

## IAI Bio Majors Panel: Checklist for BIO 910 Submission

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In order for your course to articulate as IAI BIO910, it will need to meet the criteria described below. You should know that panel members use this document as a checklist when reviewing your course sequence. This list includes both (1) the particular materials that must be submitted, as well as (2) the information that should be contained in those materials.

### MATERIALS REQUIRED (for each course)

PLEASE NOTE: Submitters must include syllabi and lab descriptions from ALL of the courses at their institution that comprise the introductory major's biology course sequence. Institutions sometimes submit information for only one of the courses in a two or three course sequence. PARTIAL submissions will NOT be considered.

#### 1. Representative Instructor's syllabus (that actually has been, or will be, used in each course), *which includes the following information:*

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- Indication of courses (#s and names) that comprise IAI BIO 910 sequence.
- Contact time for both lecture and lab.
- Course prerequisites, textbook/learning resources and lab manual.  
(The textbook should be suitable for a college biology majors' introductory course. As institutions pursue the opportunity to expand into online/open resource electronic text material, the panel has sought to provide some necessary guidance on citing these resources in submitted syllabi and documents. If any online reading or learning resource materials are used, a complete working url or bibliographic citation (embedded hyperlinks are acceptable) must be provided. This site/resource must be active, working, and viewable by the panel.)
- Detailed Weekly/Daily Topical Outline for both lecture and lab. **This should go beyond chapter numbers and titles.** It should also include the approximate amount of time spent on each lecture topic (explicitly described, or evident from lecture dates).
- Lecture topics MUST include (*please see BIO 910 description*):
  - "Science" as a process
  - Evolution
  - Biological chemistry
  - Cell structure & function
  - Cell processes:
    - metabolism (e.g., respiration and/or photosynthesis)
    - division
  - Genetics:
    - transmission (i.e., "Mendelian")
    - molecular
  - Diversity:
    - microorganisms (including viruses, prokaryotes, & eukaryotes)
    - plants
    - fungi
    - animals
  - Anatomy & physiology of animals and/or plants
  - Ecology (covering a range of scales from individuals to ecosystems)

#### 2. Brief synopsis of each lab, *which includes the following information:*

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- Short summary (few sentences or bullet points) describing:
  - Lab topic
  - Organisms used
  - Methodologies (i.e. materials & equipment used, analyses & writing performed)
- Labs for the sequence should be chosen with respect to the following guidelines:
  - Labs utilize the methods of science to identify and investigate questions relevant to biology.
  - Activities illustrate biological concepts at a variety of hierarchical levels, from microscopic to ecological.
  - A diversity of organisms are used to demonstrate concepts.
  - Current techniques and instruments that enable the study of organisms on the biochemical, microscopic, and macroscopic levels are used.
  - Labs include a variety of quantitative measurement techniques.
  - No more than 4 labs (out of the course sequence) are computer simulations.
  - No more than 3 labs (out of the course sequence) are field trips.