THOMAS COLCLOUGH
Curriculum Vitae

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Education

Ph.D.   2017—2023 · **Logic and Philosophy of Science** · *University of California, Irvine (UCI)*

PGCE   2016—2017 · **Post-Graduate Certificate in Education (Mathematics)** · *Staffordshire University (SU), U.K.*

B.Sc.   2012—2016 · **Mathematics and Philosophy with specialism in Logic and Foundations** · *University of Warwick (UoW), U.K.*

Work Experience

2023   (Current) Postdoctoral Scholar · *Humanities Center for Knowledge, Technology, and Society, UCI*
Roles: Assisting in the implementation of the John Templeton Foundation funded project *Embedding the Development of Intellectual Character within a University Curriculum* (PI, Duncan Pritchard, UCI). Developing, implementing, and assessing online interdisciplinary modules devoted to fostering intellectually virtuous character in students

Articles

Colclough, T. (2024). Components of arithmetic theory acceptance. *Synthese*, 203(32). https://doi.org/10.1007/s11229-023-04465-z

Colclough, T., Howitz, W., Mann, D., Kearns, K., & Hoffmann, D. (2023). Meanings of community: Educational developers experience care, satisfying contributions, and belonging in a collaboration across institutions. *To Improve the Academy: A Journal of Educational Development*, 42(2): 9. https://doi.org/10.3998/tia.2637

Hooper, A., Hyder, M., **Colclough, T.**, & Mann, D. (2023). Learning through a trauma-informed lens: a case study in empowering students in their personal and academic growth. *Journal of the Scholarship of Teaching and Learning*, 23(3), 74—94. https://doi.org/10.14434/josotl.v23i3.35234

Colclough, T. The force of the mathematical "should" · *Working paper*

Colclough, T. Can set theorists be intellectually virtuous? · *Working paper*

Research talks/presentations

2023   Math *Can*-xiety: Trauma-informed empowerment for the mathematically anxious · *Professional and Organizational Development (POD) Network* · Annual POD conference (co-authored poster, peer-reviewed)

The Cartesian demon vs. Hypatia's demon: We are not the same · *UCI* · The Logic Seminar, C-ALPHA (talk, invited)

2022   Collaborative dynamics in a multi-institution community of practice · *POD Network* · Annual POD conference (co-authored poster, peer-reviewed)

High burnout, low turnout: Re-imagining learning communities to promote inclusive teaching · *POD Network* · Annual POD conference (co-authored roundtable, peer-reviewed)

Learning through a trauma-informed lens: a case study in empowering students in their personal and academic growth · *POD Network* · Annual POD conference (co-authored poster, peer-reviewed)

Components of arithmetic theory acceptance · *UCI* · The Logic Seminar, C-ALPHA (talk, invited)

2021   Arithmetic theory acceptance · *University of Notre Dame* · MidWest PhilMath Workshop (talk, peer-reviewed)

Collaborative dynamics in a multi-institution community of practice support wellbeing · *POD Network* · Annual POD conference (co-authored poster, peer-reviewed)

Does the consistency of large cardinal hypotheses imply their truth? · *University of California, Berkeley* · Student Logic Colloquium (talk, invited)

Does the consistency of large cardinal hypotheses imply their truth? · *UCI* · The Logic Seminar, C-ALPHA (talk, invited)

2020   The foundational role of set theory as a risk assessor · *UCI* · The Logic Seminar, C-ALPHA (talk, invited)

2015   Hilbert's third problem · *UoW* · Undergraduate Research Support Scheme Showcase (poster)

Teaching Experience

2023   **Teaching Assistant** · Probability & Statistics · *UCI, Spring (Instructor: Jonathan Lui)*
Roles: facilitating weekly discussion sections, grading exams, holding weekly office hours

Teaching Assistant · Adolescent Psychology · *UCI, Winter (Instructor: Christine Lofgren)*
Roles: grading exams, holding weekly office hours

