Survey of Biological Research

Honors 120
Stuart R. Borrett
Fall 2013

Class Road Map

• Introductions (~10 min)
• Course Overview (~10 min)
• Consensogram (~25 min)
• Biology Big Picture (~15 min)
Create Folder

Major
Home Town(s)
First Name
Last Name
When I grow up, I want to be ...
Adjective your friends would use to describe you

STUART BORRETT

Inside the folder ...

Your Course Objectives

1. 
2. 
3. 

What do you want to accomplish this semester?

Introduce yourself to 1 new person in the class
Borrett - Overarching Research Goals

Understand the processes that create, constrain, and sustain ecological systems
   – Ecosystem organization and transformation

Build theoretical foundations for
   – Ecosystem health, sustainability
   – Environmental impact assessment and management

Develop necessary computational & analytical tools

Apply theory to real world problems
Course Overview

Learning Objectives

Through your experience in this course, you will have the opportunity to do the following

- Meet UNCW BAMB faculty
- Learn about faculty research programs and how undergraduates can get involved
- Read, summarize, and critique primary science publications
- Observe some tools used by biological scientists
Assignments & Assessment

Research Synopses (11)

Brief summary of
(a) the required reading, and
(b) the research discussed in class
• Typed, 1 page maximum, Ch 7 Pechenik (2013)
• Due in class at next meeting

Assessment

Final letter grade:
A  Satisfactory completion of 10 of 11 assignments
B  Satisfactory completion of 9 of 11 assignments
C  Satisfactory completion of 8 of 11 assignments
D  Satisfactory completion of 7 of 11 assignments
F  Satisfactory completion of ≤ 6 of 11 assignments

Website and Schedule

http://people.uncw.edu/borretts/teaching.html
Consensogram

What is our starting point?

Everyone needs 5 post-it notes. Please number them 1-5 in top left corner

Question 1 – Biological Interests

What type of biology interests you most?

Responses
1. Cell & Molecular Biology
2. Anatomy & Physiology
3. Evolution & Taxonomy
4. Microbiology
5. Botany
6. Marine Biology
7. Ecology
Question 2 – Scientific Method

How confident are you that…
You can explain the *scientific method* to your family

**Scale**

1—5
5 is totally confident
1 is not confident

Question 3 – Scientists at Work

How confident are you that…
You can explain what scientists *do* (e.g., daily activities) to your family

**Scale**

1—5
5 is totally confident
1 is not confident
**Question 4 - Literature**

How many articles have you read from the *peer-reviewed literature* (approximately)?

**Responses**

1. I don’t know what this means
2. 1-2
3. 3-5
4. 5-10
5. >10

**Question 5 - Future**

What best describes your **current plans (hopes)** following your undergraduate degree (1-5 yrs.)?

**Responses**

1. Work for private or public business
2. Work for state or federal government
3. Work for non-profit
4. Entrepreneur – start your own business, org
5. Professional School *(e.g., Medical, Dental, Veterinarian)*
6. Graduate School *(e.g., MS or PhD in Biology)*
7. I have not seriously considered this
Biology is a Science - Scientific Method

Epistemic Enhancers
Humphries 2004

Figure 1: Graphic summary of the scientific method. The scientific method centers on the use of information to propose and test hypotheses through observation, experiment, and modeling.
Biology from E. O. Wilson’s PoV

Century of Biology

Modern Biology

Summary Road Map

- **Introductions** (~10 min)
- **Course Overview** (~10 min)
- **Consensogram** (~25 min)
- **Biology Big Picture** (~15 min)
Thinking like a Biologist

Learn to see with Biology lenses

…and as a scientist

Next Steps

8/30 2 pm. Dept. Seminar.
   Dr. Joe Luckovich, ECU, Food Web Ecology

9/2 = Labor Day & No Class

9/6 2 pm. Dept. Seminar. Stuart Borrett

9/9 = Dr. Finelli
   – Review the UNCW Biology web page
     http://uncw.edu/bio/

Please return folders and markers to their boxes.