Courses and Seminars Taught

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1969-1971
Teaching assistance for graduate and undergraduate courses in applied and numerical analysis (including e.g. writing lecture notes).
Course(s): ALGOL-60 (for students).
Course: "Applied analysis" (undergraduate).
Seminar contributions: on formal languages and automata theory, semantics, and machine-models (Rozenberg).

1971-1972
Seminar: "Principles of programming language design" (jointly with Th.A. Zoethout).
Course: "Algorithms and programming" (graduate, partly together with W.P. de Roever).

1973-1974
Course: "Fundamentals of computer mathematics" (CS 491/591, undergraduate and graduate, at SUNY Buffalo).
Course: "Introduction to computers and programming" (CS 113, FORTRAN-PASCAL based, freshmen and sophomores, at SUNY Buffalo).
Seminar: "Algorithms and complexity" (CS 792, graduate, at SUNY Buffalo).

1974-1975
Course: "Introduction to the analysis of computer-algorithms" (graduate, Utrecht University).
Study group: "Recent advances in the theory of formal languages" (organized together with P.M.B. Vitanyi, Mathematical Centre Amsterdam).
Seminar: "Algebraic complexity theory" (organized together with P. van Emde Boas, Mathematical Centre Amsterdam).

1975-1976
Course: "Introduction to computer and programming" (CS 113, MNF-PASCAL based, freshmen and sophomores, at SUNY Buffalo).
Course: "Formal languages and automata" (CS 681, graduates, at SUNY Buffalo).
Course: "Introduction to the theory of computation" (CS 496/596, undergraduate and graduate, at SUNY Buffalo).
Lectures: on finite rings and computer-arithmetic (Math Dept, SUNY Buffalo).
Seminar: "Languages and complexity" (CS 682, graduates, at SUNY Buffalo).
Advanced course: "The complexity of data organization" (in 2nd Advanced Course on the

Foundations of Computer Science, May 31 - June 11, 1976 at the Mathematical Centre Amsterdam).

1976-1977
Course: "Computer organization and programming" (IBM 360/370 Assembler Language programming, CMPSC 102, at Pennsylvania State University).
Course: "Introduction to computer programming with business applications" (PL/C programming, CMPSC 403, at Pennsylvania State University).
Seminar: "Forum on computational complexity" (together with D. Johnson, P. Downey and J. Seiferas, at Pennsylvania State University).
Course: "Structures of programming languages" (compilation of the recursive model-language PL/420, coverage of parsing techniques, LISP, ALGOL 68, and two-level grammars, CMPSC 420, at Pennsylvania State University).

1977-1978
Course: "Introduction to database systems" (graduates), Utrecht.
Course: "Introduction to operating systems" (graduates), Utrecht.
Research seminar: "Analysis of algorithms" (at the Mathematical Centre, organized together with P. van Emde Boas and P. Vitanyi).
Study group contributions: on L-languages (Rozenberg).
Course: "Complexity of algorithms" (graduates).

1978-1979
Course: "Analysis of algorithms" (graduates).
Course: "Computers and information processing" (freshmen).
Research seminar: "Analysis of algorithms" (at the Mathematical Centre, organised with P. van Emde Boas and P. Vitanyi).
Course: "Introduction to database systems" (graduates).

1979-1980
Course: "Complexity of algorithms" (graduates, emphasis on computational geometry).
Research seminar: "analysis of algorithms" (at the Mathematical Centre, organized with P. van Emde Boas and P. Vitanyi).
Course: "Introduction to operating systems" (graduates).
Course: "Computers and information-processing" (freshmen, PASCAL-based).

1980-1981
Course: "Analysis of algorithms" (graduates, emphasis on graph algorithms and network flow).
Research seminar: "Analysis of algorithms" (at the Mathematical Centre, with P. van Emde Boas and P. Vitanyi).
Course: "Theory of computation" (sophomores).
Course: "Introduction to operating systems" (graduates).

1981-1982
Course: "Complexity of algorithms: (graduates, emphasis on VLSI and chip complexity).
Research seminar: "Analysis of algorithms" (at the Mathematical Centre, with P. van Emde Boas and P. Vitanyi).
Course: "Fundamental algorithms" (freshmen).

Course: "Introduction to operating systems" (graduates).

1982-1983
Course: "Analysis of algorithms" (graduate, emphasis on parallel algorithms).
Research seminar: "Analysis of algorithms" (at the Mathematical Centre, with P. van Emde Boas and P.Vitanyi, until 1982).
Course: "Fundamental algorithms" (freshmen).
Course: "Introduction to operating systems" (graduates).

