BIO 202 – Biodiversity
Summer 2012

- Dr. Fred Scharf, Friday Hall 1059
- Dr. Eric Schuettpelz, Dobo Hall 213
- Office hours = Mon and Wed 10:30am - 12:00pm
- All lectures here (Friday Hall 1014)
- Mon –Thurs: 8:00 – 10:05am
- Labs in Friday Hall 1011 (TuTh either 11:30am – 2:20pm or 2:30 – 5:20pm)
- Required texts:
  - Evolution, Diversity, and Ecology, 2nd edition, Volume 2 (units 4, 5, and 8) from Biology by Brooker et al.
  - Customized BIO 202 lab manual (made available electronically)
  - Photographic Atlas for laboratory (may also need a binder)
- All exams are mandatory
  - May 24, June 4, June 11, June 18

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- Grading: total of 660 points
  - 400 pts from lecture exams (multiple choice, short answer, definitions, essays)
  - 60 pts from quizzes (unannounced during lecture)
  - 200 pts from two lab practicals
- Grade scale: 90% and > = A; 80-89% = B; 70-79% = C; 60-69% = D; below 60% = F
- Missed exams require written documentation of your reason – make-up exams will be all essay
- Absolutely no make-ups for missed quizzes

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Electronic access for syllabus and lab manual

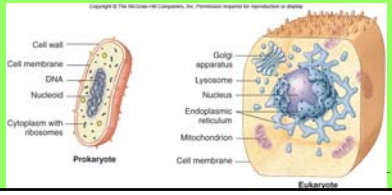
http://dl.dropbox.com/u/35506833/syllabus_summer_2012.pdf

http://dl.dropbox.com/u/35506833/manual_summer_2012.pdf

Zoology = Study of animal life

What makes animals unique among living organisms?

- **Animals are Eukaryotes**
  - **Group includes plants and fungi**
  - **Cells contain membrane-enclosed nuclei**
- **Nutrition comes from other organisms**
  - **Animals lack photosynthesis, cell walls, absorptive abilities of fungi**
  - **Many animals must capture food**

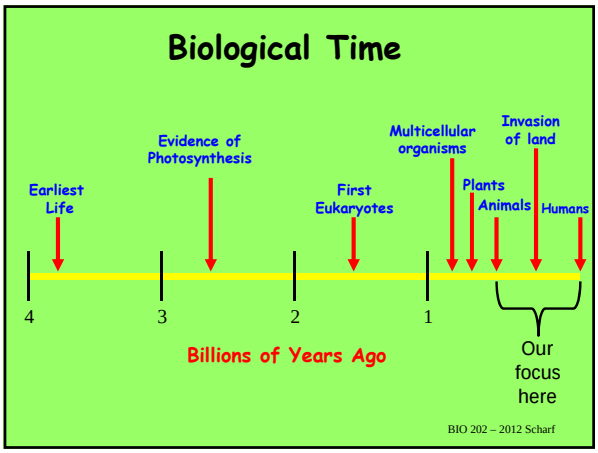


Origin of Life

- **Earliest life about 4 billion years ago**
- **Thought to be Heterotrophs – derived nutrition from the environment**
- **Autotrophs thought to evolve slightly later – could synthesize their food from inorganic sources (e.g., light)**

Origin of Life

- **Variety of cyanobacteria (prokaryotes) arose about 3 billion years ago**
- **Dominated oceans for 1-2 billion years, producing atmospheric oxygen**
- **First eukaryotes appear about 1.5 billion years ago**
- **Animals first appear in the early Cambrian nearly 600 million years ago**
- **"Cambrian explosion" – many phyla within a short time period (few million years)**


Biological Time
Earliest Life
Evidence of Photosynthesis
First Eukaryotes
Multicellular organisms
Plants
Animals
Invasion of land
Humans
4
3
2
1
Billions of Years Ago
Our focus here
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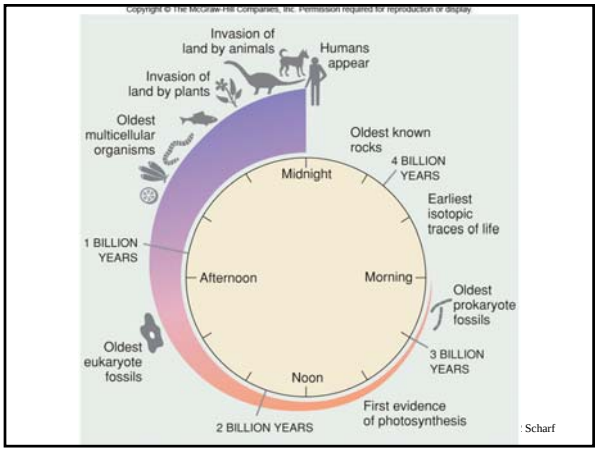
Invasion of land by animals
Humans appear
Invasion of land by plants
Oldest multicellular organisms
Oldest known rocks
4 BILLION YEARS
Midnight
Earliest isotopic traces of life
1 BILLION YEARS
Afternoon
Morning
Oldest prokaryote fossils
3 BILLION YEARS
Oldest eukaryote fossils
Noon
First evidence of photosynthesis
2 BILLION YEARS
: Scharf