

KAP Biology 114: Genetics and Development

2008-2009 School Year

North Ridgeville Senior High School

Biology 114 will focus on the study of development (using the human and chick as examples), mechanisms of inheritance, advanced topics in genetics, biotechnology and bioethics. Reading and interpreting scientific literature, correct writing style, and a bioethical presentation will be integrated into this course.

Textbook: Human Genetics, Ricki Lewis, 6th Edition

There will be more articles than those that are listed.

This is meant to be a **tentative** schedule for second semester. We will follow this **sequence** but may not always be on the projected date. The major assignments are in this syllabus. You will be given a few other reading assignments as needed.

- Please read the **pages assigned and introductions** to each chapter. If you have the computer capabilities, take advantage of the online activities.
- Tutorials for both courses are found on the Kenyon Website

• Website for your genetics book: <http://highered.mcgraw-hill.com/sites/0072846054>

Username: **apstudent** Password: **mcgraw**

M	1/26	Male anatomy/spermatogenesis
T	1/27	Complete spermatogenesis and crossing over
W	1/28	Male hormone cycles
Th	1/29	Review male hormone cycles; begin female anatomy
F	1/30	Spermatogenesis quiz; Oogenesis & crossing over Bookwork
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M	2/2	Ovarian cycle & hormones of the ovarian cycle
T	2/3	Complete female; uterine, ovarian and hormone cycles Bookwork
W	2/4	Lactation Article: Breast Milk
Th	2/5	Pass out Genetics book & review of male and female
F	2/6	Test chapter 19: male and female
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M	2/9	Go over test; Chapter 20 notes; fertilization and blastocyst formation
T	2/10	Implantation and membrane formation
W	2/11	Gastrulation and Neurulation
Th	2/12	Prep for quiz 1; complete neurulation
F	2/13	Quiz 1; Mesoderm notes and prep for embryo lab
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T	2/17	Complete mesoderm notes
W	2/18	Complete embryo notes; prep for quiz 2
Th	2/19	Quiz 2: Prep for Embryo Lab
F	2/20	Lab
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M	2/23	Lab
T	2/24	Media center – embryo research
W	2/25	Media center
Th	2/26	Media Center
F	2/27	Embryo Test
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M	3/2	Chapter 1: Introduction to Genetics
T	3/3	Inborn errors of metabolism and genetic applications
W	3/4	Complete chapter 1; bookwork
Th	3/5	Genetic testing and gene therapy
F	3/6	Chapter 2: Chemical level of inheritance
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M	3/9	Cell to cell interaction and faulty ion channels
T	3/10	Cell cycle and apoptosis
W	3/11	Complete cell cycle; Stem cells
Th	3/12	Review Chapter 1 & 2; bookwork
F	3/13	Test chapters 1 & 2

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March 16-20 OGT WEEK

M	3/16	Test chapters 1 & 2
T	3/17	Chapter 4 Mendel and probability, terms and monohybrid crosses
W	3/18	Dihybrid crosses and pedigrees
Th	3/17	Pedigrees
F	3/18	Complete pedigrees; class group activity
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M	3/23	Chapter 5: Exceptions to Mendel's Laws
T	3/24	Maternal inheritance and linkage; Complete Chapter 5
W	3/25	Chapter 6: Matters of sex, sexual development and phenotype forms
Th	3/26	X-Linkage; Article: "Why the Y"
F	3/27	X-inactivation; sex influenced traits, genomic imprinting
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T	3/31	Complete Chapter 6; bookwork
W	4/1	Review Chapters 4, 5, & 6
Th	4/2	Catch up
F	4/3	Test Chapters 4, 5, & 6
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M	4/6	Chapter 9: DNA structure
T	4/7	DNA continued
W	3/8	Complete DNA and RNA
Th	4/9	Chapter 10: Gene action and transcription

APRIL 10-17 SPRING BREAK

M	4/20	Translation and protein folding
T	4/21	RNA processing
W	4/23	Importance of Introns Research Article (Oxygen Saturation)
Th	4/24	Chapter 11: Control of gene expression
F	4/25	Control of gene expression
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M	4/27	Complete Chapter 11; Discuss group bioethical project
T	4/28	Library research for group project
W	4/29	Chapter 12 chromosome structure and mutation
Th	4/30	Complete mutations
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T	5/4	Review 9-12
W	5/5	Test 9-12
Th	5/6	Group project; media center

5/7 – Until the end of the year:

Population Genetics

Biotechnology

Genetically modified organisms

Gene therapy

Biotech labs and procedures (Transformation and Electrophoresis)

Fetal Pig dissection – not included on the website syllabus

Lab report and Final Exam

Farewell to our beloved seniors! Good luck to future seniors! 😊