

**Major Field of Comprehensive Examination**

FPGAs and microcontrollers applications

**Syllabus**

Application fields of FPGAs and microcontrollers. High complexity programmable logic devices (FPGA) characteristics'. Advanced and efficient design methods. Hardware-software codesign. IP (Intellectual Property) based design. Embedded systems using FPGA circuits and microcontrollers

**Bibliography**

1. E. A. Lee and S. A. Seshia, Introduction to Embedded Systems - A Cyber-Physical Systems Approach, <http://LeeSeshia.org>, 2011
2. Peter Marwedel, Embedded System Foundations of Cyber-Physical Systems, 2nd Edition, Springer 2011, XXI, 400 oldal, ISBN 978-94-007-0256-1
3. Dennis Silage, Trends in Embedded Design Using Programmable Gate Arrays, Bookstand Publishing 2013, 320 oldal, ISBN 978-1-61863-541-9
4. Vahid, Frank; Givargis, Tony: Embedded System Design – A Unified Hardware/Software Introduction, John Wiley & Sons, 2002, 352 oldal, ISBN 0-471-38678-2
5. Tammy Noergaard, Embedded Systems Architecture, 2nd Edition, Elsevier, 2012, 768 oldal, ISBN: 9780123821966