

# Teaching Statement

I am very motivated to spend a considerable part of my workload in teaching and supervision-related activities. I am looking forward to being in charge of the programme and the organisation of a full course, having continuous interaction with new students every year, and having the opportunity of conveying the passion for discovery which motivated me throughout my studies. These are some of the main factors that drive me towards a future in academia.

## Teaching Approach

I deeply enjoy all aspects of the teaching process, and in those activities which involve interaction with students I focus my efforts on conveying **passion**. I believe that the crucial step in learning science, and in making the first steps towards one day becoming the scientists of tomorrow, is to learn how to be driven by genuine interest in the subject matter. While transmitting scientific concepts and factual knowledge with the necessary authority deriving from a higher level of education and experience, I believe that a friendly attitude towards students is the best way to provide them with enough motivation to learn. This is what I consider to be my mission as a teacher.

In order to create an enjoyable and positive atmosphere in the course, I take into account several factors that depend on the group of students the course is addressed to: among others, the diversity in **learning ability**, the willingness to **interact**, and the attitude towards **collaboration**.

In the first part of a course I particularly focus on understanding the personal learning capabilities of students, and if useful I may divide the class into several groups which could initially work at a different rate, e.g., by assigning extra facilitated homework, with the aim to obtain by mid-term a class which learns at a uniform rate. In order to foster the interaction between students and the teacher I sometimes begin frontal lectures by testing the background knowledge of the audience, adjusting the content of the session according to this information. In the future I would like to facilitate this process by testing new technologies such as instant polling by sms or smartphones, which enable a teacher to easily monitor the understanding of the class in real time and collect a set of questions that can be used for readjusting and structuring the ensuing lectures. I believe that personal work on the course material is extremely important in giving a student the right level of confidence necessary for the learning of scientific knowledge, and I believe the principal means of motivating such a process is frequent collaboration among students. I strongly encourage collaboration by giving assignments and homework that can be solved in small groups, and if possible I provide an on-line forum in which the course topics can be discussed among students with the occasional intervention of the teacher.

I strongly believe that the activity of teaching and tutoring is a never-ending learning experience for the teacher themselves. I constantly **monitor** the performance of the course by exchanging opinions with colleagues, and from feedback received from students, if necessary obtained by means of surveys. I plan to continuously **enhance** my teaching abilities by comparing with world-class courses (many of which are now available on the Internet), and by keeping up to date with the most recent teaching practices in computer science and related subjects.

I am looking forward to being in charge of a full course. In particular, I would enjoy putting together material from several different sources and structure it into a coherent presentation of a subject. Having taught interdisciplinary courses between economics and computer science, I have a good experience in combining material from different subjects and sources, and I am excited at the possibility of writing my own set of slides or a reader for a full course.

I have deeply enjoyed mentoring students in the past, and I have excellent communication skills that allowed me to work successfully with several different students at both undergraduate and graduate

level. I always have several research ideas and topics that students could pick up for their own research, and I am looking forward to getting more involved in the very rewarding and stimulating activity of supervising research students.

## Teaching Experience

### *Courses*

All the courses listed were taught as part of the MSc in Logic at the University of Amsterdam.<sup>1</sup> More information can be found at the following link: [www.math.unipd.it/~umberto/teaching](http://www.math.unipd.it/~umberto/teaching)

*Logical Frameworks for MultiAgent Aggregation* (lecturer), European Summer School in Logic, Language and Information, Tübingen, Summer 2014.

*Decision Making and Social Networks* (lecturer), PhD programme in Computer Science, University of Padova, Summer 2013.

*Computational Social Choice*, taught by Ulle Endriss in Spring 2009, Autumn 2010, Autumn 2011. Tasks: grading and occasional invited lectures, evaluation of final presentations and papers, around 10 students.

*Uncertainty and Decisions: from Individual to Group Choice*, July 2011 (one month course). Tasks: lecturer (with Stéphane Airiau), evaluation of final presentations and papers, 2 students.

*Introduction to Modal Logic*, taught by Johan van Benthem and Davide Grossi in Autumn 2010. Tasks: weekly tutorials, preparation and grading of homework, evaluation of final papers, webpage maintenance, more than 50 students.

*Recursion Theory*, taught by Piet Rodenburg in Spring 2010. Tasks: grading, webpage maintenance, around 15 students.

*Modern Classics in Social Choice Theory*, June 2009 (one month course). Tasks: co-organiser, evaluation of final presentations and papers, webpage maintenance, 5 students.

### *Supervision*

Supervisor of BSc in Mathematics projects at the University of Amsterdam: Andrea Rusman and Ottilia Kasbergen, "Judgment Aggregation", 2011; Thomas van de Leur and Tim Hoogeveen, "Approval Voting and Ternary Voting", 2011 (with Stéphane Airiau).

Member of the committee of three MSc in Logic theses at the University of Amsterdam: Vahid Hashemi, "Extracting Trends from Incomplete Ordinal Preferences", 2012; Ilan Frank, "Information and Representation in Computational Social Choice", 2011; Christian Geist, "Automated Search for Impossibility Theorems in Choice Theory: Ranking Sets of Objects", 2010.

### *Additional experience*

Attendance of training course at the Amstel Institute of the University of Amsterdam on *teaching strategies for teaching assistants* (around 20 hours).

Responsibility for the matching of teaching assistants to courses at department level, University of Amsterdam, from 2010 to 2012.

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<sup>1</sup> [www.illc.uva.nl/MScLogic](http://www.illc.uva.nl/MScLogic)