

Benjamin Coté

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EDUCATION

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

- 2016 PHD in Mathematics (expected, defending in June)
Dissertation: "*Affine complex reflection groups and associated braid-like groups*"
Advisor: Jon McCammond
Certificate in College and University Teaching

- 2012 MA in Mathematics

UNIVERSITY OF IDAHO

- 2010 BSC in Mathematics
2009 Putnam score of 20 (top 18% of 4036 participants)
Study abroad | Budapest Semesters in Mathematics
R.E.U. | Wabash Summer Institute in Mathematics
Honors Certificate, Dean's List

TEACHING & MENTORING AT UCSB

INSTRUCTOR OF RECORD

- 2015 Introduction to Higher Mathematics and Proofs
Inquiry Based Differential Equations (took over mid-quarter)
- 2013,2014 Mathematics for Elementary School Teachers

INSTRUCTOR, TWO WEEK PROGRAM FOR INCOMING FRESHMEN

- 2015 Integral Calculus
2014 Linear Algebra

TEACHING ASSISTANT

- 2010-2015 Inquiry-based Linear Algebra
Inquiry-based Differential Equations
Introduction to Higher Mathematics and Proofs
Mathematics for Elementary School Teachers
Topology
Differential and Integral Calculus
Linear Algebra
Differential Equations
Calculus for the Social Sciences

MENTOR

- 2013-2015 Transfer student mathematics mentor (4 students) | UCSB STEEM
2014 Mentor for undergraduate researcher | UC LEADS
2012-2014 Mentor for first year mathematics graduate students

RESEARCH INTERESTS

Geometric group theory | Coxeter and Artin groups, braid groups
Topology | mapping class groups, applied algebraic topology
Combinatorics | hyperplane arrangements, cluster algebras
Mathematics education | K-12, college level, inquiry-based

HONORS & AWARDS

2015 Department of Mathematics Graduate Student Teaching Award
 2015 AMS Sectional travel grant
 2014 Nominee: Academic Senate Outstanding Teaching Assistant Award
 2013 Nominee: Graduate Student Assoc. Excellence in Teaching Award
 2011 Honorable Mention: NSF Graduate Research Fellowship
 2009 Chair's Award for Excellence, Mathematics Dept. University of Idaho

TALKS, PANELS & PRESENTATIONS

DISCRETE GEOMETRY AND COMBINATORICS SEMINAR, UCSB

2015 "Conway's proof of the classification of surfaces"
 2014 "Factor groups of the braid group"
 "Oriented matroids"
 "Error-correcting codes, sphere packings, and simple groups"
 2013 "Real and complex reflection groups" (advancement to candidacy)
 "Cluster algebras, triangulations, and directed graphs"

UCSB MATH CIRCLE (FOR MIDDLE SCHOOL STUDENTS)

2015 "How to count, part II"
 "How to count, part I"

HYPATIAN SEMINAR, UCSB

2014 "Advise from experienced teaching assistants" (panel)
 "Crash course on TikZ"
 "How to pass qualifying exams" (panel)
 2011 "Zero-divisor graphs, cut-sets, maximal ideals"

TEACHING ASSISTANT ORIENTATION, UCSB

2013 "Teaching mixed-ability classes in math and science"

JOINT MATHEMATICS MEETING POSTER SESSION

2010 "Classification of Loops of Generalized Bol-Moufang Type"
 "Cut-Sets in Zero-Divisor Graphs"

INDIANA UNDERGRADUATE RESEARCH CONFERENCE

2009 "Classification of Loops of Generalized Bol-Moufang Type"
 "Cut-Sets in Zero-Divisor Graphs"

PUBLICATIONS

- 2011 *Cut-Sets in Zero-Divisor Graphs of Finite Commutative Ring* (with C. Ewing, M. Huhn, C.M. Plaut, and D. Weber), *Communications in Algebra*, **39** no. 8
Classification of Loops of Generalized Bol-Moufang Type (with B. Harvill, M. Huhn, and A. Kirchman), *Quasigroups and Related Systems*, **19** no. 2

SERVICE

- 2015 *Graduate Representative* | Mathematics Department Graduate Committee
 2013 *Teaching assistant trainer* | Mathematics Department
 2011-2013 *Organizer* | Graduate Student Topology Seminar
 2013 *Organizing committee* | Hypatian Seminar

PROFESSIONAL DEVELOPMENT & CONFERENCES ATTENDED

- 2015 AMS Western Sectional Meeting: Las Vegas
 College Preparatory Mathematics Teachers Conference
 Young Geometric Group Theory IV meeting
 2014 Workshop: Discovering the Art of Mathematics (inquiry-based learning)
 2012 MAA PREP IBL Workshop: using inquiry-based learning in courses for prospective teachers

PROFESSIONAL MEMBERSHIPS & AFFILIATIONS

UCSB Center for Mathematical Inquiry
 American Mathematical Society
 Mathematical Association of America
 Society for Industrial and Applied Mathematics