Programming Languages 1: Course Policies and Procedures

Gary T. Leavens
Department of Computer Science, Iowa State University

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Abstract

There is no curve grading, and tests are weighted equally in the final grade with homeworks. You are urged to talk with other students about the class material, but exchanges of code or written answers is considered cheating. Copying material from publications without proper citation is plagiarism.

1 You Must be Registered

To attend this class, you must be registered for it.

If you wish to listen in on the class, you must register as an auditor.

2 Staff

Assistant Professor Gary Leavens (Ph.D., MIT, 1989) is the instructor. Table 1 tells how to reach me.

2.1 Office Hours

The purpose of office hours (see above) is to state the times when you are guaranteed to be able to reach me. Please, feel free to call or visit at other times as well, although there is no guarantee at such other times. (I'm also often in evenings and some weekends.)

2.2 Other Ways to Reach Me

Questions may also be asked (and answered) by electronic mail. If you have a simple technical question that is not urgent, please don't hesitate to send electronic mail. Discussions related to the class, or even less urgent technical questions can take place on our usenet newsgroup: `isu.coms.541`. You can send mail to the me at the address `leavens@cs.iastate.edu`.

My telephone (294-1580) has an answering machine attached, so leave a message if necessary. Short questions can often be handled over the phone.

3 Instruction

3.1 Meetings

The "lecture" meeting is from 12:40 PM to 2 PM on Tuesdays and Thursdays in 1219 Coover.

3.2 Discussion Sections

There is a discussion section Wednesdays at 5 PM in 3126 Coover. You are expected to be able to attend these. We will use these to discuss any questions you may have, supplement the lecture meetings, makeup lost lectures, discuss details of running various programming languages, discuss grading of homework, give tests, and discuss grading of tests.

4 Texts

There are no required texts. For the sake of preplanning, I've had the following texts made "recommended." *Design Patterns: Elements of Reusable Object-Oriented Software* by Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides (Addison-Wesley, 1995). *Haskell: The Craft of Functional Programming* by Simon Thompson (Addison-Wesley Longman, 1996).

We will also pass out some readings. Several related books are on reserve at the Parks Library.

5 Grading

5.1 No Curve Grading

Your grade is independent of anyone else's grade in this class; that is, we do not grade on a curve. Ev-

Name	Office	E-mail	Phone	Office Hours
Gary Leavens	229 Atanasoff	leavens@cs.iastate.edu	294-1580	MW 1, TR 2

Table 1: Information on the Course Staff

eryone can get an "A" in this class. Our purpose in grading is to uphold a standard of quality and to give you feedback, it is not to rank students.

Instead of using curve grading as a final defense against problems that are too hard, I use the following policy. If a problem on the homework on a test is so hard that most students do not "get it", then I will eliminate it from the test or homework grading. If this problem was appropriate, then I will teach how to solve problems like it, and give a similar problem on another test or homework. If it was not appropriate, then we will ignore it. If you detect such a problem on a homework, let me know about it as soon as possible, as it will save us all a lot of work.

5.2 Homeworks and tests

Much of the grading in this class will be subjective. "A" work is excellent work, showing careful thought and a thorough understanding of the material, especially with creativity. "B" work shows an adequate understanding of the material.

Although we will not always make fine distinctions in points the nominal standard for "A" work will be 90%, normal "B" work will be 75%, normal "B-" will be 70%.

5.3 Evaluation of Work

Mathematical work will be evaluated much in the same way as programs, but with perhaps a bit more emphasis on clarity.

5.3.1 Evaluation of Oral Presentations

Oral presentations will be evaluated using much the same criteria as for essays. However, we will base most of your grade on what you say, rather than how well you say it.

5.3.2 Evaluation of Group Work

Some of the work in this class will take place in groups of several students. On each group homework or project, each person in the group gets the same grade.

5.4 Extra Credit

Some extra credit problems will be given in homeworks, you may also do others that interest you. Beware that one reason for having extra credit problems is to give me a place to put interesting problems that are of unknown difficulty. Sometimes these turn out to be quite hard.

If you do problems or other work (e.g., reading additional articles) on your own, please let us know. We like to hear about such things. Past experience is that extra credit work helps you do better in the course and is fun to boot!

We will take extra credit work into consideration subjectively during the assignment of final grades. (For example, if you are on the borderline between grades by other indications.)

5.5 Final Grades

You will receive one grade for each homework and test (including the final exam). An estimate of your final grade will be made by taking a weighted average of these grades, with the total weight on homeworks being the same as the total weight of the tests. We will then take extra credit and other factors into consideration to make small adjustments.

6 Group Problems

Some problems in the class may be worked on in groups. The following discusses the procedures that apply to such groups.

The reason for assigning work to groups is that you learn more effectively when you participate in a group discussion. According to material by Edgar Dale, as quoted by Dr. Richard M. Felder, people tend to remember about 50% of what they hear and see, but 70% of what they say, and 90% of what they both say and do. As any teacher can tell you, you really learn something when you have to explain and defend it to someone else!

Such cooperative learning is not just students sitting in a terminal room talking to each other, or group projects with only a few students doing the work. You will all depend on each other, but yet will be individually accountable for your own learning (on tests). You will have to develop your interpersonal skills. These skills are increasingly important in the business world.

Furthermore, groups promote active learning, and better questions in class.

To promote cooperative learning, we will form groups and assign some homework as group work. For problems assigned as group homework, the following policies apply.

6.1 Problems, Changing Membership

Once a group is formed, it should not change members during the semester. That is, the members should commit to working together for the rest of the semester.

If there is a problem in the group, you should come (preferably as a group) to talk to me (Gary). We will try to straighten it out.

