Paul D. Olson* (pdo2@psu.edu). "Laplace Transforms or the Method of Undetermined Coefficients: which should be introduced first?". Preliminary report.

When we teach how to solve linear, second order ODE’s with constant coefficients, we have several choices. The Method of Undetermined Coefficients and the Method of Variation of Parameters are possible. We could also employ the use of Laplace Transforms. When working on an Initial Value problem, the Method of Undetermined Coefficients can be labor intensive in determining a particular solution. Laplace transforms use the initial conditions right away in solving the equation. But the building of the machinery of Laplace Transforms takes more time to develop. We shall consider the benefits and drawbacks of each approach. (Received September 20, 2016)