

The course content is divided into 7 Modules. Each module has its own folder on the Canvas website. Each module contains several chapters from the textbook **Molecular Biology: Principles of Genome Function, 2nd Edition, Craig et al., Oxford:**

- Module 1** Introduction (Ch 1, 2)  
**Module 2** Basic Methods in Molecular Biology (Ch 19)  
**Module 3** Chromosome structure and function (Ch 4)  
**Module 4** Transcription (Ch 4, 8, 9, 10)  
**Module 5** Translation (Ch 11, 12, 13)  
**Module 6** Genomics (Ch 18, Ch 19)  
**Module 7** Replication and DNA repair (Ch 6, 15, 16)

Please see **Course Overview** on Canvas for additional details

**Tentative schedule (topics are subject to change – exam dates will NOT change)**

DATE	TOPIC	READING	PROF
M 8/21	Class objectives and overview <b>Module 1</b> Introduction	Ch 1	Yao
W 8/23	<b>Module 1</b> Introduction	Ch 2, Ch 19 (1, 2)	Yao
M 8/28	<b>Module 2</b> Basic Methods in Molecular Biology	Ch 19 (3, 4, 6, 7)	Yao
W 8/30	<b>Module 2</b> Basic Methods in Molecular Biology		Yao
M 9/4	<b>Labor Day</b>		
W 9/6	<b>Module 3</b> Chromosome structure and function	Ch 4	Yao
M 9/11	<b>Module 3</b> Chromosome structure and function		Yao
W 9/13	<b>Module 3</b> Chromosome structure and function		Yao
M 9/18	<b>Module 4</b> Transcription	Ch 8	Yao
W 9/20	<b>FIRST EXAM: Exam material includes content covered till 9/13: Modules 1-3</b>		Yao
M 9/25	<b>Module 4</b> Transcription		Yao
W 9/27	<b>Module 4</b> Regulation of transcription	Ch 9	Yao
M 10/2	<b>Module 4</b> Regulation of transcription		Yao
W 10/4	<b>Module 4</b> RNA processing	Ch 10	Yao
M 10/9	<b>Module 4</b> RNA processing		Yao
W 10/11	<b>SECOND EXAM: Exam material includes content covered till 10/11: Modules 1-4</b>		Yao
M 10/16	<b>Module 5</b> Translation I – key players	Ch 11 Ch 12	Stargell
W 10/18	<b>Module 5</b> Translation II – four steps		Stargell
M 10/23	<b>Module 5</b> Translation III - regulation of translation		Stargell
W 10/25	<b>Module 5</b> Translation IV - regulatory small RNAs	Ch 13	Stargell
M 10/30	<b>Module 5</b> Translation V - methods of studying translation	p839, Ch12.1 EA;	Stargell

		Ch12.3;Ch13.2 EA; p808 –10	
W 11/1	<b>Module 6</b> Genomics I – Genetic Variation	18.1 – 18.5	Stargell
M 11/6	<b>Module 6:</b> Genomics II – Methods and Finding Functions		Stargell
W 11/8	<b>THIRD EXAM: Exam material includes content covered till 11/3: Modules 1-5 + Genomics I</b>		
	****Friday November 10 <sup>th</sup> “W”, Repeat/repair deadline ****		
M 11/13	<b>Module 6</b> Genomics III – Copy number and structural variations	18.6 – 18.11	Stargell
W 11/15	<b>Module 6</b> Genomics concluded	Ch 19.15	Stargell
11/20-24	<b>FALL BREAK</b>		
M 11/27	<b>Module 7</b> Replication I	Ch 6.1 – 6.11	Stargell
W 11/29	<b>Module 7</b> Replication II	Ch 15.1 – 15.7	Stargell
M 12/4	<b>Module 7</b> DNA damage/repair; CRISPR/Cas-9	Ch16.1 – 16.3 Ch16.8	Stargell
W 12/6	Course/Methods Overview		Stargell
W 12/14	<b>FINAL EXAM: 11:50 am – 1:50 pm</b>		