MB&B/BIOL 181 (Sections 11/12)
Principles of Biology I: Cell Biology and Molecular Basis of Heredity

Instructor
Simonne Longerich, Ph.D.
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Office hours: -immediately after class, and Fridays 12:30-2
       -I could also meet before class, but please make and appointment via email

Text Book
Essential Cell Biology, 4th edition (Alberts et al.)
On reserve at Olin Library or available for purchase at Bookstore

Class Times and Locations
Mondays 11-11:50 AM, Wednesdays 11-11:50 AM in SCIE 141
Fridays 11-11:50 AM (Section 11) in SCIE 141
Fridays 2:40-3:30 PM (Section 12) in SCIE 109

Course TAs
Natalie Favret, nfavret@wesleyan.edu
Will Molski, wmolski@wesleyan.edu
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Course Policies/Expectations
Attendance is important (participation counts for 5% of total grade)
Homework -- 5% deduction per day late (more then 5 days late will not be accepted)
Please schedule around known test dates (Sept. 29, Oct. 27 and Nov. 24)

Exam Policy: All exams must be taken at the scheduled time. Students missing an exam due to illness must submit a note of explanation signed by the Dean's Office. Students who have a known scheduling conflict must be prepared to take exams or turn in assignments early.

*** Homework: Consultation with other students (past or present) and papers (tests or assignments) from previous years, is not allowed.
Your textbook, lecture notes and the course Moodle contents are all good study references. Seek help from TAs or the Instructor.
It is considered an Honor Code violation to represent/copy someone else's words or ideas without providing transparent credit in your document.

Disability Resources
Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible.
If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-5581 for an appointment to discuss your needs and the process for requesting accommodations.
**Modes of Evaluation**

- *In-Class Tests (3)*: 40%
- *Homework (8)*: 30%
- *Problem-solving assignments*, *attendance*: 5%
- *Final Exam*: 25%

*Active participation in discussion, plus the submitted assignments from the Friday problem-solving sessions*

**PART ONE: Heredity**

- **Mon. Sept. 1**: Introduction, Overview, DNA and chromosomes (5)
- **Wed. Sept. 3**: DNA Replication (6)
- **Fri. Sept. 5**: *Problems: DNA, DNA synthesis/Replication*
  - *Homework #1-due Monday Sept. 8*

- **Mon. Sept. 8**: DNA Replication and Mutation (6)
- **Wed. Sept. 10**: DNA Repair (6)
- **Fri. Sept. 12**: *Problems: Maintaining Biological Information*
  - *Homework #2-DNA Replication and Repair, due Monday Sept. 15*

- **Mon. Sept. 15**: Genetics I (19)
- **Wed. Sept. 17**: Genetics II (19)
- **Fri. Sept. 19**: *Problems: Genetic Analysis*
  - *Homework #3-Generic Analysis, due Monday Sept. 22*

**PART TWO: Central Dogma**

- **Mon. Sept. 22**: Genes, Genetic Code, Central Dogma (7; 223-241)
- **Wed. Sept. 24**: Transcription (7, 223-241)
- **Fri. Sept. 26**: *Problems: Transcription and Gene Expression*
  - *No homework this week.*

**Mon. Sept. 29**

- **Mon. Oct. 6**: Regulation of gene expression I (8)
- **Wed. Oct. 8**: Regulation of gene expression II (8)
- **Fri. Oct. 10**: *Problems: Regulatory mechanisms*
  - *Homework #5- Regulatory Mechanisms, due Monday Oct. 13*

**Mon. Oct. 13**: Proteins (4)
- **Wed. Oct. 15**: Proteins-Catalysis (3)
- **Fri. Oct. 17**: *No Class, Fall Break*
  - *No Homework this week.*
Mon. Oct. 20  No Class, Fall Break
Wed. Oct. 22  Movement and Biological Structure (17)
Fri. Oct. 24  Problems: Protein function
No Homework this week.

**PART THREE: Cell Biology**

Mon. Oct. 27  TEST II
Wed. Oct. 29  Signal transduction (16)
Fri. Oct. 31  Problems: Signal Transduction
Homework #6-Signal Transduction, due Monday Nov. 3

Mon. Nov. 3  Plasma membranes (11)
Wed. Nov. 5  Membrane Potentials (12)
Fri. Nov. 7  Problems: Electrochemical gradients
Homework #7-Membranes and cell communication, due Monday Nov. 10

Mon. Nov. 10  Cell Energetics (13, 14)
Wed. Nov. 12  Compartments and Transport (15)
Fri. Nov. 14  Problems: Energy and Transport
Homework #8-Photosynthesis and Respiration, due Monday Nov. 17

Mon. Nov. 17  Nucleus: Cell Division (18)
Wed. Nov. 19  Cell Cycle Control (18, 20; 705-724)
Fri. Nov. 21  Problems: Cell Division
No Homework this week.

**PART FOUR: Life Science into the Future**

Mon. Nov. 24  TEST III
Wed. Nov. 26  No Class, Thanksgiving
Fri. Nov. 28  No Class, Thanksgiving
No Homework this week.

Mon. Dec. 1  The Human Genome Project (9)
Wed. Dec. 3  New Frontiers in Biology
Fri. Dec. 5  Problems: Genomics
No Homework this week.

READING WEEK  REVIEW SESSION

FINALS WEEK  COMPREHENSIVE FINAL EXAM