2022   **Instructor of Record** · Introduction to Logic · *UCI, Fall*
Roles: designing the course using a trauma-informed approach, lecturing, facilitating collaborative/active discussion sections, leading mindfulness breaks during lectures, writing and grading homework problems, administering oral final exam, holding regular office hours, holding regular "muddiest point" hours

Instructor of Record · Introduction to Inductive Logic · *UCI, Summer, online*
Roles: designing the course using a trauma-informed approach, lecturing, facilitating participation activities during class, corresponding individually with students on reflective project, conducting oral reflective final interviews, holding weekly office hours, holding regular "muddiest point" hours

Teaching Assistant · Psychology Fundamentals · *UCI, Spring (Instructor: Bruce Berg)*
Roles: designing and facilitating weekly collaborative discussion sections with an emphasis on mastery, writing and distributing course review materials, holding weekly office hours, designing and leading class review session for >200 students before final exam

Teaching Assistant · Psychology Fundamentals · *UCI, Winter, partly remote (Instructor: Charles Wright)*
Roles: facilitating weekly collaborative discussion sections with an emphasis on mastery, grading exams, providing individualized student feedback on exams, holding weekly office hours, writing class review material, leading class review session for >200 students before final exam

2021   **Instructor of Record** · Introduction to Logic · *UCI, Fall*
Roles: designing the course, lecturing, leading collaborative/active discussion sections, leading mindfulness breaks during lectures, writing and grading homework problems, administering final oral exam, holding weekly office hours

Instructor of Record · Introduction to Inductive Logic · *UCI, Spring, remote*
Roles: designing the course (a flipped format), recording lecture videos on EdPuzzle, facilitating collaborative activities during large group meetings, writing homework/exam problems, grading chapter tests, holding weekly office hours

Teaching Assistant · Introduction to Memory · *UCI, Winter, remote (Instructor: Christine Lofgren)*
Roles: designing and facilitating weekly collaborative discussion sections with an emphasis on mastery, grading exams, holding weekly office hours

2020   **Teaching Assistant** · Psychology Fundamentals · *UCI, Spring, remote (Instructor: Bruce Berg)*
Roles: designing and facilitating weekly collaborative discussion sections with an emphasis on mastery, writing and distributing course review materials, holding weekly office hours

Teaching Assistant · Psychology Fundamentals · *UCI, Winter, remote (Instructor: Mark Steyvers)*
Roles: designing and facilitating weekly collaborative discussion sections with an emphasis on mastery, grading exams, holding weekly office hours, writing practice tests for students, giving feedback on practice tests, designing and leading class review session for >200 students before final exam

2019   **Teaching Assistant** · Psychology Fundamentals · *UCI, Fall (Instructor: Charles Wright)*
Roles: facilitating weekly collaborative discussion sections with an emphasis on mastery, grading exams, providing individualized student feedback on exams, holding weekly office hours, writing individualized practice tests for students based on target grades, giving feedback on practice tests, leading class review session for >200 students before final exam

Teaching Assistant · Critical Reasoning · *UCI, Summer, online remote (Instructor: Jeremy Heis)*
Roles: regularly communicating with students via email, holding weekly office hours, grading and providing feedback on weekly homework assignments, grading and providing feedback on midterms and final exam

2018   **Guest Lecturer** · Critical Reasoning · *UCI, Fall*
Roles: lecturing on symbolic proofs, facilitating in-class collaborative problem solving, modeling solutions

Teaching Assistant · Critical Reasoning · *UCI, Fall (Instructor: Jeremy Heis)*
Roles: designing and facilitating weekly active discussion sections, designing and implementing discussion activities, facilitating collaborative problem solving during large classes, holding weekly office hours, grading and providing feedback on weekly homework assignments, grading and providing feedback on midterms and final exam

Teaching Assistant · Critical Reasoning · *UCI, Summer, online (Instructor: Jeremy Heis)*
Roles: regularly communicating with students via email, holding weekly office hours, grading and providing feedback on weekly homework assignments, grading and providing feedback on midterms and final exam

Teaching Assistant · Critical Reasoning · *UCI, Winter (Instructor: Tim Schmitz)*
Roles: designing and facilitating weekly active discussion sections, designing and implementing discussion activities, holding weekly office hours, grading and providing feedback on weekly homework assignments

