THIS WEEK IN BI 102

PORTFOLIO #1 IS DUE TUESDAY JAN. 20 BY 5:00 P.M., 131 WNGR

TUESDAY LECTURE

Mutation and Variation
Explore how genetic mutations lead to variation.

THURSDAY LECTURE

Development
The role of DNA in progression from a fertilized egg to an entire organism.

RECITATION

Variation
Numerous examples of mutations leading to variation within species.

LABORATORY

Reproduction and Growth
The role of genetics in life cycles of various species.

ON-LINE READINGS

Mutations, Epigenetics, Fruit Flies
Historical and current advances.

Work Ahead for Tuesday's Lecture

Read "Mutations" and answer the following questions.

In a "**point**" mutation, a single _____ may be changed within DNA.

In an **insertion** mutation, base pairs are _____ to the DNA molecule. In a **deletion** mutation base pairs are _____.

What is actually duplicated in a **duplication** mutation?

In a **translocation** mutation, a piece of one chromosome becomes attached to a _____ chromosome.

Bring your activity manual to lab and recitation.

Work Ahead for Thursday's Lecture

Read "Epigenetics" and answer the following questions.

After reading over the article, describe in your own words what "epigenetics" means.

What attaches to DNA, altering how it can function?

From the article, how does a rat female's behaviors impact her pups?

Work Ahead for Laboratory

Read "Fruit Flies" and answer these questions.

What does a typical "wild type" fruit fly look like? (eye color and body color)

Provide two reasons for why fruit flies are good organisms for genetics research:

In the activity manual, look over the *Reproduction and Growth* lab (p. 57) to answer these questions.

Humans have 23 homologous pairs of chromosomes in most cells. Where did each chromosome in a pair come from? (Questions #2&3, p. 57)

What are the **gametes** in humans? (Question #6, p. 58)

Best way to study?
Write possible exam questions using the objectives in Appendix A (p. 183)

Work Ahead for Recitation

In the activity manual, read over the *Variation* recitation (p. 47) to answer these questions.

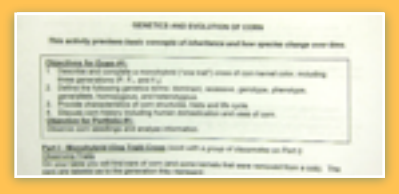
What is the source of variation that produces new alleles? _____ (title of Station C, p. 48)

In Station C, you will be observing germinating irradiated radish seeds. In the photo, the seeds to the left were not exposed to radiation and are called "controls." The seeds to the right were exposed to different levels of radiation. Why is it important to have "controls" that do not receive the experimental treatment?

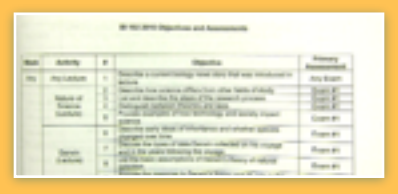
Exam #1 is next Monday, Jan. 26, 7:00 - 7:50 p.m.

Bring your photo ID, #2 pencil, and eraser. Room assignments will be announced in lab and posted at the course website.

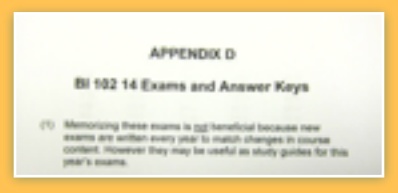
Resources for Exam Studying



Course Materials: Your lecture notes, filled in laboratory and recitation activities, and any other study materials you create.



Course Objectives: Located in Appendix A and at the course website.



Last Year's Exams: Located in Appendix D.

Weekly Online Previews: This one and the rest posted at the course website.