On exam days, students will be split between two exam rooms.

- **Proceed directly** to your assigned room to take the exam.

The breakdown is according to the first letter of your last name:

- **A - J**: 220 ASB (the regular classroom)
- **K - Z**: Social and Behavioral Science Lecture Hall (see map)

- DO NOT go to ASB220 unless your last name begins with A – J.
- Please seat yourself every-other chair.
- It takes at least 5 minutes to walk to the SBS building from ASB. Make sure to leave plenty of time to find the classroom and get settled
- If you have a cell phone, please turn it off so it does not disturb anyone during the exam.
The Social and Behavioral Sciences building is just south of the Psychology tower next to Marriott Library.
The entrance to the SBS building is on its north side.
Fig. 28.8
TEXT FIG. 28.30—Life cycle of *Dictyostelium*, cellular slime mold
Dictyostelium stages
Dictyostelium stages
Text Fig. 29.29—Plasmodium (feeding) stage of slime mold
TEXT FIG. 28.29  Life cycle of Plasmodial slime mold
Plasmodial slime molds

Feeding stage

Reproductive stage
Fig. 28.8
Red Algae
Text Fig. 28.22
<table>
<thead>
<tr>
<th>Group</th>
<th>Euglenoids</th>
<th>Dinoflagellates</th>
<th>Diatoms &amp; Brown Algae</th>
<th>Chlorophyta (Green Algae)</th>
<th>Rhodophyta (Red Algae)</th>
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Fig. 28.8
Aerobic prokaryote

Photosynthetic prokaryote

Respiratory membranes

Thylakoid membranes
Coleochaete

Green Algae

Ulva

Oedogonium

Pediastrum

Volvox
TEXT FIG. 28.23—*Volvox*, a genus of colonial green algae
*Caulerpa*, a multinucleate marine green alga

Text Fig. 28.23b
Meiosis: Cell division that separates sets of chromosomes and halves the chromosome number.

Sporophyte: Single cell that results from syngamy

Zygote: Single cell that results from syngamy

Gametes: Single cells that undergo syngamy

Syngamy: Fusion of two cells and their nuclei, doubling the chromosome number.

DIPLOIDIC

SPOROPHYTIC

Meiosis

Zygote (2n)
(all land plants, most reds, browns, greens, and dinoflagellates)

HAPLOIDIC

SYNGAMY

Gametes

Spores

Gametes (n)

Diploid adult

Meiosis

Zygote (2n)

Haploid adult

Important definitions:
Diplontic life history

Haplontic life history

Alternation of Generations Haplodiplontic or Diplohaplontic life history

Text Fig. 13.5

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Diatoms--an example of a DIPLONTIC life cycle in algae

Diploid (2n) zygote

Silicon-impregnated cell walls, shown edge-on, are two-part “petri plates.”

Growth of cell

Zygotes produced by sexual reproduction grow and lay down new full-size cell walls.

Diploid (2n) zygote

Wall formation

The offspring cells from the bottom parts become progressively smaller.

Fusion of gametes

Gametes from another individual

Meiosis

Mitosis

Mitosis

“The petri plate” splits and releases gametes.

“In asexual reproduction by mitosis and cytokinesis, the two parts of the cell wall separate, each becoming the top of a new “plate.”

“Vegetative phase” is diploid (2n)

Haploid (n) gametes: only n phase in life cycle
Diplontic life history

Haplontic life history

Alternation of Generations
Haplodiplontic or Diplohaplontic life history

Text Fig. 13.5
HAPLONTIC LIFE CYCLE OF *Chlamydomonas*, a green alga

TEXT FIG. 28.24
Haplodiplontic life history

“Alternation of Generations”

Text Fig. 29.6
Depending on the species, eggs and sperm are produced on the same adult or different adults (males/females).
HAPLODIPLONTIC LIFE CYCLE—with heteromorphic alternation of generations. e.g., *Laminaria*, a brown alga.

**TEXT FIG. 28.21**