

Ivan Martino

Teaching Portfolio

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Teaching, mentoring and supervising are a relevant part of my academic activity. I have taught in several languages (English, Swedish, French and Italian) at University of Catania (2008-2009), at Stockholm University (2009-2014), at University of Fribourg (2014-2016) and at Northeastern University (From 2016). My teaching portfolio has a large spectrum of courses at any academic level. I have also experience in developing courses (e.g. *Extraseminars* course - Stockholm University, *Math Club* - Northeastern University).

Teaching Portfolio

At Northeastern University

- Autumn 2018 **Experiential Ed Directed Study - MATH4996 (Master level)**, *Advisor of Zheyang Yu.*
- Autumn 2018 **Introduction to mathematical reasoning – MATH 1365**, *Instructor*, Undergraduate course for mathematicians, Two hours per week and weekly homework corrections.
- Spring 2018 **Jr/Sr Honors Project – MATH4970-36155**, *Advisor of Jai Aslam.*
- Autumn 2017 **Math Club**, *Faculty Advisor for the Mathematical Club.*
- Spring 2017 **Jr/Sr Honors Project – MATH4970-38489**, *Advisor of Jai Aslam.*
- Autumn 2016 **Undergraduate research – Math 4020**, *Math Department consultant*, Mathematics Capstone course Undergraduate research – Math 4020.
- Autumn 2016 **Introduction to Mathematical Reasoning – MATH 1365**, *Instructor*, Undergraduate course, Three classes per week.

At University of Fribourg

- Spring 2016 **Algebra and Geometry II**, *Teaching Assistant*, Undergraduate course for mathematicians, Two hours per week and weekly homework corrections.
- Jan 24-29, 2016 **SM'ART - Borel Seminar 2016**, *Instructor*, *Lesson in Matroid Theory and Commutative Algebra*, Seminar on Matroids in Algebra, Repr. theory and Topology, Les Diablerets.
- Autumn 2015 **Algebra and Geometry I**, *Teaching Assistant*, Undergraduate course for mathematicians, Two hours per week and weekly homework corrections.
- Spring 2015 **The cohomology of toric varieties using shellability**, *Instructor*, Graduate minicourse in connection with the Thematic Semester in Topology.
- Spring 2015 **Resolution of singularities**, *Instructor*, Graduate minicourse in connection with the Thematic Semester in Topology.
- Spring 2015 **Introduction to toric varieties**, *Instructor*, Graduate minicourse in connection with the Thematic Semester in Topology.

Spring 2015 **Combinatorial methods in topology**, *Teaching Assistant*, Master/Graduate course for mathematicians, Two hours per week and weekly homework corrections.

Autumn 2014 **Mathematical methods in computer science (MMI)**, *Teaching Assistant*, Master course for for computer-scientists, Two hours per week and weekly homework corrections.

At Stockholm University

Mar-May 2014 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

Jan-May 2014 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

Oct-Dec 2014 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

2013-2014 **Kappa competition 2013**, *Mathematical Competition*, Sweden, 75 hours.

Jan-May 2013 **Matematik I**, *Teaching Assistant - Seminarisgruppen*, Undergraduate course for the class of science, Algebra, Linear Algebra and Analysis, 48 hours.

Jan-May 2013 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

Mar-May 2012 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

Jan-May 2012 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

Jan-May 2012 **Matematik I**, *Tutoring - Handledning*, Undergraduate course for the class of science, Algebra, Linear Algebra and Analysis, 40 hours.

Sept-Dec 2011 **Matematik I**, *Teaching Assistant - Räkneövning*, Undergraduate course for the class of science, Algebra, Linear Algebra and Analysis, one hour per week.

Oct-Dec 2011 **Matematik I**, *Tutoring - Seminarisgruppen*, Undergraduate course for the class of science, Algebra, Linear Algebra and Analysis, 48 hours.

Oct-Dec 2011 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

Jan-May 2011 **Matematik I**, *Tutoring - Handledning*, Undergraduate course for the class of science, Algebra, Linear Algebra and Analysis, 40 hours.