2017   **Guest Lecturer** · Critical Reasoning · *UCI, Fall*
Roles: lecturing on standard form of arguments, facilitating in-class collaborative problem solving, modeling solutions

Teaching Assistant · Critical Reasoning · *UCI, Fall (Instructor: Jeremy Heis)*
Roles: designing and facilitating weekly active discussion sections, designing and implementing discussion activities, facilitating collaborative problem solving during large classes, holding weekly office hours, grading and providing feedback on weekly homework assignments, grading and providing feedback on midterms and final exam

High School Teacher · Mathematics · *U.K., St. John Fisher Catholic College, February—June*
Roles: (placement for teaching qualification via SU) teaching curriculum (ages 11—16), assessing and providing feedback on students' work, engaging with professional development opportunities for teachers, regularly reflecting on teaching methods, building portfolio of teaching materials/reflections according to U.K. qualification standards (I passed the initial qualification year in June with a grade of Outstanding), mentoring students who were taking end of high school exams, and entrance exams for University

High School Teacher · Mathematics · *U.K., Newcastle Academy, January—February*
Roles: (placement for teaching qualification via SU) teaching curriculum (ages 11—16), assessing and providing feedback on students' work, engaging with professional development opportunities for teachers, regularly reflecting on teaching methods, building portfolio of teaching materials/reflections according to U.K. qualification standards, mentoring students who were taking end of high school exams

2016 **High School Teacher** · Mathematics · *U.K., Newcastle Academy, September—December*
Roles: (placement for teaching qualification via SU) teaching curriculum (ages 11—16), assessing and providing feedback on students' work, engaging with professional development opportunities for teachers, regularly reflecting on teaching methods, building portfolio of teaching materials/reflections according to U.K. qualification standards, mentoring students who were taking end of high school exams

Professional Service

2023 **Workshop Facilitator** · *Indiana University, Bloomington, Fall*
Roles: (invited) developing and leading workshop on empathy for graduate students participating in Indiana University, Bloomington's College Teaching pedagogy course

Workshop Facilitator · *UCI, Division of Teaching Excellence and Innovation (DTEI), Summer*
Roles: (invited) developing and leading workshop on trauma-informed pedagogical practices across disciplines for graduate students preparing for a semester-long internship at a California Community College

Workshop Facilitator · *UCI, DTEI, Spring*
Roles: (invited) developing and leading workshop on trauma-informed pedagogical practices across disciplines for graduate students

2022 **Panelist** · *Center for the Integration of Research, Teaching, and Learning (CIRTL), Fall*
Roles: (invited) serving on panel about teaching mentorship as part of CIRTL graduate student/postdoctoral scholar workshop *Finding a Teaching Mentor*

Teaching Assistant Professional Development Program Facilitator · *UCI, DTEI, Fall*
Roles: developing and delivering pedagogy training modules (8 hours) for incoming graduate students in UCI's Economics department

Hiring Committee Member · *UCI, DTEI, Summer*
Roles: reviewing applications and interviewing applicants for the DTEI's Pedagogical Wellness Specialist position

Coordinator · *UCI, DTEI Summer Graduate Fellows Program, Summer*
Roles: developing program timeline, developing and delivering program training modules (8 hours), leading local community meetings with cohort of Graduate Fellows throughout Summer 2022, organizing faculty panel "The Future of Teaching: A Reflection on our Practice and Ourselves"

Committee Chair · *UCI, DTEI Summer Graduate Fellowship Program, Spring*
Roles: selecting graduate student Fellowship recipients, $500,000 of support awarded

Committee Member · *UCI, DTEI Travel Grant Committee, Spring*
Roles: selecting graduate student/post-doctorate scholar travel grant recipients, $3000 of support awarded

Workshop Facilitator and Developer · *UCI, department of Earth System Science (ESS), Spring*
Roles: (invited) developing and leading workshop on undergraduate Learning Assistants for a graduate level pedagogy course in ESS department

