Lectures 5/3:

We started on root finding for non-linear functions from which we can conclude:

- In applications
    - Computing f(x) from a given x is expensive
    - Graphical plotting of the function is hence mostly not possible
    - f'(x) is often unavailable
    - Every other computations in the different methods below are inexpensive so only the number of function computations is important

Discussed methods:

- Non-bracketing methods
    - Secant
    - Newton
- Bracketing methods
    - Bisection method
    - Regula Falsi (False Position)
    - Ridders

For each of the methods, we discussed robustness (global convergence), and the local (near solution) properties of convergence including the order and convergence constant.

Lectures 12/3:

We will discuss how to use the estimate convergence constants and how to use these to derive error estimates for the various methods for particular problems. You then worked on implementing the estimations of convergence constants in your solution to the test problem x-cos(x)=0.

Course material for the two above lectures is NR section 9 until the top of page 454 and the uploaded presentations.