

# Syllabus – CS 314 – Participation in Programming Competition (1 credit)

## Topic Coverage

1. Learning to use the on-line problem-judging system at *uva.onlinejudge.org*
2. Teamwork strategies for a programming contest
3. Practice in those problem-solving areas that are often exercised in a programming competition. For example ...
  - Data Structures
  - String Manipulation
  - Combinatorial Algorithms
  - Graph Algorithms
  - Dynamic Programming
  - Computational Geometry

## Learning Outcomes

You will be expected to ...

1. Work effectively on a team of three competitors who must share one computer to solve difficult problems in the limited time span (typically five hours) afforded during a programming competition.
2. Design test data for programs that is comparable to the comprehensive test data typically used when programs are judged in a competition.
3. Practice writing programs that hone your skills in solving problems in all of the application areas cited in “Topic Coverage” above.
4. Commit to practice with and participate on a team in the ACM Intercollegiate Programming Contest.

## Course Grading Policies

Your grade for the course will be based upon the quantity and difficulty level of the practice problems you solve at the weekly practice sessions that are arranged for your team. In particular, factors that will determine your grade are:

1. To pass the course, you and your team must participate in the ACM Programming Contest during the day on Saturday, October 31. See *icpc.baylor.edu* and *http://ncna-region.unl.edu/*. You must engage, as a team, in a weekly practice session at a time, of your choice, when the three members of your team can commit to coming together for at least an hour without fail. You will be expected to provide me with a brief weekly log in which you describe your goals for that week’s meeting, the activity you engaged in to try to meet those goals, and how well you feel you succeeded in attaining that goal. Logistically the log will be a TitanApp document that I share with the three members of your team.
2. To earn a C, you and your team must successfully achieve goal 1 and also successfully solve 1 practice problems in the practice sessions before the contest.
3. To earn a B, you and your team must successfully achieve goal 1 and also successfully solve 2 practice problems in the practice sessions before the contest.
4. To earn an A, you and your team must successfully achieve goal 1 and also successfully solve 3 practice problems in the practice sessions before the contest.

Your grade for the course will be your team’s grade, that is, all members of a team will receive the same grade. The only exception to this would be a situation in which some team members, through meeting privately with me, described a situation in which one member of the team was not coming through on their commitment to the team. Such a commitment is to be measured solely in terms of a member’s cooperatively participating in all team activities, not in terms of whether someone is “solving enough practice problems”.