Program Developer · *UCI, DTEI Summer Teaching Apprenticeship Program (STAP), Spring*
Roles: assisting in developing training modules, resources, and Canvas site for STAP

Program Developer · *UCI, DTEI Spring Graduate Fellows Program, Spring*
Roles: assisting in developing training modules, resources, and Canvas site for Spring Graduate Fellows Program

Website Collaborator · *UCI, DTEI*, *Winter/Spring*
Roles: reviewing and providing feedback on DTEI website page layout/content

Blog Chair · *UCI, DTEI*, *Winter/Spring*
Roles: reviewing and providing feedback on graduate student essays completed in a University Teaching course for publication on the DTEI FLIP'd Blog

Workshop Facilitator · *UCI, DTEI*, *Winter*
Roles: developing and facilitating Summer DTEI Certificate in Course Design workshop for undergraduate students, graduate students, and postdoctoral scholars

2021   **TAPDP Facilitator** · *UCI, DTEI, Fall*
Roles: (invited) developing and delivering pedagogy training modules (8 hours) for incoming graduate students in UCI's Engineering department

Panelist · *UCI, department of Logic and Philosophy of Science (LPS), Fall*
Roles: (invited) serving on panel about teaching in LPS for incoming graduate students as part of initial pedagogy training

Workshop Facilitator · *Transforming Your Research Into Teaching (TYRIT), Summer*
Roles: facilitating local workshops at UCI for the nationwide course design initiative TYRIT for graduate students/postdoctoral scholars

Coordinator · *UCI, DTEI Summer Graduate Fellows Program, Summer*
Roles: developing program timeline, developing and delivering program training modules (8 hours), leading local community meetings with cohort of Graduate Fellows throughout Summer 2021, organizing faculty panel "The Future of Teaching and Learning: Transforming Pedagogy for a Changing University"

Committee Member · *UCI, DTEI Summer Graduate Fellowship Program, Spring*
Roles: selecting graduate student Fellowship recipients, $500,000 of support awarded

2020   **TAPDP Facilitator** · *UCI, DTEI, Fall*
Roles: (invited) developing and delivering pedagogy training modules (8 hours) for incoming graduate students in UCI's Engineering department

Workshop Facilitator · *TYRIT, Summer*
Roles: facilitating local workshops at UCI for the nationwide course design initiative TYRIT for graduate student/postdoctoral scholars

Workshop Facilitator · *UCI, DTEI, Summer*
Roles: developing and facilitating Summer DTEI Certificate in Course Design workshop for graduate students, undergraduate students, and postdoctoral scholars

Coordinator · *UCI, DTEI Inaugural Summer Graduate Fellows Program, Summer*
Roles: developing program timeline, developing and delivering program training modules (8 hours), leading local community meetings with cohort of Graduate Fellows throughout Summer

Committee Member · *UCI, DTEI Inaugural Summer Graduate Fellowship Program, Spring*
Roles: selecting graduate student Fellowship recipients, $1m of support awarded

Workshop Facilitator and Developer · *UCI, School of Social Sciences, Winter/Spring*
Roles: designing and facilitating two workshops on Diversity and Inclusive Teaching for graduate students in the school of Social Sciences

Workshop Facilitator · *UCI, DTEI*, *Winter*
Roles: developing and facilitating Summer DTEI Certificate in Instructional Technology workshop for graduate students and postdoctoral scholars

2019   **Hiring Committee Member** · *UCI, DTEI, Fall*
Roles: reviewing applications and interviewing graduate student applicants for the DTEI's Pedagogical Fellowship program

TAPDP Facilitator · *UCI, DTEI, Fall*
Roles: developing and delivering pedagogy training modules (8 hours) for incoming graduate students in UCI's LPS department

Reading Group Coordinator · *UCI, LPS department, Summer*
Roles: organizing group meetings and selecting weekly readings for summer set theory reading group in UCI's LPS department

Awards & Fellowships

2022   **Honorable Mention: Robert J. Menges Award for Outstanding Research in Educational Development** · *POD*
Description: award presented at the 2022 POD Network conference for our work on the impact of a trauma-informed approach on students' learning experiences

