

# Microfabrication 2019 updated

Date	Topic of lecture	Exercise (H=home; S=spot)	Teacher	Related to book:
26 Feb	Introduction Litho & etching Silicon	Give wafers !!	SF SF VO	Chapter 1 Chapters 9,11 Chapter 4
5 March	Thin films  Cleaning & cleanroom & safety	S1: Thin film, litho & etch	SF VO, SF VO SF	Chapter 5 Chapters 12, 35
12 March	Oxidation Lab device	H1: thin film, litho, etch	RU VO SF	Chapter 13
19 March	Doping (incl. Epi)	<b>INTO THE LAB</b> H2: resistors, caps S2: oxidation & doping	NI VO VO, SF	Chapters 14,15 Chapter 25
26 March	Bonding & CMP Integration	H3: oxide, doping, integration	NI & RU VO VO	Chapters 16,17
2 April	CMOS	H4: lab reports S3: CMOS starters	JH VO	Chapter 26
9 April	<b>exam week, no teaching</b>			
17 April	MEMS 1 (etch) MEMS 2 (surface)	H5: CMOS	VO SF SF	Chapters 20, 21 Chapter 29
24 April	MEMS 3 (bulk)	H6: MEMS basics S4: MEMS 1	SF SF SF	Chapter 30
1 May	no teaching			
8 May	Yield & economics	H7: MEMS advanced S6: MEMS 3	SF SF SF	Chapters 36,37
15 May	Scaling Nano-CMOS & Moore's law	H8: yield and economics	SF SF VO	Chapters 26, 38 Chapter 38, 39

Evaluation:	Points Breakdown	Threshold	Hours
<i>Exam</i>	60 5 questions	40% = 24 p	3
<i>Homeworks 1-3, 5-8</i>	28 4 p/home	40% = 13 p	32
<i>Lab homework #4</i>	4 4 p/report	compulsory	8
<i>Spot exercises 1-6</i>	15 3 p/spot		6
<i>Self-study: Introduction to Microfabrication</i>			69
<i>Lectures</i>			17
<b>Total</b>	<b>107</b>		<b>135</b>

Note bonus possibility !  
Grading based on 100 points.



*4 hours homework/exercise*

*4 h lab + 4 h report*

*22 book chapters*

hours