ICIET)*, Matsue, Japan, pp. 219-223.

Vermeire, Z., de Haan, M. J., Sefton-Green, J., & Akkerman, S. F. (2024). The desire to learn: the alienation and reimagining of pedagogy on YouTube, Twitch and TikTok. *Critical Studies in Education*, 1–19.

Resource Group 11 - Q&A Communities

Natriello, G. (2023). Stack Overflow, Chapter 7, Pp. 174-180 in *Creating Learning Settings: Physical, Digital, and Social Configurations for the Future of Education*. New York: Routledge.

Khusro, S., Alam, A., & Khalid, S. (2017). Social question and answer sites: The story so far. *Program*, 51(2), 170-192.

Oliveira, N., Muller, M., Andrade, N., and Reinecke, K. (2018). The Exchange in StackExchange: Divergences between Stack Overflow and its culturally diverse participants. *Proceedings of the ACM on Human-Computer Interaction*, Vol. 2, Issue CSCW, Article 130, 1-22.

Yang, Z., Liu, Q., Sun, B., & Zhao, X. (2019), Expert recommendation in community question answering: a review and future direction. *International Journal of Crowd Science*, 3(3), 348-372.

Resource Group 12 – Gaming/Immersive Communities

Hamilton, W., Garretson, O., & Kerne, A. (2014). Streaming on twitch: fostering participatory communities of play within live mixed media. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '14)*. Association for Computing Machinery, New York, NY, USA, 1315–1324.

Payne, K., Keith, M., Schuetzler, R., & Giboney, J. (2017). Examining the learning effects of live streaming video game instruction over Twitch. *Computers in Human Behavior*, 77, 95-109.

Li, Y., Wang, C., & Liu J. (2020). A systematic review of literature on user behavior in Video Game Live Streaming. *Int J Environ Res Public Health*. 17(9):3328.

Gandolfi, E. (2022). Playing is just the beginning: Social learning dynamics in game communities of inquiry. *Journal of Computer Assisted Learning*, 38(4), 1062–1076.

Hsu, C. & Chang, C. (2022). Does the social platform established by MMORPG's build social and psychological capital? *Computers in Human Behavior*, 129, 107139, 11 pages.

Gandolfi, E., Ferdig, R. E., & Clements, R. (2022). Streaming code across audiences and performers: An analysis of computer science communities of inquiry on Twitch.tv. *British Journal of Educational Technology*, 53, 1688–1705.

Project 4

Developing a Portfolio of Work for a Position in Online and Networked Learning

For this project individual students will each respond to a posting of a position in a new educational initiative by preparing a portfolio of their work on online and networked learning both in this class and beyond.

Resource Group 13 – Personal Learning Networks

Natriello G. (2007). Imagining, seeking, inventing: The future of learning and emerging discovery networks. *Learning Inquiry*, 1, 1, 7-18.

Fair, N. (2021). A Framework for the Analysis of Personal Learning Networks. In: Dohn, N.B., Hansen, J.J., Hansen, S.B., Ryberg, T., de Laat, M. (eds) *Conceptualizing and Innovating Education and Work with Networked Learning. Research in Networked Learning*. Springer, Cham.

Dabbagh, N. and Kitsansis, A. (2012). Personal learning environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *Internet and Higher Education*, 15, 3-8.

Dabbagh, N., Castaneda, L. (2020). The PLE as a framework for developing agency in lifelong learning. *Educational Technology Research and Development*, 68, 3041–3055.

Resource Group 14 – Open Professional Learning

Rajagopal, K., Brinke, D., Van Bruggen, J., & Sloep, P. (2012). Understanding personal learning networks: Their structure, content and the networking skills needed to optimally use them. *First Monday*, 17(1 – 2).

Mackey, J. & Evans, T. (2011). Interconnecting networks of practice for professional learning. *International Review of Research in Open and Distance Learning*, 12(3), 1-17.

Bhatia, K., Pathak-Shelat, M. & Arora, P. (2003). DIY education in the digital era: youth-driven learning strategies and curricula for the future of work opportunities. *Education and Information Technologies*, 28(3),

Resource Group 15 – Automated Personal Learning Networks

Natriello, G. & Chae, H. (2022). The paradox of learning in the intelligence age: Creating a new learning ecosystem to meet the challenge. In M. Albert, L. Lin, M. Spector, & L. Dunn (Eds.). *Bridging Human Intelligence and Artificial Intelligence* (pp. 287-300). Cham, Switzerland: Springer.

Bhutoria, A. (2022). Personalized education and artificial intelligence in the United States, China, and India: A systematic review using a human-in-the-loop model. *Computers and Education: Artificial Intelligence*, 3, 100068. 18 pages.

Guettat, B., Farhat, R., & Karoui, S. (2024). An Approach to Assist Learners to Build Their Own Curriculum in Personal Learning Environment Context, Based on the AI Concepts. In Kadry, S. (Ed.). *Artificial Intelligence and Education - Shaping the Future of Learning*. IntechOpen.

The Provost and Dean of the College in conjunction with the Faculty has adopted the following statements to be included on all Teachers College syllabi.

1. **Accommodations** – The College will make reasonable accommodations for persons with documented disabilities. Students are encouraged to contact the Office of Access and Services for Individuals with Disabilities (OASID) for information about registration. You can reach OASID by email at oasid@tc.columbia.edu, stop by 301 Zankel Building or call 212-678-3689. Services are available only to students who have registered and submit appropriate documentation. As your instructor, I am happy to discuss specific needs with you as well. Please report any access related concerns about instructional material to OASID and to me as your instructor.
2. **Incomplete Grades** – For the full text of the Incomplete Grade policy please refer to <http://www.tc.columbia.edu/policylibrary/Incomplete Grades>
3. **Student Responsibility for Monitoring TC email account** – Students are expected to monitor their TC email accounts. For the full text of the Student Responsibility for Monitoring TC email account please refer to <http://www.tc.columbia.edu/policylibrary/Student Responsibility for Monitoring TC Email Account>
4. **Religious Observance** – For the full text of the Religious Observance policy, please refer to <http://www.tc.columbia.edu/policylibrary/provost/religious-observance/>
5. **Sexual Harassment and Violence Reporting** – Teachers College is committed to maintaining a safe environment for students. Because of this commitment and because of federal and state regulations, we must advise you that if you tell any of your instructors about sexual harassment or gender-based misconduct involving a member of the campus community, your instructor is required to report this information to the Title IX Coordinator, Janice Robinson. She will treat this information as private, but will need to follow up with you and possibly look into the matter. The Ombuds Officer is a confidential resource available for students, staff and faculty, including matters concerning “Gender-based Misconduct”. “Gender-based misconduct” includes sexual assault, stalking, sexual harassment, dating violence, domestic violence, sexual exploitation, and gender-based harassment. For more information, see <http://sexualrespect.columbia.edu/gender-based-misconduct-policy-students>. The TC Ombuds Officer may be reached at ombuds@tc.columbia.edu or 212-678-4169.
6. **Emergency Plan** – TC is prepared for a wide range of emergencies. After declaring an emergency situation, the President/Provost will provide the community with critical information on procedures and available assistance. If travel to campus is not feasible, instructors will facilitate academic continuity through Canvas and other technologies, if possible.
 1. It is the student’s responsibility to ensure that they are set to receive email notifications from TC and communications from their instructor at their TC email address.
 2. Within the first two sessions for the course, students are expected to review and be prepared to follow the instructions stated in the emergency plan.
 3. The plan may consist of downloading or obtaining all available readings for the course or the instructor may provide other instructions.