

BIO 432: First Paper

**1. Basic Evolutionary Biology, “Phenotypic Gambit”**

Evolution: Mutation, Drift, Gene Flow & Selection

Natural Selection/Kin Selection - Common

Group Selection - Far less common

“Good of the species,” “survival of the species”

Adaptation of Population,  
Consequence of Natural Selection

Adaptation *vs* Acclimation

Models & Hypotheses

Nature not “Optimal;” Solution to Model Optimal

Differences: Discriminate

Assumptions, Model Predictions & Behavior

## 2. Trivializing Theory

“Of course, animals maximize energy intake  
and minimize energy expenditure ...”

Careless thinking (*vs* Analytical Thinking)

Theory: Assumptions, Deduction (Math), Predictions

Test Predictions, Evaluate Hypothesis

Understand Process, Show in Writing

Assignment: Read Papers (*vs* week before paper due)

Don't Skim Series of Topics

Diet Choice, Patch Residence Time, ...

Without Conceptual (= Theoretical) Depth

One Topic, Learn in Depth, Write Accordingly

## 3. Manuscript Preparation

Grammar, Language Style

Edit!

Cite Ideas, Results Borrowed within Text