

FOSTERING INTERDISCIPLINARY INNOVATION IN GRADUATE EDUCATION AND TRAINING

Executive Summary

The complexities of many research questions, and the complex problems of today's global society, demand responses that draw on the integrated insights of multiple disciplines. Gaining interdisciplinary experience is an important component of graduate education. Future-oriented graduate training that prepares our students for impactful careers within and beyond the academy must foster their ability to negotiate epistemologies, methodologies, interpretative frameworks, and evidence bases across disciplines and domains. The Kenneth P. Dietrich School of Arts and Sciences supports interdisciplinary activities as part of its mission to foster diverse excellence and innovation in graduate education. To facilitate bold and imaginative boundary-crossings in graduate education, training, and experiences, the Office of Graduate Studies establishes the **Graduate Programming Incubator (GRAD-PI)**.

Introduction

The complexities of many research questions, and the complex problems of today's global society, demand responses that draw on the integrated insights of multiple disciplines. Innovation in 21st-century scholarship will to a significant extent depend on research that cuts across conventional barriers within and across the arts and humanities, social sciences, natural sciences, and other domains, and on the integration of theoretical, interpretative, and experimental disciplines.

Future-oriented graduate training must foster our students' ability to negotiate epistemologies, methodologies, interpretative frameworks, and evidence bases across disciplines and domains. Graduate students who engage critically and confidently with inter- and transdisciplinary approaches will be prepared for the research environments of the 21st century, and for impactful careers across all employment sectors.

Yet, practicing interdisciplinary teaching, learning, and research continues to challenge graduate schools. Institutional structures and rewards tend to privilege disciplinary purity and limit cross-disciplinary collaboration in graduate training and education. Experiments with interdisciplinarity are often constrained by the epistemological sovereignty of a dominant discipline. The border zones between disciplines can be uncomfortable territory for the intellectual traveler. The project of seeking meaningful and transformative integration of problem formulation and methods across disciplines is both risky and demanding. Interdisciplinary pedagogy can seem intellectually, socially, and emotionally threatening.¹

When the *Plan for Pitt* calls on us to “facilitate internal collaboration to enrich the interdisciplinarity of our academic endeavors,” it challenges administrators, faculty, and graduate students to develop and engage spaces and practices that enhance students' understandings of their original disciplines as well as their ability to wrestle with multiple, sometimes conflicting, disciplinary perspectives.

¹ Horlick-Jones, T. and Sime, J., “Living on the Border: Knowledge, Risk and Transdisciplinary,” *Futures*, 36/4 (2004), 441–56; Healy, S., “Epistemological Pluralism and the ‘Politics of Choice’,” *Futures* 35/7 (2003), 689–701; Manathunga, C., Lant, P., and Mellick, G., “Imagining an Interdisciplinary Doctoral Pedagogy,” *Teaching in Higher Education*, 11/3 (2006), 365–79.

GRAD-PI

THE GRADUATE PROGRAMMING INCUBATOR

Mission: Foster interdisciplinary innovation in graduate education by incubating, developing, and implementing programming and programs that bridge disciplines, departments, schools, and institutions.

GRAD-PI invites experimentation with innovative, interdisciplinary graduate programming. Faculty and graduate students might host exploratory reading groups, workshops on interdisciplinary research or pedagogy, prospectus or dissertation groups, or discussions on cross-disciplinary experiential learning. They might design a cross-cutting course or a summer school, plan an interdisciplinary certificate program, or explore joint ventures with other universities. *GRAD-PI* offers seed funding, gathers supportive colleagues, and provides policy guidance to encourage and nurture their endeavors.