Coordinator of Summer Graduate Fellows Program · *UCI, DTEI, Summer* · $7500
Roles: developing program timeline, developing and delivering program training modules (8 hours), leading local community meetings with a cohort of Graduate Fellows throughout Summer 2022, organizing faculty panel "The Future of Teaching: A Reflection on our Practice and Ourselves"

Educational Development Graduate Fellowship · *UCI, DTEI, Spring* · $5000
Roles: developing and implementing Summer Teaching Apprenticeship Program (STAP), Spring Graduate Fellows Program, and Summer Graduate Fellows Program, contributing to existing DTEI research programs, assessing prior STAP/Spring Graduate Fellows Program feedback forms and implementing necessary changes in current program iterations, reviewing DTEI website page layout/documents and communicating suggestions for edits, providing feedback to students interested in publishing to the DTEI FLIP'd blog, assisting in strategy for marketing the CIRTL programs in other graduate student departments

Educational Development Graduate Fellowship · *UCI, DTEI, Winter* · $2500
Roles: developing and implementing Summer Teaching Apprenticeship Program (STAP), Spring Graduate Fellows Program, and Summer Graduate Fellows Program, contributing to existing DTEI research programs, assessing prior STAP/Spring Graduate Fellows Program feedback forms and implementing necessary changes in current program iterations

Summer Research Fellowship · *UCI, LPS department*
Roles: continuing with research agenda and writing dissertation

2021   **Coordinator of Summer Graduate Fellows Program** · *UCI, DTEI, Summer* · $7500
Roles: developing program timeline, developing and delivering program training modules (8 hours), leading local community meetings with a cohort of Graduate Fellows throughout Summer 2021, organizing faculty panel "The Future of Teaching and Learning: Transforming Pedagogy for a Changing University"

GPPD Career Development Grant · *POD* · $350
Description: grant awarded by the POD Network's Special Interest Group on Graduate student, Professional student, and Postdoctoral fellow Development (GPPD) to support attendance at 2021 POD conference

Summer Research Fellowship · *UCI, LPS department*
Roles: continuing with research agenda and writing dissertation

2020   **Coordinator of Summer Graduate Fellows Program** · *UCI, DTEI, Summer* · $7500
Roles: developing program timeline, developing and delivering program training modules (8 hours), leading local community meetings with cohort of Graduate Fellows throughout Summer

Summer Research Fellowship · *UCI, LPS department*
Roles: developing dissertation research agenda

2019   **Pedagogical Fellowship** · *UCI, DTEI*
Roles: >90 hours of pedagogical training, designing and implementing UCI's Teaching Assistant Professional Development Program in Engineering

Certificate in Teaching Excellence · *UCI, DTEI*
Description: course on designing lessons using evidence-based pedagogical principles, analyzing and assessing teaching practices, and facilitating learning using a variety of pedagogical techniques, modules: how people learn, active learning, inclusive teaching, collaborative learning, instructional technology, assessment, and course design

Summer Research Fellowship · *UCI, LPS department*
Roles: continuing with research agenda for Ph.D. candidacy assessment, transcribing (now retired) LPS faculty member Penelope Maddy's publications *Believing the Axioms I* and *II* for eventual later compilation of these and other works

2018   **Summer Research Fellowship** · *UCI, LPS department*
Roles: developing research agenda for Ph.D. candidacy assessment

2015 **Undergraduate Research Support Scheme (URSS) Bursary** · *UoW, Summer*
Roles: design and present poster on Hilbert's Third Problem at annual URSS showcase under mathematics faculty member Damiano Testa

Professional Affiliations

2023 Professional and Organizational Development (POD) Network

2022 Professional and Organizational Development (POD) Network

American Philosophical Association

2021 Professional and Organizational Development (POD) Network

2020 American Philosophical Association

Selected Graduate Coursework

Mathematical Logic

2023 Set Theory III · *Martin Zeman, UCI*
Description: applications of forcing, iterated forcing

Set Theory II · *Martin Zeman, UCI*
Description: the fine structure of L, diamond and square principles for L, forcing basics

