Lawson, Daniel and Glenn Marion. 2008. An Introduction to Mathematical Modelling. Notes. 35 pp.

See https://people.maths.bris.ac.uk/~madjl/course_text.pdf . Accessed 8 September 2017.

This is a broad based set of notes with sections: Building Models, Studying Models, and Using Models. No depth on any model, no solution strategies, but good references to models, and general approaches that apply in most situations are offered. Lots to think about.

There is a nice section on comparing two models for the same phenomenon. These are the two offered:

AIC (Akaike Information Criterion): Defined for nested models (that is, each model is a subsequent simplification), the AIC value is $-2\log(L) + 2k$.

BIC (Bayesian Information Criterion): mostly used for time series data and linear regression.

Keywords: differential equation, model, comparison, criterion, building