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Titolo	Network performance analysis / / Thomas Bonald, Mathieu Feuillet
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Collana	ISTE
Altri autori (Persone)	FeuilletMathieu
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Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title Page; Copyright Page; Table of Contents; Preface; Chapter 1. Introduction; 1.1. Motivation; 1.2. Networks; 1.3. Traffic; 1.4. Queues; 1.5. Structure of the book; 1.6. Bibliography; Chapter 2. Exponential Distribution; 2.1. Definition; 2.2. Discrete analog; 2.3. An amnesic distribution; 2.4. Minimum of exponential variables; 2.5. Sum of exponential variables; 2.6. Random sum of exponential variables; 2.7. A limiting distribution; 2.8. A ""very"" random variable; 2.9. Exercises; 2.10. Solution to the exercises; Chapter 3. Poisson Processes; 3.1. Definition; 3.2. Discrete analog 3.3. An amnesic process3.4. Distribution of the points of a Poisson process; 3.5. Superposition of Poisson processes; 3.6. Subdivision of a Poisson process; 3.7. A limiting process; 3.8. A ""very"" random process; 3.9. Exercises; 3.10. Solution to the exercises; Chapter 4.

Markov Chains; 4.1. Definition; 4.2. Transition probabilities; 4.3. Periodicity; 4.4. Balance equations; 4.5. Stationary measure; 4.6. Stability and ergodicity; 4.7. Finite state space; 4.8. Recurrence and transience; 4.9. Frequency of transition; 4.10. Formula of conditional transitions; 4.11. Chain in reverse time
4.12. Reversibility4.13. Kolmogorov's criterion; 4.14. Truncation of a Markov chain; 4.15. Random walk; 4.16. Exercises; 4.17. Solution to the exercises; Chapter 5. Markov Processes; 5.1. Definition; 5.2. Transition rates; 5.3. Discrete analog; 5.4. Balance equations; 5.5. Stationary measure; 5.6. Stability and ergodicity; 5.7. Recurrence and transience; 5.8. Frequency of transition; 5.9. Virtual transitions; 5.10. Embedded chain; 5.11. Formula of conditional transitions; 5.12. Process in reverse time; 5.13. Reversibility; 5.14. Kolmogorov's criterion; 5.15. Truncation of a reversible process
5.16. Product of independent Markov processes5.17. Birth-death processes; 5.18. Exercises; 5.19. Solution to the exercises; Chapter 6. Queues; 6.1. Kendall's notation; 6.2. Traffic and load; 6.3. Service discipline; 6.4. Basic queues; 6.5. A general queue; 6.6. Little's formula; 6.7. PASTA property; 6.8. Insensitivity; 6.9. Pollaczek-Khinchin's formula; 6.10. The observer paradox; 6.11. Exercises; 6.12. Solution to the exercises; Chapter 7. Queuing Networks; 7.1. Jackson networks; 7.2. Traffic equations; 7.3. Stationary distribution; 7.4. MUSTA property; 7.5. Closed networks
7.6. Whittle networks7.7. Kelly networks; 7.8. Exercises; 7.9. Solution to the exercises; Chapter 8. Circuit Traffic; 8.1. Erlang's model; 8.2. Erlang's formula; 8.3. Engset's formula; 8.3.1. Model without blocking; 8.3.2. Model with blocking; 8.4. Erlang's waiting formula; 8.4.1. Waiting probability; 8.4.2. Mean waiting time; 8.5. The multiclass Erlang model; 8.6. Kaufman-Roberts formula; 8.7. Network models; 8.8. Decoupling approximation; 8.9. Exercises; 8.10. Solutions to the exercises; Chapter 9. Real-time Traffic; 9.1. Flows and packets; 9.2. Packet-level model; 9.3. Flow-level model
9.4. Congestion rate

Sommario/riassunto

The book presents some key mathematical tools for the performance analysis of communication networks and computer systems. Communication networks and computer systems have become extremely complex. The statistical resource sharing induced by the random behavior of users and the underlying protocols and algorithms may affect Quality of Service.This book introduces the main results of queuing theory that are useful for analyzing the performance of these systems. These mathematical tools are key to the development of robust dimensioning rules and engineering methods. A number of examples i

2. Record Nr. UNINA9910410017603321

Titolo	Science Teacher Education for Responsible Citizenship : Towards a Pedagogy for Relevance through Socioscientific Issues / / edited by Maria Evagorou, Jan Alexis Nielsen, Justin Dillon
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ISBN	9783030402297 3030402290
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (xv, 199 pages) : illustrations
Collana	Contemporary Trends and Issues in Science Education, , 1878-0784 ; ; 52
Disciplina	303.483
Soggetti	Science - Study and teaching Teachers - Training of Study skills Science Education Teaching and Teacher Education Study and Learning Skills
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. Introduction: Socio-scientific issues as promoting responsible citizenship and the relevance of science (Maria Evagorou and Justin Dillon) -- Chapter 2. Teachers and Socioscientific Issues – An Overview of Recent Empirical Research (Jan Alexis Nielsen) -- Chapter 3. Pre-service secondary science teachers' beliefs about teaching socio-scientific issues (Jessica S. C. Leung, Ka Lok Wong, and Kennedy K. H. Chan) -- Chapter 4. Socio-scientific inquiry-based learning: possibilities and challenges for teacher education (Ruth Amos, Marie-Christine Knippels and Ralph Levinson) -- Chapter 5. Critical and Active Public Engagement in Addressing Socioscientific Problems Through Science Teacher Education (Larry Bencze, Sarah El Halwany and Majd Zouda) -- Chapter 6. Supporting Teachers in the Design and Enactment of Socio-Scientific Issue Based Teaching in the USA (Patricia J. Friedrichsen, Troy D. Sadler and Laura Zangori) -- Chapter 7.

Gamification of SSI’s as a Science Pedagogy: Toward aCritical Rationality in Teaching Science (James P. Davis and Alberto Bellocchi) -- Chapter 8. Science teachers as proponents of socio-scientific inquiry-based learning: From professional development to classroom enactment (Rachel Cohen, Eran Zafrani and Anat Yarden) -- Chapter 9. Getting ready to work with socio-scientific issues in the classroom: a study with Argentine teachers (Melina Furman, Inés Taylor, Mariana Luzuriaga and María Eugenia Podestá) -- Chapter 10. Introducing SSI in primary pre-service teacher education: scientific practices to learn the ‘big ideas’ of science (Anna Garrido Espeja and Digna Couso) -- Chapter 11. Re-thinking the Integration of Socioscientific Issues in Teacher Education (Ronicka Mudaly) -- Chapter 12. New Perspectives for Addressing Socioscientific Issues in Teacher Education (Jan Alexis Nielsen, Maria Evagorou and Justin Dillon).

Sommario/riassunto

This edited book aims to provide a global perspective on socioscientific issues (SSI), responsible citizenship and the relevance of science, with an emphasis on science teacher education. The volume, with more than twenty-five contributors from Africa, North and South America, Asia, Australasia and Europe, focuses on examples from in- and pre-service teacher training. The contributors expand on issues related to teachers’ beliefs about teaching SSI, teachers’ challenges when designing and implementing SSI-related activities, the role of professional development, both in pre- and in-service teacher training, in promoting SSI, the role of the nature of science when teaching SSI, promoting scientific practices through SSI in pre-service teaching, and the role of indigenous knowledge in SSI teaching. Finally, the book discusses new perspectives for addressing SSI in teacher education through the lens of relevance and responsible citizenship.