1983-1984
Course: "Complexity of algorithms" (graduates, emphasis on combinatorial algorithms).
Seminar: "Distributed algorithms" (graduates).
Lecture series: "Routing methods in computer networks" (in the Winterschool of the Finnish Society for Information Processing Science, Lammi, Jan. 3-6).
Course: "Fundamental algorithms" (freshmen).
Course: "Introduction to operating systems" (graduates).

1984-1985
Course: "Achtergronden informatica" (1st semester, 1st-year students, emphasis on special scientific problems and solutions).
Course: "Analysis of algorithms" (graduates, emphasis on cryptographic techniques and protocols).
Short course: "Programming principles" (for managers, at Philips AT &T in Hilversum).
Course: "Distributed methods" (graduates, emphasis on distributed algorithms and protocols).

1985-1986
Course: "Complexity of algorithms" (graduates, emphasis on asynchronous systems, resilient protocols, and clock synchronization).
Lecture series: "The design and analysis of network protocols" (in SOFSEM 85, Zdiar).
Course: "Formal languages" (2nd year students, emphasis on grammars and parsing).
Course: "Distributed methods" (graduate level).
Lecture series: "Distributed algorithms and protocols" (as Distinguished Lecturer at the University of California, Santa Barbara).

1986-1987
Course: "Analysis of algorithms" (graduate level, emphasis on the theory and algorithms of linear programming).
Seminar: "Artificial intelligence" (graduate level).
Course: "Cryptography" (advanced undergraduate level).
Course: "Distributed methods" (graduate level, emphasis on fault-tolerant algorithms and clock synchronization).

1987-1988
Course: "Complexity of algorithms" (graduate level, emphasis on structural complexity theory).
Seminar: "Distributed methods" (graduate level, emphasis on distributed time, together with H.L. Bodlaender and G. Tel).
Course: "Distributed methods" (graduate level, together with H.L. Bodlaender).

1988-1989
Course: "Formal methods" (2nd year students, emphasis on logic, theorem proving and Prolog).
Course: "Linear programming" (graduate level).
Short course: "NC, P and OR" (Forskerkursus on discrete optimization, Aarhus).
Seminar: "Distributed algorithms" (graduate level, devoted to specification and design techniques of robust distributed algorithms, together with H.L. Bodlaender and G. Tel).
Course: "Structural complexity theory" (graduate level).

1989-1990
Course: "Formal methods" (2nd year students, emphasis on computability theory, logic, theorem proving and Prolog).
Seminar: "Design of distributed algorithms" (graduate level, based on the book by Chandy & Misra, together with G. Tel).
Course: "Analysis of algorithms" (advanced undergraduate level, emphasis on probabilistic algorithms).

1990-1991
Course: "Formal methods" (2nd year students, emphasis on computability theory, logic, theorem proving and Prolog).
Course: "Analysis of Algorithms" (advanced undergraduate level, emphasis on probabilistic algorithms).
Course: "Project management" (graduates, general course on the design and implementation of software projects).

1991-1992
Course: "Formal methods" (2nd year students, emphasis on computability theory, logic, theorem proving and Prolog).
Seminar: "Cryptography" (graduates, based on the book by A. Salomaa).
Course: "Project management" (graduates, general course on the design and implementation of software projects).

1992-1993
Course: "Formal methods" (2nd year students, emphasis on computability, logic, semantics of programs, Hoare logic, recursive procedures, and program verification).
Course: "Probabilistic algorithms" (graduates, based on lecture notes of Karp and Raghavan).

1993-1994
Seminar: "Analysis of algorithms" (graduates, based on the dissertation of L.A. Goldberg on the design and analysis of efficient algorithms for listing combinatorial structures, together with J.A. La Poutré).
Course: "Probabilistic algorithms" (graduates, emphasis on randomized algorithms).
Course: "Discrete models I" (freshmen, taught by P.W.H. Lemmens, advisor - 'schaduwdocent')
Course: "Discrete models II" (freshmen, together with P.W.H. Lemmens, part on elementary probability theory).
Course: "Communicative skills" (in Dutch: "Overdragen van de Informatica", devoted to "25 years of software engineering", together with T. Herman, advanced undergraduates).

1994-1995
Course: "Complexity of algorithms" (graduates, based on the book by C.H. Papadimitriou, together with R. Tan and M. Veldhorst).
Course: "Communicative skills" (in Dutch: "Overdragen van de Informatica", devoted to "Distributed systems", together with P. van Haaften, for advanced undergraduates).
Courses: "Discrete models I & II" (freshmen, advisor, taught by P.W.H. Lemmens)

1995-1996
Course: "Communicative skills" (in Dutch: "Overdragen van de Informatica", devoted to "Programming in the nineties", together with M. Kuiper, advanced undergraduates).
Courses: "Discrete models I & II" (freshmen, advisor, taught by P.W.H. Lemmens, changed to "Concrete mathematics 1 & 2" in 1996)
Course: "Linear algebra (for computer science)" (2nd year students, advisor, taught by R. Bruggeman).
Course: "Randomized algorithms" (graduates, based on the book by Motwani and Raghavan).

