INTERMODULAR DESCRIPTION SHEET: UMAP Unit 791

TITLE: Immunological and Epidemiological HIV/AIDS Modeling

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MATHEMATICAL FIELD: Differential Equations

APPLICATION FIELD: Public Health, immunology, epidemiology

TARGET AUDIENCE: Students in second-term calculus or in differential equations.

ABSTRACT: This Module applies ordinary differential equations to both immunological and epidemiological aspects of HIV/AIDS modeling. For each aspect, we introduce a basic system that describes the growth of HIV/AIDS in the absence of countermeasures. We then explain how the basic model can be modified to predict the effectiveness of intervention programs to counter the spread of HIV/AIDS.

PREREQUISITES: A primer (**Section 3**) on equilibrium analysis of systems of ordinary differential equations is included for those who have not had a course in ordinary differential equations.

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