Collaboration Policies

The Caltech honor code states that "No member of the Caltech community shall take unfair advantage of any other member of the Caltech community". In academics, the honor code allows for self-proctored take-home exams and collaboration on problem sets. The policies determining exam conditions and problem set collaboration are set by the professors. These policies should be clear and promote good study and collaboration habits. This document explains the two general types of collaboration policies: narrative and checklist, and presents a selection of recommended and discouraged policies. There is also a discussion of policies regarding the use of outside resources.

1 Narrative vs. Checklist Policies

Narrative and checklist policies are different ways of conveying the same information. Professors are encouraged to use whichever format they prefer.

Most courses use narrative collaboration policies. These policies consist of a few paragraphs or bullet points of text which describe the types of collaboration and resources allowed. They may also include a "spirit" statement, a more general statement about the type of collaboration allowed. For instance, "You should be able to reproduce all submitted solutions unaided." This gives students insight into the intent of the policy, which allows them to make better decisions if encountered with an edge case not explicitly described in the policy.

Some professors have used a checklist distributed by the ARC and BoC to supplement or replace their narrative policies. This checklist is generally more comprehensive and explicit than narrative policies. However, there are concerns that more explicit policies could incentivize students to look for loopholes in the policies. If there are concerns about this, these types of policies can be supplemented by the same "spirit" statements described above. For all policies, students should be instructed to ask the professor or teaching assistant for clarification if a policy is unclear.

2 Recommended and Discouraged Collaboration Policies

2.1 Recommended Policies

2.1.1 Collaboration Allowed

In the most common type of collaboration policy, students are allowed to collaborate, but all work submitted must be the student's own. Additionally, the student should be able to reproduce the submitted work unaided. The amount of collaboration allowed varies. A class might allow full discussion of the problem and solutions, or may restrict the sharing of intermediate work leading to the solution produced. Policies also may or may not restrict comparing solutions with other students'. A non-exhaustive list of examples of allowed collaboration is below:

- Full discussion of the problem and solutions is allowed. This includes talking about the concepts relevant to the problem, as well as the details of the solution.

- Discussion of the problem and how to solve it is allowed. However, intermediate work and the final solution should not be shared.

- Discussion of the conceptual issues of the problem is allowed, but discussion of the solution is not.

Thank you to Ryan Patterson and Doug MacMartin for allowing the use of their policies as examples below.

Example: Ph1a The HW you hand in must be your own and not copied from others or from the blackboard in Recitation. You are encouraged to work on the problems with others and to seek additional help if you nd that useful, but the write-up must be your own. Also, you may not consult any prepared solutions for the problems, whether they are this years or from previous years, or from Caltech or external sources. As a guideline for the collaboration policy, you should be able to reproduce any solution you hand in without help from anyone else. It is possible to achieve high scores on the HW but still fail the quizzes and the nal exam. This indicates poor adherence to the collaboration policy: the object of the HW problems and the collaboration policy is to help you learn the material.

Example: CDS 101/110a Collaboration on homework assignments is encouraged. You may consult outside reference materials, other students, the TA, or the instructor, but you cannot consult homework solutions from prior years and you must cite any use of material from outside references. All solutions that are handed in should be written up individually and should reflect your own understanding of the subject matter at the time of writing. Python or MATLAB scripts and plots are considered part of your writeup and should be done individually (you can share ideas, but not code).

No collaboration is allowed on the midterm or final exams.

2.2 Collaboration Policy for Writing

The Hixon Writing Center has developed a resource about crafting collaboration policies for writing assignments. It includes a sample collaboration policy. It can be found at `https://writing.caltech.edu/faculty/collaborationpolicy`.

3 Discouraged Collaboration Policies

3.1 t_0 Policies

Under these policies, students are allowed to collaborate until some time t_0, after which all written work generated by the collaboration must be destroyed. Depending on the policy, the time at which this happens may be determined by the student (generally by the decision to begin writing up their solutions) or by the professor. These policies are usually created with the intent of having students write up their solutions completely independently. In practice, though, these policies disincentivize beginning sets early, because if a student begins writing up a set early on, they cannot collaborate

on other problems without discarding all of their prior work. This encourages procrstination on problem sets, which does not encourage learning from the assignments.

3.2   Unusually Permissive Policies

Unusually permissive policies may allow for a student to, for example, submit another student's work as his or her own. While allowed within the honor code if the professor allows it, these types of behaviors impede students' learning. This is particularly problematic when part of the policy is unusually permissive, while other parts are unusually restrictive.

3.3   Unclear policies

The most common unclear policies are those regarding resource use. Particularly for exams, there are a large number of resources that could be either specifically allowed or disallowed. For instance, simply saying that "notes" are allowed is unclear. There are many types of notes, including recitation notes, lecture notes posted online, notes taken in lecture by a student, and notes photocopied or hand-copied from another student's lecture notes. While students will ideally contact the instructor to clarify the policy, the information is often not communicated to the entire class, giving certain students unfair advantages, as others may assume that those resources are not allowed. If a student does not ask about a specific type of resource, they may inadvertently interpret the policy in their favor even if that was not the professor's intent. In section 4, there is a list of resources that are commonly allowed or disallowed in policies.

4   Resources

The policies for most exams prohibit collaboration, but allow for the use of certain resources. It is best that these lists be comprehensive and unambiguous in order to avoid inadvertent honor code violations. Below is a list of resources you may consider specifically allowing or disallowing on problem sets and quizzes:

- Required or recommended texts

- Textbooks from prerequisite classes (e.g. Apostol for a DiffEq class)

- Reference books

- Other texts in the field of the class (e.g. any physics book for a physics class)

- Other texts that are specifically not in the field of the class (e.g. any math reference for a physics class)

- Class notes taken in lecture or hand/photocopied from another student

- Anything written in the student's own hand

- Class or TA/recitation section handouts

- Homework/exams and/or solutions from this year or past years

- Calculators (four function, scientific, graphing, etc.)

- Symbolic manipulators (e.g. Mathematica, WolframAlpha, etc.)

- Mathematical reference tables

While there are concerns that an itemized resource list may encourage students to violate the spirit of the honor code by searching for loopholes in the policy, students appreciate specificity, particularly in a stressful quiz or exam condition. If a student is stressed, they are more likely to interpret an ambiguous policy in their favor, causing them to inadvertently violate the honor code.