List of Potential Projects:

The following projects all came from the Consortium for Mathematics and Its Applications (COMAP).

1. Immunological and Epidemiological HIV/AIDS Modeling , UMAP Unit 791
Studies both immunological (within the body) and epidemiological (spreading from person to person) aspects of the disease.

2. Saving drug poisoning victim, Interdisciplinary Lively Applications Project (ILAP) Module 4408.
Deals with drug absorption and elimination.

3. Ricker salmon population model, UMAP Unit 653.

4. Competitive hunter modeling, UMAP Unit 628.
Modeling two species that are competing for the same resources.

5. Tracking Lake Pollution, ILAP Module 4400.
Modeling the spread of pollution and clean up in the Great Lakes.
This module uses both differential equations and difference equations. You could try changing the difference equations into differential equations.

6. Difference Equations with Applications (to Economics and Social Science), UMAP Unit 322.
Introduction to difference equations and their use in studying applied problems in economics.

7. Small Mammal Dispersion: beavers, UMAP Unit 776.
Models how a population migrates from one area to another. Implications for population control; trapping.

8. Fixed Point Theorems in Economics, in UMAP / ILAP Modules 2003-04: Tools for Teaching, p. 167-193.
Provides proofs of existence and uniqueness of solutions of differential equations. Then goes on to examine some applications in economics.

9. Sludge in water recycling, Vol. 23, No. 4 of the UMAP journal, p. 395-408.
Descripition of a water recycling process at Oberlin College that uses bacteria to help degrade the waste.