UNIVERSITY OF SOUTHERN CALIFORNIA

COMPUTER ENGINEERING

SCREENING EXAMINATION

EE 554

CYBER-PHYSICAL SYSTEMS: A COMPUTING PERSPECTIVE

SUGGESTED READING

- R. Alur, Principles of Cyber-Physical Systems, MIT Press, 2023 (also 2015 edition is good).
- S. Mitra, Verifying Cyber-Physical Systems: A Path to Safe Autonomy, MIT Press, 2021.
- E.A. Lee and S.A. Seshia, Introduction to Embedded Systems - a Cyber Physical Systems Approach, MIT Press, 2019.
- P. Marwedel, Embedded system design: embedded systems foundations of cyber-physical systems, and the internet of things, Springer Nature, 2021.
- L. Andrade and F. Rousseau, Multi-Processor System-on-Chip, John Wiley & Sons, 2021.
- S. Roy and S.K. Das, Principles of Cyber-Physical Systems: An Interdisciplinary Approach, Cambridge University Press, 2020.
- A. Platzer, Logical foundations of cyber-physical systems, Springer, 2018.
- Y. Xiao, S. Nazarian, and P. Bogdan, "Self-optimizing and self-programming computing systems: A combined compiler, complex networks, and machine learning approach", IEEE Transactions on Very Large Scale Integration (VLSI) Systems 27, no. 6, pp. 1416-1427, 2019.
- Y. Xue, J. Li, S. Nazarian, and P. Bogdan, "Fundamental challenges toward making the iot a reachable reality: A model-centric investigation", ACM Transactions on Design Automation of Electronic Systems (TODAES) 22, no. 3, pp. 1-25, 2017.

- U.Y. Ogras and R. Marculescu, Modeling, analysis and optimization of network-on-chip communication architectures, Springer Science & Business Media, 2013.
- T. Basten, R. Hamberg, F. Reckers, and J. Verriet, Model-Based Design of Adaptive Embedded Systems, Springer 2013.
- A. Sangiovanni-Vincentelli, H. Zeng, M. Di Natale, and P. Marwedel, Embedded Systems Development: From Functional Models to Implementations, Springer 2013.
- D. Kleidermacher and M. Kleidermacher, Embedded Systems Security: Practical Methods for Safe and Secure Software and Systems Development, Elsevier, 2012.
- W. Dally and B. Towles, Principles and Practices of Interconnection Networks, Elsevier, 2004.
- J. Duato, S. Yalamanchili, and L.M. Ni, Interconnection Networks: An Engineering Approach, Morgan Kaufmann, 2003.

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Please be aware that these references are for guidance in BASIC knowledge. Ph.D. candidates are screened on the basis of talent, course knowledge, independent reading and experience.

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