

IAI Mathematics Major 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: If a syllabus does not include the required items, please be sure the panel receives the requested information in another file, preferably labeled to reflect that material.

Note: Please provide additional student learning outcomes as appropriate, i.e., proofs, use of technologies, etc.

Detailed Topical Outline with Time Allocations

- **The committee will review the schedule for evidence of the content focus of the course. Detailed topical weekly schedule should include more detail than chapter numbers (Chapter 1.1, 2.1, etc. is not appropriate). Specific topics being discussed in class should be listed within the outline/schedule (e.g. limits and continuity; definition of derivative: rate of change, slope; derivatives of polynomial and rational functions, the chain rule, etc.) The weekly schedule should clearly indicate all IAI required topics from the appropriate IAI descriptor.**

Additional Student Outcomes

- Provide additional evidence that the course focus is aligned with the IAI course descriptor. (i.e.,
 - evidence of student-written proofs in Linear Algebra).

Weighting of Grading Categories and Grading Scale

- To ensure appropriate rigor in overall course evaluation practices, the panel will consider all the following items:
 - the proportion of the final grade determined by cumulative knowledge assessment(s), such as a final exam: This should be a significant portion of the grade that is at least 11%, but preferably 15% or more. If using alternative grading schemes, the representative instructor syllabus must show how cumulative knowledge will be assessed and the impact on the final grade.
 - the proportion of the final grade earned through extra credit; extra credit should not replace or add to a significant portion of the grade.
 - the proportion of grade determined by proctored work.
 - the proportion of dropped scores.

Evidence of Proctored Work/Exams

- It should be clear within the syllabus how proctored work is administered if in-person assessments are not utilized. Proctored work is required by the panel and therefore needs details

of what percentage of the work is proctored. A minimum of 60% of the overall grade should clearly be identified as proctored coursework within the course in the submitted syllabus/syllabi.

The panel considers the following items when evaluating courses. This is consistent with other IAI panel review processes including but not limited to:

- Does the syllabus have Course Prefix, Title, Credit Hours (lecture and lab if a lab course), Course Catalog Description?
- Do the defined student learning outcomes for this course (not institutional educational goals) reflect IAI prescribed outcomes for the proposed IAI identifier?
- Does the syllabus provided contain a detailed outline of topics (not just a list such as text table of contents) and percent of time/number of days spent on each topic?
- Are weighting and grading categories (with weighted percent for each category), and teaching material (texts or required reading) appropriate for the course?
- Does the content of the course match the IAI course description and provide evidence of the required topics based on the IAI description?
- Does the course have appropriate prerequisites (see IAI course descriptions for prerequisite information)? Prerequisites are identified in submitted documentation with IAI code and title as well and institutional number and course title.
- Does the submission have all necessary documentation submitted? See the above list of necessary items.
- Does the submission include detailed topical outline with time allocations or a detailed weekly calendar to include the topics listed by name?

Common Concerns And Reasons Courses Are Not Approved

- Course does not match description for IAI designation.
- Outline fails to include evidence of required topics in the course. Detailed topical weekly schedule should include more detail than chapter numbers (Chapter 1.1, 2.1, etc. is not appropriate). Specific topics being discussed in class should be listed within the outline/schedule (e.g., limits and continuity; definition of derivative: rate of change, slope; derivatives of polynomial and rational functions; the chain rule, etc.).
- Course has inappropriate prerequisites.
 - Please see section on prerequisites above.
- When the panel evaluates Calculus courses, the entire sequence is reviewed. As such, when submitting an ongoing review course or any new Calculus course, please submit all courses/syllabi in the sequence at same time (Calculus I, Calculus II, and Calculus III). This step will allow the panel to accurately evaluate that all necessary topics are covered through the sequence rather than course by course as topics may vary between courses but cannot vary for the sequence.
- For Linear Algebra –
 - <https://imanage.itransfer.org/OUCampusIAI/courses/listMajorCourses.aspx?desc=MTH911>
 - A course will be returned if the prerequisites do not match the panel's descriptor: Prerequisite: MTH 902, Calculus II.
 - A course will be returned if it does not provide evidence of student-written proofs in the course outcomes.
- Differential Equations must include at least two additional topics. See the MTH 912 description on the iTransfer website for possible additional topics:
 - <https://imanage.itransfer.org/OUCampusIAI/courses/listMajorCourses.aspx?desc=MTH912>
- Evaluative practices do not show appropriate rigor. This can include an issue with proctored versus non-proctored work, excessive extra credit, inadequate weighting on cumulative assessments, or dropping too large a proportion of the overall grade.