



# SI 413: Programming Languages and Implementation



## The Course

## Fortran

This course examines basic concepts underlying the design of modern programming languages: types, control structures, abstraction mechanisms, inheritance, and constructs for programming. This course will include programming assignments in several languages.



Designed by John Backus and his IBM team in 1957. It was the first high level assembly language and is still used today, mostly in the scientific community.

You will learn the skills necessary to quickly learn and begin programming in any new language you may encounter.



Fortran is still used today, primarily by scientists, especially within the astrophysics community. This is because Fortran is good at handling math and numbers.



During the semester you will become familiar with how a programming language works and how you can write and modify your own language.

Fortran has some downsides that keep it from being mainstream. Input and output are incredibly difficult to format if you want anything other than simple read/write. Also, two dimensional arrays or stored differently than in C++, so you have to be mindful that while they have similar syntax, array calls mean entirely different things in Fortran.