GRAD-PI—

- enhances the school’s interdisciplinary culture, i.e. its capacity “to move quickly to deploy new combinations of expertise to rapidly-emerging, important problems” (Suzanne T. Ortega, CGS);
- fosters a collaborative and collegial environment in which faculty and students can reimagine graduate education in multi- and interdisciplinary contexts;
- incentivizes, supports, and accelerates initiatives to innovate interdisciplinary graduate education and training across programs, divisions, schools, and institutions;
- embraces interdisciplinarity within and across the Dietrich School’s intellectual domains in Humanities, Social Sciences, and Natural Sciences, and encourages collaboration with Health Sciences, Information Sciences, Law, etc.;
- supports the development of research projects and dissertation-writing in interdisciplinary settings;
- models and supports the development of social and intellectual competencies essential to the versatile graduate student, such as collaborative practices, effective communication, leadership;
- provides tools, guidance on policy, and the transparent and standardized processes required to develop, implement, and assess new and dynamic graduate programming and programs;
- incubates Communities of Practice (COPs)², i.e. problem-based interdisciplinary teams that weld theory and analysis with a social change agenda and make “a positive impact on the world through collaborative and multidisciplinary approaches to research that focus on areas of great societal need.” (*Plan for Pitt*)
- fosters innovative practices that cross domains, units, pedagogical approaches, and modalities of research, scholarship, and creative activity (*Artists in Residence*; *Public Humanities Fellows*);
- encourages graduate faculty to embed critical thinking about the definitions, practices, and purposes of interdisciplinarity in curricular structures;³
- supports students in navigating the opportunities and pitfalls of interdisciplinary supervision.⁴

² For COPs and motivation, belonging, intellectual confidence, and leadership experience, see, e.g., Wenger, E., *Communities of Practice: Learning, Meaning, and Identity* (1998); Wenger, E., McDermott, R., Snyder, W., *Cultivating Communities of Practice* (2002); <https://hilt.harvard.edu/pages/cultivating-communities-practice-graduate-student-teaching>; Monaghan, C. H., Columbaro, N. L., “Communities of Practice and Students’ Professional Development,” *International Journal of Teaching and Learning in Higher Education*, 20/3 (2009), 413–24; Monaghan, C. H., “Communities of Practice in Graduate Education: A Learner’s Perspective,” *Adult Education Research Conference* (2007); Culver D. M., Bertram R., “Learning Value and Identity Formation: Social Learning and the Graduate Studies Experience,” in McDonald J., Cater-Steel A., eds, *Implementing Communities of Practice in Higher Education* (2016), 347–72.

³ For introductory courses in interdisciplinary studies taught previously, see, e.g., [CL2006](#); [HIIST2001](#).

⁴ Manathunga, C. and A. Brew, “Beyond Tribes and Territories: New Metaphors for New Times,” in Trowler, P. Saunders, M., Bamber, V., eds, *Tribes and Territories in the 21st Century: Rethinking the Significance of Disciplines in Higher Education* (2012), 44–56; Manathunga, C., “‘Team’ Supervision: New Positionings in Doctoral Education Pedagogies,” in A. Lee and S. Danby, eds, *Reshaping Doctoral Education: International Approaches and Pedagogies* (2012), 42–55.

GRAD-PI

BOUNDARY-CROSSINGS IN GRADUATE TRAINING AND EDUCATION

Interdisciplinary Graduate Groups

- facilitate sustained interaction among graduate students and faculty with interdisciplinary interests
- seed and develop collaborative activities that enhance interdisciplinary graduate education (reading groups; workshops on interdisciplinary research or pedagogy; prospectus or dissertation seminars)
- Might offer interdisciplinary boot-camps or summer schools

Cross-Cutting Courses

- encourage faculty to co-design cross-unit courses (e.g. Social Science Methods; Science Communication)

Certificate and Degree Program Incubation and Development

provide –

- guidance and toolkits on policy and procedure
- structured access to skill sets and collective expertise
- support for benchmarking, proposal development

New Certificates and Micro-Credentialing Tracks

Graduate Certificate in Digital Studies and Methods (for projected enrollment in AY19)

Under discussion: Data Science; [Bioethics](#)

Future Possibilities:

Islamicate Studies

Diversity and Inclusion

Health and Public Policy

Human and Social Sustainability

Science Policy and Science Advocacy

Science Communication



GRAD-HUB

New Certificates & Degrees

MOUs with universities nationally and internationally

GRAD-HUB, the strategic arm and policy shop of the Graduate Studies Office, houses Dietrich School-owned interdisciplinary graduate certificates and degrees. Programs that cut across Schools can be administered by **GRAD-HUB** or, if administered by another School, affiliated with **GRAD-HUB**. Joint ventures with other universities are developed in consultation, and are affiliated, with **GRAD-HUB**.

EXPERIMENTATION – INNOVATION

INCENTIVIZE – SUPPORT

CONSOLIDATION

INSTITUTIONALIZE – ADMINISTER