

(SYLLABUS)

1.

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|----------------------|-------------------------------|--------------|----------------------------|-------------------------|-----------------|
| (Course Title) | | (Instructor) | | | |
| (Year) | 2023 | (Semester) | 2 | (Course No.) | 2150078701 |
| (Class) | 01 | (Open to) | 2, 3, 4 | (Course Classification) | - |
| (Credit) | 1.0 | | 02 | | 100 |
| | | | | | |
| (Office) | 403 | (Telephone) | 02-820-0976 | (e-mail) | roger@ssu.ac.kr |
| | | | | | |
| | (*) (ABEEK Classification) | | (*) (ABEEK Requirement) | | |
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| | | | | | |
| (Course Description) | FPGA, Verilog | | | | |

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| Verilog Programming | |
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| 가 | (100) | (100%) |
| | 100 | 20 |
| | 100 | 20 |
| | 100 | 50 |
| | 100 | 10 |

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| (Required Texts) | | * / PPT |
| | () | * /Digital Design: With an Introduction to the Verilog HDL, VHDL and System Verilog/M.Morris Mano, Michael Ciletti/Person/2017/6th |
| | ARTY-S7 FPGA , Dual-7 Segment | |
| | - (4) 9 1 10 20 15:00~19:00 2 - , 2 . - | |

2.

| (Week) | (Keyword) | (Description) | | (Texts) |
|--------|--|--|---------------|---------|
| 01 | , Vitis-vivado | , | , , , , , , , | |
| 02 | , Function Generator, DC | | , , , , , , , | |
| 03 | Vitis-vivado, Arty-S7, Spartan-7 | , vitis-vivado | , , , , , , , | |
| 04 | , , Verilog HDL | | , , , , , , , | |
| 05 | Test bench, mux, demux,, Verilog-HDL | Test bench, mux, demux, RTL Analysis, Data flow, Behavioral modeling | , , , , , , , | , |
| 06 | Decoder and encdoer | Decoder and encoder | , , , , , , , | , |
| 07 | 7 Segment, common anode, Common cathode | 7 Segment driver | , , , , , , , | , |
| 08 | | 가 | | 1~7 |
| 09 | D-Latch, D-Flip/Flop | D-Latch, D-F/F | , , , , , , , | , |
| 10 | Register, multi-function Register | | , , , , , , , | , |
| 11 | FSM, Moore and Mealy State diagram | FSM | , , , , , , , | , |
| 12 | Counter, Frequency divider, BCD(Binary coded decimal) | | , , , , , , , | , |
| 13 | System block diagram, mux, BCD to dual BCD, BCD to 7-segment | Two digit decimal counter | , , , , , , , | , |
| 14 | Up/down counter | Up/down 2-digit counter | , , , , , , , | , |
| 15 | | 가 | | 9~14 |

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| | Open-ended problem | | |
| | Teamwork | | |
| | Communication skills | | |