

## Zoology 570: Cell Biology Fall, 2012

### Instructor:

Dr. Kurt Amann

225 Zoology Research Building

265-3150

[kjamann@wisc.edu](mailto:kjamann@wisc.edu)

Office hours: Thursdays, 1:00-2:00 pm, State Street Chipotle, or by appointment

### Teaching Assistant:

Harisha Rajanala

227 Zoology Research Building

265-3089

[hrajanala@wisc.edu](mailto:hrajanala@wisc.edu)

Office hours: Thursday 3:00-4:00 pm, 128 Zoology Research

**Text:** Molecular Cell Biology, Sixth Edition (Lodish et al.)

### Schedule:

Lecture M/W/F 9:55-10:45

Discussion (optional): Wednesday, 2:25-3:15, Noland 119

### Course outline and dates:

#### Unit 1. Cell Analysis and the Cytoskeleton

| <u>Lecture Date</u> | <u>Topic</u>                | <u>Suggested Reading</u> |
|---------------------|-----------------------------|--------------------------|
| W 9-5               | Overview of the cell        | 1-110                    |
| F 9-7               | 4 Pillars of cell biology   | 371-394                  |
| M 9-10              | 4 Pillars of cell biology   | 165-214                  |
| W 9-12              | 4 Pillars of cell biology   |                          |
| F 9-14              | Actin                       | 713-756                  |
| M 9-17              | Actin                       |                          |
| W 9-19              | Actin binding proteins      |                          |
| F 9-21              | Microtubules                | 757-781                  |
| M 9-24              | Microtubule-assoc. proteins |                          |
| W 9-26              | Intermediate filaments      | 791-796                  |

**W 9-26**

**Review Session 6-7 pm**

**R 9-27**

**First Exam 7:15-9:15 pm**

#### Unit 2. Macromolecular synthesis and signal transduction in cells

| <u>Lecture Date</u> | <u>Topic</u>                  | <u>Suggested Reading</u> |
|---------------------|-------------------------------|--------------------------|
| F 9-28              | Genome organization           | 111-125, 223-225,        |
| M 10-1              | Genome organization           | 247-263                  |
| W 10-3              | DNA replication               | 139-143                  |
| F 10-5              | DNA replication               |                          |
| M 10-8              | Transcription                 | 276-310                  |
| W 10-10             | Transcription                 | 323-337                  |
| F 10-12             | Translation                   | 127-139                  |
| M 10-15             | Translation                   |                          |
| W 10-17             | EGF signaling                 | 623-626, 679-697         |
| F 10-19             | EGF signaling                 | 311-313                  |
| M 10-22             | Lipid-soluble hormone signals | 311-313                  |

**M 10-22**                      **Review Session 6-7 pm**  
**T 10-23**                      **Second Exam 7:15-9:15 pm**

**Unit 3. How cells distribute their contents**

| <u>Lecture Date</u> | <u>Topic</u>                 | <u>Suggested Reading</u> |
|---------------------|------------------------------|--------------------------|
| W 10-24             | Signaling via g-proteins     | 632-656                  |
| F 10-26             | Signaling via g-proteins     |                          |
| M 10-29             | Inactivation of signals      |                          |
| W 10-31             | Cotranslational insertion    | 409-427, 535-556         |
| F 11-2              | Cotranslational insertion    |                          |
| M 11-5              | Membrane traffic-golgi       | 579-604                  |
| W 11-7              | Membrane traffic-golgi to PM |                          |
| F 11-9              | Membrane traffic-exocytosis  |                          |
| M 11-12             | Membrane traffic-exocytosis  |                          |
| W 11-14             | Membrane traffic-endocytosis | 606-611                  |

**W 11-14**                      **Review Session 6-7 pm**  
**R 11-15**                      **Third Exam 7:15-9:15**

**Unit 4. Cell division and multicellularity**

| <u>Lecture Date</u> | <u>Topic</u>              | <u>Suggested Reading</u> |
|---------------------|---------------------------|--------------------------|
| F 11-16             | Nuclear transport         | 569-573                  |
| M 11-19             | Nuclear transport         |                          |
| W 11-21             | Cell cycle overview       | 849-851                  |
| F 11-23 (tg)        | (Thanksgiving. No class.) |                          |
| M 11-26             | Cell cycle mechanics      | 781-790                  |
| W 11-28             | Cell cycle mechanics      |                          |
| F 11-30             | Cell cycle regulation     | 853-877                  |
| M 12-3              | Cell cycle regulation     |                          |
| W 12-5              | Cytokinesis               |                          |
| F 12-7              | Cell cycle regulation     | 879-891                  |
| M 12-10             | Cell cycle regulation     |                          |
| W 12-12             | Cell Junctions            | 803-817                  |
| F 12-14             | Cell Junctions            |                          |

**F 12-21**                      **Fourth exam 12:25 pm**                      **Final exam**