

IFRICS: A CONFIDENCE BUILDER

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The Institute for Retraining in Computer Science is a program jointly sponsored by the Mathematical Association of America and the Association for Computing Machinery. Its purpose is to retrain college faculty in order to qualify them to teach most courses in an undergraduate computer science major. The program consists of two summers of instruction and a major program to be written during the intervening year.

Each summer is structured into two four week blocks with a one week summer vacation between the blocks. During each of the blocks a student takes two courses of which one will contain a large amount of programming and one will contain (virtually) no programming. Although formal grading is not done in any course, students turn in assignments which are thoroughly evaluated. For example programming assignments are first "graded" and commented on by graders and then passed on to the course instructor to evaluate and comment.

I have been teaching programming courses for fifteen years at the undergraduate college level as well as some more advanced courses. Even with this amount of background, the program has not been easy for me. I have learned something in almost every class meeting, even the first lecture of the first Pascal programming course, whose equivalent I have been teaching for three years. Some of my colleagues have no background in computer science. Although about ninety percent of them are mathematics faculty members, we have some who are from fields as alien to computer science as history and industrial technology. I am accomplishing more, on an absolute scale, than most of my colleagues with no background in computer science, but everyone is learning enough to be able to do a good job teaching freshman and sophomore computer science courses.

There is no credit given for this program other than a certificate of completion. Rightly, IFRICS does not give a master's degree for learning undergraduate material. I would recommend this program over a master's degree program to college faculty who want to improve their ability to teach undergraduate computer science. There is no grade pressure, and consequently much of the learning is done when students help each other with problems. The program is rigorous and you get no sheepskin -- but if you don't need another degree and you do want the background in theory and computing to enable you to teach undergraduate computer science, I recommend this program to you.