IAI GECC Physical Sciences Panel
Course Approval Criteria
Revised Fall 2025

An institutionally approved representative syllabus in electronic format is required by the panel for its review. Institutions should submit an actual and recent instructor syllabus which is not more than three years old. If the course is yet to be taught, a sample syllabus intended for future students is still required.

The representative course syllabus and any additional submission materials must include:

- **Institution Name**
- **Course prefix, number, and title**
- **Course description:** Including the full catalog course description is required. The course description should compare favorably with the proposed IAI course description.
- **Number of credit hours**: For combined lecture and lab/studio courses, please include lecture credit hours, lab/studio credit hours as well as contact hours for lecture and lab/studio components. Indicate if these are semester or quarter hours.
- **Prerequisites and co-requisites**: If prerequisites are required for a course, it is preferred that the course prefix, course number, course name, and when IAI approved, the IAI code, are included in the submitted syllabus. Important note: as a rule, general education (GECC) courses in IAI should not have prerequisites. There are a few exceptions to this rule for sequences such as written composition and calculus; see panel specific information. Major courses may have prerequisites as appropriate. Co-requisite courses should show the credit hour breakdown between the two courses.
- **Textbooks, additional readings, additional course materials**: Please note if different resources are required for different delivery modes. Course materials should reflect content outcomes and requirements, and should be recently produced. For published texts, please include author, title, edition, date of publication, publisher, and the ISBN. If the course utilizes online or OER materials, please include an active hyperlink; hyperlinks cannot be embedded in the LMS nor be blocked by a password because the panel needs to have full access to the resource.
- **Delivery mode**: traditional/nontraditional, in-person/online/hybrid, etc.
- **Course Objectives**: The course objectives should clearly support the course description.
- **Assignment descriptions**: Please include a detailed description of assignments, readings, projects, etc. Assignment details should be clearly evident and referenced, and show connection to the course learning objectives. Assignments should demonstrate the rigor and scope of the course.
- **Methods of evaluating student learning**: The syllabus should state clearly how learning outcomes will be assessed, such as through objective/subjective examinations, quizzes, written assignments, oral presentations, projects, etc.
- **Grading scale and assignment weighting:** Please provide a grading scale and indicate the relative weight of assignments or evaluation categories (e.g., exams, essays, projects, etc.).
- **Detailed course outline, daily/weekly/hourly schedule**: A detailed topical outline and weekly schedule that ***goes beyond chapter numbers and titles from a textbook*** ***(or select readings)*** must be included and it should provide specific details of topics being presented in class. This may include assignments, readings, projects, etc. as appropriate. This could be done using a few bullet points or a couple of sentences. This level of detail is also appropriate for the lab/studio outline in courses that contain a lab or studio component. The lab/studio outline should include similar

information but also detail the tools, materials, equipment, and instruments being used and the outcomes or topics that the students will be exploring.

General Coding Practice:

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

A student may "count" only one course per code in fulfilling transfer requirements, even though an institution may assign more than one course to a code. In some cases, however, students at schools on a quarter calendar may need to complete two courses to equate to a one-semester course. An equivalency in this circumstance would be three quarter-credits equals two semester credit hours and five quarter-credits equal three semester credit hours.

Panel Specific Requirements:

Note: For re-submitted courses, please re-submit all documents, not just the information that is requested.

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 does not contain this very specific content, it will not be approved.

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

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.

Information for Lab Courses Must Include:

General Lab Information

If the course includes a lab component, then the syllabus must include a detailed lab outline that includes lab descriptions, delivery methods (e.g. hands-on, computer simulation, field trip), and time spent on each lab.

- Reminder: Include the total number of lab contact hours (1 credit = 30-45 contact hours). See below for more information on 3 credit courses with a lab.
- For a lab course with an in-house or custom lab manual, 3 sample labs (materials that are given to students to complete the lab) must be provided.

- If the course is a stand-alone lab course, then the syllabus for the co-requisite lecture course must be included.

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 (e.g., 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. (Of the required lab hours, a minimum of 24 lab contact hours must be spent on lab activities.) For a 3-hour course with integrated lab, the expected contact hours for the lab portion should be a minimum of 22.5 contact hours.

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 (e.g., astronomy or chemistry labs in a physical geology course).
- Lab contact hours are insufficient.