

**BIOLOGY 3671 - EVOLUTIONARY CONCEPTS - TUTORIAL GUIDE****Topic 7: STRUCTURE II**

Optimization  
Polymorphic Traits  
Constraints  
Allometry  
Heterochrony  
Genetic vs Proximity Structure  
The Structure Matrix  
Evolution in Multiple Environments  
Feasible vs Possible Trait Values  
Traits with Multiple Functions  
Traits with no Effect on Function

**Tutorial 7: Confirm understanding by designing a research project.**

Identify the key question that must be answered to advance the theme, then write a one-page outline of a research project that will answer the question. Use the following headings.

**Question:** Keep it short and concise.

**Background:** A clear and succinct statement (maximum of three sentences) identifying the problem and the importance of solving it.

**Methods:** In bullet format – include items such as Taxon, Location, Design, Response variable and Analysis

**Outcomes:** State what key result will answer the question (one sentence).

**Significance:** State clearly why the proposed research is important and how it advances the field (maximum of two sentences).

At the end of the tutorial, select one of the following terms describing your self-assessment on this task (exceptional, outstanding, very strong, strong, moderate, insufficient). Do the same for your study group as a whole. Submit a copy of the one-page proposal and both assessment 'scores' with a brief justification to your GA before leaving.

Required Reading:

Morris and Lundberg 2011: Chapter 4: 112-136.