1996-1997
Course: "Applied operations research" ("Toegepaste Operations Research", graduates, together with H.L. Bodlaender and M. Veldhorst).
Course: "Communicative skills" (in Dutch: "Overdragen van de Informatica", devoted to "Informatics and Operations Research", together with K.I. Aardal, for advanced undergraduates).
Course: "Linear algebra (for computer science)" (2nd year students, advisor, taught by R. Bruggeman).

1997-1998
Course: "Combinatorial optimization" (masterclass for graduate students, together with L.A. Wolsey and K.I. Aardal, section based on the book by G. Ausiello et al. on 'Complexity and Approximation').

1998-1999
Course: "Issues in Informatics and Management" (in dutch: "Caleidoscoop Informatica en Management", together with G. Tel, for freshmen).
Lecture: "The hardness of approximation problems" (in IPA course on "Algorithms and Complexity" for PhD students, full day lecture, Utrecht, Oct 5, 1998).
Course: "Combinatorial optimization" (together with K.I. Aardal, section based on the lecture notes of V.V. Vazirani on 'Approximation Algorithms', for advanced undergraduates).

1999-2000
Guest lectures: "Developments in IT", "IT and organizations", and "E-commerce" (in course "Introduction to informatics and management", for freshmen).

2000-2001
Course: "Approximation algorithms", (3rd year students, based on: G. Ausiello et al, "Complexity and approximation").
Guest lectures: "E-commerce", and "Operations research (in dutch: Besliskunde)" (in course "Introduction to informatics and management", caleidoscope, for freshmen).
Course: "Digital interactions", ('Digitale interacties', 3rd year students, based on: E. Turban et al, "Electronic commerce - A managerial perspective").

2001-2002
Course: "Introduction to informatics and management" (in conjunction with "Orientation on Informatics and Management", together with J.A. Hoogeveen, based on: D. Chaffey, 'E-business and E-commerce management", for freshmen).
Guest lecture: "Operations research (in dutch: Besliskunde)" (in course "Orientation on Informatics and management", for freshmen).
Course: "Approximation algorithms", (3rd/4th year students, based on: J. Hromkovic, "Algorithmics for hard problems - Introduction to combinatorial optimization, randomization, approximation, and heuristics").

2002-2003
Course: "Algorithmic modeling and complexity" (4th year students, MSc program Algorithmic Systems, scribe notes).
Course: "Approximation algorithms", (3rd/4th year students, with M. Veldhorst, seminar part for 4th year students, MSc program Algorithmic Systems).
Seminar (design): "Web modeling" (designed for 4th/5th year students, with S. Smit, MSc program Algorithmic Systems, but not taught).

2003-2004
Course: "Algorithmic modeling and complexity" (4th year students, MSc program Algorithmic Systems, scribe notes).

2004-2005
Course: "Algorithmic modeling and complexity" (4th year students, MSc program Algorithmic Systems, advisor, taught with M. Veldhorst).

2009-2010
Seminar: "Algorithms, games and the internet" (4th year students, MSc program Computing Science, based on: N. Nisan et al, "Algorithmic game theory").

2010-2011
Course: "Logica voor informatica" (for freshmen, BSc program Computer Science).
Seminar: "Algorithms, games and the internet" (4th year students, MSc program Computing Science, based on: N. Nisan et al, "Algorithmic game theory").

2011-2012
Seminar: "Algorithmic computational biology" (4th year students, MSc program Computing Science, based on: H-J. Böckenhauer and D. Bongartz, "Algorithmic aspects of bioinformatics").

2012-2013
Seminar: "Computational sustainability" (4th year students, MSc program Computing Science, with J.M. van den Akker and J.A. La Poutré).

2014-2015
Guest Lecture: "Shannon's Information Theory", in: "Informatieuitwisseling" (freshmen, BSc program Information Science, 26 November 2014).

2015-2016
Guest Lecture: "Shannon's Information Theory", in: "Informatieuitwisseling" (freshmen, BSc program Information Science, 17 December 2015).

Moderator: Student presentations, group in: 'Scheduling and timetabling' (4th year students, MSc program Computing Science, 14 June 2016).

2016-2017
Member: MSc thesis committee (P. Gramberg, 'Optimizing configurations to get the best of the cloud', 19 december 2016).
Moderator: Student presentations, group in: 'Scheduling and timetabling' (4th year students, MSc program Computing Science, 20 June 2017).

2019-2020
Moderator: Student presentations, group in: 'Scheduling and timetabling' (4th year students, MSc program Computing Science, 31 october 2019).