

Developmental Biology 020.363

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Text: Developmental Biology (Gilbert)
10th or 11th edition, readings listed for both

		11th Edition	10th Edition
Part 1: Starting Off Right			
Jan 28	An overview of development.	MVD Chpts 1 and 3	Chpts 1 and 2
	30 Systems and tools for studying Development.	MVD Chpts 1 and 3	Chpts 1 and 2
Feb 1	Cellular potency and epigenetics	MVD Chpt 3	Chpt 2
	4 Pluripotent Stem Cells	MVD 143-149;391-396;	Pp 298-303 (esp. Sidelight), 327-331
	6 Germ cell development.	MVD pp 239-248	pp 140-149
	8 Fertilization.	MVD	Chpt 17
	11 Polarity in the Zygote and early Cleavage.	MVD pp 265-272	pp 170-176
	13 Genetics as a tool to study development.	MVD	
Part 2: Specifying Cell Identity			
	15 Maternal control of axis formation.	MVD 284-293	194-201
	18 Transcriptional control of pattern formation.	MVD Chpts 3 and 9	Chpts 2 and 6
	20 Cell-cell communication and Morphogens.	MVD Chpts 4 and 9	Chpts 3 and 6
	22 Shaping morphogen gradients: Dorsal/ventral patterning in Drosophila.	MVD Chpt9	Chpt 6
	25 Hox genes and control of anterior-posterior cell identity.	MVD Chpt 9	Chpt 6
	27 First Exam (includes up through Friday Feb 22)		
March 1	Generating cell type diversity: the Drosophila nervous system.	MVD	
Part 3: Morphogenesis and Organogenesis			
	4 The germ layers and D/V axis patterning in vertebrates.	MVD Chpt 11	Chpt 8
	6 The cell biology of morphogenesis.	MVD Chpt 4	Chpt 3
	8 Gastrulation in Vertebrates I.	MVD Chpt 11	Chpt 8
	11 Gastrulation in Vertebrates II.	MVD Chpt 12	Chpt 9
	13 Timing in organogenesis: somite formation	MVD pp 539-559	pp 413-424
	15 Transcriptional control of cell differentiation: muscle development	CN 139;364,365;390-391;404-406	298-299; 317
JHU Spring Break March 18-22			
	25 Neurulation and CNS Patterning	CN 97-104;415-435	74-76; 333-342
	27 Guidance of Cell Migration and Axonal Pathfinding	CN 488-507	394-413;78
	29 Patterning the Left/Right Axis and Planar Cell Polarity	CN 560-570;575-580	423-431
April 1	Cell Migration and Differentiation: Neural Crest	CN 415-435	373-383
	3 Second Exam (includes up through Monday April 1)		
	5 Organ patterning: limb development.	CN 613-631	485-496
	8 Organ patterning: Integrating Patterning signals in Limb Development	CN 635-644;707-717	500-507; 571-573
	10 Regeneration	CN 693-698;	568-579
	12 Branching Morphogenesis and Kidney Development	CN 582-591	438-447; 72-75
	15 Endodermal Organs: Pancreas Development, Homeostasis and Disease.	MVD pp 653-666	pp 476-484
	17 Adult Stem Cells: Hematopoiesis.	MVD pp 143-148; 161-164; 601-609	pp 460-471
	19 Control of Organ Size and Allometric Growth	CN 572-575; web topic 26.3; 139-140	514-516; 705; 301
Part 4: Special Topics			
	22 Sex determination in Drosophila and the genetics of behavior.	MVD Chpt 6	Chpt 15
	24 Sex determination in mammals. Primary and secondary sex determination.	MVD Chpt 6	Chpt 15
	26 Regulation of Development by small RNAs.	MVD pp 80-83	pp 61-65
	29 Aging and the Insulin Cascade	CN 723-731	579-583
May 1	Transgenerational Developmental Diseases	CN 753-754	654-655
	3 Evolution and Development.	CN 785-799	689-694; 699-705

FINAL (non-cummulative)