External Courses since 1986

Egon Börger

1. **Introduzione alla Programmazione e Scienza dei Calcolatori.**

   Graduate Architecture and Programming Course (25 lectures), 28.7.-30.8.1986, Università di Perugia, Italy.

2. **Informatica Teorica.**

   Advanced Ph.D. Course on Complexity Theory (20 lectures + 6 seminars) Scuola Matematica Interuniversitaria, Cortona, Italy, 5.7.-1.8.1987

3. **Informatica Teorica.**

   Advanced Course on Current Research in Theoretical Computer Science.

   Post-graduate School *Scuola di Specializzazione in Logica Matematica*, Universita di Siena, Italy, Winter Term 1987/88 (48 lectures)

4. **Calcolatori Elettronici.**

   Introductory Course on Architecture and Programming.
   Post-graduate Program of Accademia Navale, Livorno, Italy 1988/89

5. **Semantik für PROLOG.**

   Spezialvorlesung (16 hrs), June 1989, Universität Dortmund, Germany, Abteilung Informatik, Diplomanden-und Doktorandenseminar (Prof. H. Ganzinger, Prof. A. B. Cremers)

6. **Informatica Matematica.**

   Advanced Ph.D. Course (18 lectures + 7 seminars) on *Semantics of programming languages (Modula, Prolog, Occam)*, Scuola Matematica Interuniversitaria, Cortona, Italy, 9.7.-30.7.1989

7. **Computational Complexity of Logical Theories.**

   Ph.D. Course (12 Lectures), First International School for Computer Science Researchers, Acireale (Sicily) 20.11.-9.12.1989

8. **Semantique de Prolog et Prolog III.**

   Special Course (6 Lectures) to Groupe de Logique e Informatique, Faculte' des Sciences de Luminy (Marseille) and l'Universite' de Montpellier, France, 10.-19.9.1990

9. **Complexity of Logical Decision Problems and Finite Model Theory.**

   Introductory Course (10 hrs.), European School on Logic, Language and Information, Colchester (GB), 17.-28.8.1992

10. **Evolving Algebra Based Specification and Verification of Logic Programming Systems.**

    Ph.D. course (12 hrs.), 5th International School for Computer Science Researchers, Lipari (Sicily), 21.6.-3.7.1993

11. **Die Komplexität logischer Entscheidungsprobleme.**

    Ph.D. course (14 hrs.) at Graduiertenkolleg, Centrum für Informations- und Sprachverarbeitung, Universität München, Germany, May 1994.

12. **Die Methode der dynamischen Algebren zur Sicherung der Qualität von Software.**

    Ph.D. course (12 hrs.) at Institut für Informatik und Gesellschaft, Universität Freiburg/Brsg., Germany, September 1994.

13. **Formale Methoden zur Spezifikation und Implementierung von Programmiersprachen.**

    Vorlesung für Studenten höherer Semester (24 Std.), TU Wien, Austria, Mai 1995.

14. **Evolving Algebras.**

    Intensive mini-course, held jointly with Yuri Gurevich at BRICS, University of Aarhus, Danemark, August 7–10, 1995.

15. **Hardware specification, design and verification using Abstract State Machines.**

    Ph.D. course (12 hrs.), 9th International School for Computer Science Researchers, Lipari (Sicily), June-July 1997.

16. **Specification, design and verification methods in hardware and software engineering.**

    Ph.D. course (10 hrs.) at Graduiertenkolleg TU Dresden, Germany, July 1997.

17. **Using Abstract State Machines for specification, analysis and design of industrial software.**

    Industrial Tutorial (20 hrs.), Fabbrica Servizi Telematici, Gruppo Atlantis, Cagliari (Italy) 19.-23.7.1999 and DIRON Software House, Muenster (Germany) April 1999.

18. **Using Abstract State Machines in Requirements Engineering.**

   Tutorial, Fourth IEEE International Conference on Requirements Engineering (ICRE'2000), Schaumburg, Illinois/USA (June 19-23, 2000)

19. **Tutorial on the employment of Abstract State Machines for industrial software design.**

   5th NASA Langley Formal Methods Workshop (Lfm2000), Williamsburgh, Virginia/USA (June 13-15, 2000)

20. **Reliable Software Development Using Abstract State Machines.**

   Course (5 hrs.) for the School on "Formalware Engineering" (Formal Methods for the Engineering of Software), held at CISM, Udine, September 24-28, 2001.

21. **Using Abstract State Machines for Requirements Engineering.**

   Ph.D. course (8 hrs.), 14th International School for Computer Science Researchers (Software Technology), Lipari (Sicily), July 2002.

22. **High-Level Modeling Patterns.**

   Ph.D. course (8 hrs.), 19th International School for Computer Science Researchers on *Advances in Software Engineering*, Lipari (Sicily), July 2007. See Springer LNCS 5316 (2008).

23. **Einführung in die Abstract State Machines-Methode.**

   CS, TU Braunschweig, 6 lectures, May 2011

24. **Using Abstract State Machines for Modeling Embedded Systems.**
   PhD Course at Department of Engeneering, University of Pisa, June/July 2012

25. **Approaches to Systems Modeling.**
   PhD Course at Computer Science Department, University of Pisa, January **2014** and March **2018**

26. **Abstract State Machines Kurs fuer Softwareentwickler.**

   FH Oberösterreich, Fakultät für Informatik, Kommunikation und Medien, Hagenberg bei Linz (Austria), 24 lectures, 28.3.-15.4.**2011**, 13.-30.3.**2012**, 5.3.-21.3.**2013**, 25.3.-10.4.**2014**, 5.-22.5.**2015**, 21.3.-6.4.**2017**, 24.4-8.5.**2018**, 26.3.- 11.4.**2019**

27. **Rigorous Specification Methods.**
   PhD Course at Computer Science Department, University of Pisa, 16 lectures, February 2021

28. **Modeling Programming Language Constructs**.
PhD Course at Computer Science Department, University of Pisa, 18 lectures, March 2022