

## GENERAL EDUCATION CORE CURRICULUM

### Physical Sciences Panel

#### Decision Rules and

#### Precedents

### Course Review Procedures

One electronic version of a **recent representative syllabus** that is typical of course content is required by the panel for its review. If the course has yet to be taught at an institution, then a sample syllabus intended for future students is required.

The course syllabus must clearly indicate the following elements:

- Course prefix, number and title
- Catalog Course Description
- Detailed Course Outline and Daily or weekly schedule of material to be covered – **this must go beyond chapter numbers and titles.**
- If the course is a lab class, then the syllabus **must** also include a lab outline with descriptions of lab activities – **a detailed, full lab outline with lab descriptions, delivery methods, and time spent.** Descriptions of the labs must include the time spent on each lab. The type of activity (e.g. hands-on, computer simulation, field trip) must be clear from the lab description.
- If a stand-alone lab course, then the syllabus for the co-requisite lecture must be included
- Total number of lab contact hours (1 credit= 30-45 contact hours)
- Semester credit hours
- Prerequisites: prefix, number and title
- Delivery Modes
- Course Objectives
- Methods of evaluation of student learning
- Textbook(s) or complete urls of any online resource, as well as any other required lab manuals and lab kits – see notes below
- If it is a lab course and an in-house or custom lab manual is used, 3 sample labs (materials given to students to complete the lab) must be provided.

### General Coding Practice

A course can only be assigned to one Physical Sciences code/description. Institutions should be clear and careful in determining which IAI code is identified for any syllabus submitted for approval. The institution should also assure that the course meets the minimum semester credit hour requirement.

Courses from the same identifier may be counted for completion of the GECC package. Students at schools on a quarter calendar may need to complete two courses to equate to a one-semester course – a common equivalency is three quarter-credits equal two semester-credits and five quarter credits equal three semester credit hours.

### Prerequisites

The prerequisites (including prefix, number and title) if any, must be listed in the syllabus. Be aware that courses requiring a prerequisite in the same discipline will not be accepted as general education courses. For example, a college-level physics course cannot be a prerequisite for a general education physics course but a college-level math course can be a prerequisite for a physics course.

## Course Descriptions

The course description must compare favorably to the description given on the iTransfer website. Courses that do not follow the suggested description will not be approved. For example, the descriptions of P1 901 Physics and Society and P1 903 Chemistry and Society indicate the courses should clearly relate the physical science content to human activities. If a course doesn't contain this very specific content it will not be approved.

## Course Content, Schedule, Objectives (Student Learning Objectives) and Methods of Evaluation

The course content must verify the course description. An outline of the course content is expected (this could be included in the daily or weekly schedule). Objectives should clearly state the learning outcomes for students and their wording should make it clear how one would assess them.

The submission must show a weekly or daily schedule indicating how the material will be covered. This schedule will be used to determine if appropriate time is being spent on specific topics that make up the course. Do not list simply, "Chapter 1, Chapter 2," etc. The topics **MUST** be stated. The means for evaluation can be given in this schedule – whether it is tests, projects, papers, etc. A grading scale must also be included as well as any weighting of the particular assessments.

## Textbooks/Learning Resources

The syllabus must include the text that will be used for the course, the author, and date of the publication. If there are supplemental texts that will be used, these should also be listed. Texts reflect and support writing, speaking or content outcomes and requirements. 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 learning resources in submitted syllabi and documents. If any online reading or resource materials are used, provide accessible evidence which may be a complete working url or bibliographic citation. This site/resource must be active, working, and viewable by the panel. Active hyperlinks are acceptable but cannot be embedded in an online learning system.

## Discipline Specific Concerns

### Information for Lab courses must include:

#### ***Lab manual***

If the course is applying for lab credit the syllabus must list the title, author, and publication date of the lab manual used. *If the lab manual was created by the institution (even if custom-published by a publisher), then the panel requests submittal of **three sample labs**.* If different lab materials are used for different delivery modes, then the names of all lab manuals must be included. (Sample labs are defined as the material given to students to complete the lab.)

#### ***Descriptions of labs***

Descriptions of all lab activities (not just titles) must be included for all delivery modes (ex. Face-to-face and online). Description of the labs must include the time spent on each lab. The type of activity (e.g. hands-on, computer simulation, field trip) must be clear from the lab description. A course may not be approved if a majority of the combination of the labs are simulated, demonstration, reviews, or field trips. A laboratory course offered in a nontraditional delivery mode must demonstrate that student outcomes are comparable to a face-to-face course for the panel to approve it. Total number of lab contact hours (1 credit= 30-45 contact hours). This means at least 15 weeks of labs should be scheduled. If less than 15 weeks of labs are scheduled, a description of any additional lab activities including pre-lab and post-lab work must be provided.

**Interdisciplinary Courses**

For each of the two interdisciplinary course codes, be sure that multiple science disciplines are represented throughout the course. If the Interdisciplinary course is a Life/Physical science course, the institution must submit a two-course packet for approval in this category. Each course must provide a 50% life and 50% physical science package in order to be approved.

**Common Reasons Courses Are Not Approved**

In order to facilitate approval of submissions, it may be helpful to be aware of some common reasons for which courses have not been approved.

- Course does not match course description.
- Course has inappropriate prerequisites.
- Course is too broad in scope – contains too many topics.
- Course is too narrow in scope – does not cover the necessary components as listed in the course description.
- Course that is to include societal components does not show how they are woven into the course
- Lab course does not include adequate descriptions of the lab activities (not just a list of labs)
- Lab activities do not match the course description (ex. astronomy or chemistry labs in a physical geology course)