

1154-34-1748      **Corban Harwood\*** ([rharwood@georgefox.edu](mailto:rharwood@georgefox.edu)). *Lost at Sea: Introduction to Numerical Methods through Navigation.*

In this talk, we will discuss a two part modeling activity which guides two simultaneous discovery-based approaches to learning the basics of numerical methods for first order differential equations, by following the graphical and analytical perspectives of the forward Euler method and second order Taylor method. These methods are motivated by dead reckoning applied graphically to the velocity field over two dimensions to locate a ship lost at sea. We also provide a guide for planning, facilitating, and assessing the two simultaneous activities which require groups to compare their results from different perspectives to conclude whether or not the ship is found. (Received September 16, 2019)