



**UNIVERSIDADE FEDERAL DE SANTA CATARINA
CENTRO DE CIÊNCIAS FÍSICAS E MATEMÁTICAS
PÓS-GRADUAÇÃO EM MATEMÁTICA PURA E APLICADA**

MTM510049 Mathematical Modeling: Biomathematics

Pre-requisite: x-x

Weekly lesson hours: 06h

Discipline syllabus: Models of a single species; Continuous and discrete deterministic models. Logistic equation; stochastic models and population models; Delay equations and diffusion-reaction-diffusion equations.

BIBLIOGRAPHIC REFERENCES

Text book:

1. Howard Weiss, A Mathematical Introduction to Population Dynamics, IMPA, 27 Colóquio Brasileiro de Matematica (2009)
2. James Murray, Mathematical Biology I: An introduction, Springer (2001)
3. Thomas Erneux, Applied Delay Differential Equations, Springer (2009)
4. J.Crank, The Mathematics of Diffusion. CUP

COMPLEMENTARY BIBLIOGRAPHY

1. Mark Kot, Mathematical Ecology, Cambridge University Press (2001)
2. James Keener and James L. Sneyd, Mathematical Physiology, Springer (2008)
3. Pierre Tu, Dynamical Systems.