2022 Hereditarily Ordinal Definable (HOD) Analysis · *Peter Koellner, Harvard*
Description: (ongoing) coarse inner model theory, fine structure, and the core model below one Woodin cardinal in Jensen's new manuscript on fine structure theory

2021 Category Theory · *Toby Meadows, UCI*
Description: basic category theory, and proof of the Yoneda lemma

2020 Set Theoretic Geology · *Toby Meadows, UCI*
Description: ground-model definability, proof of the Laver-Woodin theorem, Usuba's proof of the downward-directed grounds hypothesis, and proof of Usuba's theorem

2019 Set Theory I · *Martin Zeman, UCI*
Description: forcing, the non-stationary ideal, inner model theory, combinatorial principles, and Martin's axiom

Large Cardinals and Determinacy · *Toby Meadows, UCI*
Description: large cardinal theory, determinacy, games, and the links between each

Mathematical Logic III · *Isaac Goldbring, UCI*
Description: recursion theory and descriptive set theory, and proofs of basic results on regularity properties for analytic sets

Mathematical Logic II · *Martin Zeman, UCI*
Description: basic model theory and proof of incompleteness

2018   Mathematical Logic I · *Isaac Goldbring, UCI*
Description: basic set theory

Model Theory III · *Isaac Goldbring, UCI*
Description: stable and simple theories

Model Theory II · *Isaac Goldbring, UCI*
Description: proof of Morley's theorem

2017   Model Theory I · *Isaac Goldbring, UCI*
Description: compactness, quantifier elimination, model companions

Philosophy of Mathematics/Philosophy of Logic

2022   Philosophy of Mathematics · *Toby Meadows, UCI*
Description: axiom justification, centered on Penelope Maddy's *Defending the Axioms*

2019   Wittgenstein's Philosophy of Logic II · *Penelope Maddy, UCI*
Description: Wittgenstein's mid to late works in his *Philosophical Investigations*, *Remarks on the Foundations of Mathematics*, and *On Certainty*

2018   Wittgenstein's Philosophy of Logic I · *Penelope Maddy, UCI*
Description: Wittgenstein's early works/transitional period in his *Tractatus*

Chance · *Brian Skyrms, UCI*
Description: the history, philosophy, and application of probability theory

Philosophy of Mathematics II · *Penelope Maddy, UCI*
Description: metaphysics and epistemology, including indispensability arguments, if-thenism, Benacerraf on truth, fictionalism, applied mathematics, Wigner, structuralism, and the cognitive science of mathematics

2017   Philosophy of Mathematics I · *Penelope Maddy, UCI*
Description: metaphysics and epistemology, including Kant, Frege, neo-logicism, formalism, intuitionism, Carnap, and Quine

Philosophy of Science

2021   Foundations of Classical Field Theories · *James Weatherall, UCI*
Description: introduction to differential geometry and classical field theory, the causal and topological structure of spacetime, and the relationships between general relativity and theories of force and matter

2019   Topics in Early Modern Philosophy · *Jeffrey Schatz, UCI*
Description: the philosophy of John Locke and Thomas Reid

2018   Foundations of Quantum Mechanics · *Jeff Barrett, UCI*
Description: the empirical phenomena that led to the adoption of quantum mechanics, the standard theory, the measurement problem, and various proposed resolutions

Naturalized Ethics · *Kyle Stanford, UCI*
Description: explaining human moral cognition in evolutionary terms

Pedagogy

2019   Advanced Pedagogy III · *Danny Mann, UCI*
Description: job searches, CV writing, cover letter writing, teaching philosophy writing, teaching portfolios, diversity statement writing, research statement writing, networking, and online presence

Advanced Pedagogy II · *Danny Mann, UCI*
Description: cognitive science of learning, assessment and grading, inclusive teaching, office hours and student communications, online teaching and Canvas,

Advanced Pedagogy I · *Danny Mann, UCI*
Description: teaching observations, feedback, course design, lesson planning, facilitating class