From the very beginning of this course in applied mathematics, the history of science and mathematics plays an important role in motivating student learning. The application thread which ties the topics of this second course in differential equations together is groundwater flow, and students start the semester reading the original paper by Henry Darcy introducing Darcy’s Law and related differential equations. In completing subsequent course projects, students research the individuals for whom various ordinary and partial differential equations and special functions were named, producing written and oral presentations. The emphasis on the student products is the connection of the mathematics the students are learning with the applications that motivated the named mathematicians. (Received September 30, 2005)