Make a Chip that Sees
Student Handouts

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Make a Chip That Sees in 13 Weeks

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Spring Break

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Week 13
Week 1: Silicon Manufacturing and Design Rules

Key Ideas:

Notes:
Week 2: MOS transistors, Photodetectors and Models

Key Ideas:

Week 3

Week 4

Week 5

Week 6

Spring Break

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Week 13

Notes:
Week 3: MOS transistor abstraction as a switch, the inverter
Week 4: Complex CMOS gates

Notes:

Key Ideas:

Week 5

Week 6

Spring Break

Week 8

Week 9

Week 10

Week 11

Week 12

Week 13

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Week 5: State Holding and Sequential Circuits (I)

Key Ideas:

Week 13

Week 12

Week 11

Week 10

Week 9

Week 8

Spring Break

Week 6

Week 11

Week 12

Week 13

Week 5

Week 3

Week 5

Week 6

Spring Break

Week 8

Week 9

Week 10

Week 11
Week 8: Interconnects, Area, Delay and Power

Key Ideas:

- Week 13
- Week 12
- Week 11
- Week 10
- Week 9
- Spring Break
- Winter Finals
- Week 10
- Week 9
- Week 8
- Week 7
- Week 6
- Week 5
- Week 4
- Week 3
- Week 2
- Week 1

Notes:
Week 9: CMOS arithmetic units

Key Ideas:

Week 13

Spring Break

Week 12

Week 11

Week 10

A B

FA

C_in

C_out

Sum
Week 11: Data converter circuits

Key Ideas:

Week 13

Week 12

Spring Break

ANALOG INPUT  A/D  DIGITAL OUTPUT

A  B

C_{out}  FA  C_{in}

Sum

Notes:
Week 12: System architecture and floor planning

Key Ideas:

Week 13

Spring Break

Notes:
Week 13: Final system integration in padframe

Notes:

Key Ideas:

Week 13

Spring Break