

INTERMODULAR DESCRIPTION SHEET:	UMAP Unit 766
TITLE:	Using Original Sources to Teach the Logistic Equation
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MATHEMATICAL FIELD:	Differential equations, calculus
APPLICATION FIELD:	Mathematical modeling, biology
TARGET AUDIENCE:	Students in a course in differential equations or second-semester calculus.
ABSTRACT:	This Module uses original data, diagrams, and texts from three original sources to develop the logistic model of growth in natural systems with limited resources. The logistic differential equation and the familiar S-shaped logistic curve have applications in solving problems in ecology, biology, chemistry, and economics. The Module illustrates with concrete examples how mathematics develops, and it provides insights into the assumptions that drive the modeling process.
PREREQUISITES:	The reader is assumed to be familiar with geometric and arithmetic progressions. From calculus: differentiation and integration of elementary functions. A basic introduction to differential equations is desirable, but the Module itself might serve as just such an introduction.

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