Oct-Dec 2010 **Matematik I**, *Tutoring - Handledning*, Undergraduate course for the class of science, Algebra, Linear Algebra and Analysis, 40 hours.

Oct-Dec 2010 **Optimization**, *Instructor*, Master course, 8 hours.

Oct-Dec 2010 **Advanced Seminar - Extraseminars**, *Instructor*, Undergraduate course for the class of science, Two hours per week and weekly homework corrections.

At University of Catania

2008-2009 **Geometria**, *Teaching Assistant*, Undergraduate course for mathematicians, 150 hours.

Supervisor and Mentor experience

Undergraduate level

During 2012, I have joined the Swedish International Development Cooperation Agency (SIDA) project for Mathematics. Stockholm University - together with the National University of Rwanda (NUR), Linköping University and SIDA - offers to supervise a Master project in Mathematics to some selected students at NUR. As a result of this effort, I have been thesis advisor of three students: Manishimwe Alexis (MSc, Measure Theory), Janvier Ndahimana Rukundo (MSc, Genetic Optimization) and Jean Harerimana (MSc, Crowd Motion).

I supervised for the Bachelor thesis Niklas Hedberg, a student of the Extraseminar course. I mentored another extraseminar student, Victor Lisinski, a promising Swedish mathematician who has been accepted for his PhD study in Oxford (Sept 2017).

In Autumn 2017, I was *Math Department consultant* and, later, *Bachelor thesis supervisor* of Jai Aslam. Jai was accepted into the *REU* at Cornell University directed by Florian Frick and he is a graduate student positions at North Carolina State University.

Finally, I have organized a *Research Experience for Undergraduates*, with Emanuele Macrì. I have the opportunity to mentor and supervise several exceptional students in their first step in the research world.

Currently, I am supervising **Alessio Borzì** and **Zheyang Yu** for research project.

My students

- Sept 2018 **Northeastern University**, *REU Student* – Alon Duvall, USA.
Together with Brian Hepler;
- Sept 2018 **Northeastern University**, *REU Student* – Timothy Jackman, USA.
Together with Whitney Drazen;
- Sept 2018 **Northeastern University**, *REU Student* – Walker Miller-Breetz, USA.
Together with Rahul Singh;
- Sept 2018 **Northeastern University**, *REU Student* – Benjamin Bonenfant, USA.
Together with Reuven Hodges;
- Sept 2018 **Northeastern University**, *REU Student* – Zheyang Yu, USA.
Together with Celine Bonandrini;
- Sept 2018 **Northeastern University**, *REU Student* – Kevin Su, USA.
Together with Jonier Antunes;
- Sept 2018 **Northeastern University**, *REU Student* – Christina Nguyen, USA.
Together with Whitney Drazen;
- Sept 2018 **Northeastern University**, *REU Student* – Noah Lichtblau, USA.
Together with Mikhail Mironov;
- Sept 2018 **Northeastern University**, *REU Student* – Felipe Castellano-Macias, USA.
Together with Alex Sorokin;
- May 2017 **BSc thesis advisor of Jai Aslam**, Northeastern University.
Thesis title: 'Group actions on Knots'.
- June 2016 **MSc thesis advisor of Jean Harerimana**, Stockholm University, National University of Rwanda and Linköping University.
Thesis title: 'Some mathematical models for Population Growth and Crowd Motion'.
- Nov 2013 **BSc thesis advisor of Niklas Hedberg**, Stockholm University.
Thesis title: 'Derivation of Runge-Kutta order conditions'.

- Oct 2013 **MSc thesis advisor of Manishimwe Alexis**, Stockholm University, National University of Rwanda and Linköping University.
Thesis title: 'Hausdorff's measure and the Isoperimetric problem'.
- Oct 2013 **MSc thesis advisor of Janvier Ndahimana Rukundo**, Stockholm University, National University of Rwanda and Linköping University.
Thesis title: 'Genetic Algorithms and their applications'.