6.2 Group Leadership

One group member will be designated the leader for each assignment. The leader will be responsible for:

- coordinating the work, and
- certifying that everyone in the group understands the problem and its solution before the work is handed in.

Once you have been a group leader, you may not be a group leader again until every other student in your group has been a group leader. (If the leader does not show up to a meeting, some one else may serve; but this should then be brought to the attention of the staff.)

You group may have other jobs that rotate as well such as a recorder, etc. Be sure these jobs rotate.

6.3 Group Work Process

We require *each* student individually write down a plan for solving the problem (a start of a solution, a partial solution, where the problem is too difficult or not understood — something to show that they have thought about the problem and know how to go about working on the problem) for *each* problem. When the group meets, the members should compare and discuss these plans, help those who are stuck, decide on a (composite) plan, implement the plan, and check the work. You can split up the work in implementing the plan, and in checking the work, but you need to be sure that everyone understands what went on, and what was discovered in carrying out the plan. It it important that each student start each problem, because on a test you will all have to work the problems on your own, and if you don't know how to start the problems, then you will find it difficult to get started on the test. This also ensures that all the group members are familiar with the problems and have some ideas for the solution before a group meeting.

What the group should *not* do is split up problems or problem parts before meeting. If you do that, you won't see how each problem works and how to start it. This is a recipe for disaster on tests, which are 1/2 of your grade. The point is for each student to learn how to do the problems more effectively, not to do less work (although that should also happen in groups).

As a check that each student is starting each of the problems, until further notice the group must turn in a set of individual plans (or partial plans with a description of what difficulty has them being stuck) for each group problem, one from each member of the group. Each individual solution should be signed at the top right by the student. This signature certifies that the handwritten solution is the student's work, done before the group meeting. These will not be graded, but will be used to check that your group is complying with this policy.

To improve the group process, on each assignment the group must describe:

- what the group did that went well worked,
- what aspect of the group needs improvement, and
- what (if anything) will be done differently on the next assignment.

This should be an honest assessment, and is intended to get the group talking about what is happening, improve the process, and to keep us informed of how your group is working.

6.4 Certifying credit for Group Work

On group homework, the leader must write "Leader:" followed by his or her name, and then the name of each *participating* group member. If a student's name appears on the solution set, it certifies that he or she has participated in the completion of some of the problems and understands *all* the solutions. A student may also be certified as participating in some but not all problems by a suitable note. The leader should explicitly note if he or she is not certified.

If a student (including the leader) is certified as having participated and understood, but that not the case, then both the student in question and the group leader will be considered to have cheated, and will be dealt with accordingly. A group member who does not participate will receive a zero (0) for each problem in the set of problems in which he or she did not participate.

6.5 Bonus for Tests

Each participating group member gets the same grade as the others for a homework. Tests are graded individually. However, if each student in the group gets above 80% on a test, then all the group's students will have their scores raised by 2% as a bonus.

6.6 Acknowledgement

The above material on cooperative learning draws extensively on materials from "Effective Teaching: A Workshop" by Dr. Richard M. Felder (September 9, 1993, pages 39, and 68-75).

7 Cheating

In working on a group projects (i.e., one in which we told you to work in a group), copying written work or code between the members of a group is not cheating.

For work assigned to individuals (or between groups for group work), the rule of thumb is: never give or use someone else's code or written answers. Such exchanges are cheating and not cooperation.

We will take action if we catch you cheating on a test or exchanging code or written answers. Read the section on "academic dishonesty" in the *Iowa State University Bulletin General Catalog.*

If you honestly believe that certain problems are too much busy work, then bring it to my attention; or failing that, only do the part of the problem that you think you need to do to learn the material and explain that to us.

8 Cooperation and Citation

You are encouraged to discuss homework, and other parts of the class with other students. However, in discussions outside of assigned group work, you should distinguish between helping and hurting yourself and the other student. In brief, you can help the other student by teaching them, and you can hurt them by giving them answers that they should have worked out for themselves. (Remember, when you're being tested, you won't be able to help each other.) The same applies to tutoring and help from me.

This most commonly occurs in giving away a key idea needed to solve the problem. For example, suppose you have studied a programming problem for an hour or so, and finally found that the key to the solution is to use a subroutine `critical`. Your friend, after working on the problem for 15 minutes, says "I just can't see how to do this" and you say "try using a subroutine called `critical`".

Although it takes more time, your friend will learn more if you say something like: "How are you approaching the problem, what's your plan?" (knowing that if your friend is not planning, no subroutine will be found). If your friend hasn't planned, you should let them do it, if they have trouble planning, tell them to think about problems discussed in class that were similar, etc. If, after planning, your friend still hasn't found subroutine `critical`, you should say something more direct like, "what subroutines do you have?" or "how do these subroutines help you get closer to the problem solution?" or "can you solve part of the problem?" The idea is to guide the other person's thinking process.

Perhaps a more common way to fall into the hurtful exchange of giving away the key idea is when you're talking over a problem that no one knows the answer to yet. Once one of you comes up with the key idea, it is tempting to blurt it out, impressing the others with your brilliance. If this happens, you should write "developed in cooperation with ..." on your solution. It would be better for the one who comes up with the key idea say "I have it, but now I can't tell you what it is" and then try to guide the others to the solution as described above.

If you use reference materials to solve a problem, please give a citation. Similarly, if you discuss a solution with another student, give credit where credit is due by making a note such as "the following idea was developed jointly with Alyssia P. Hacker," or "the following idea is due to Ben Bittwiddle."

9 Disclaimer

The details of this course are subject to change as experience dictates. You will be informed of any changes.