

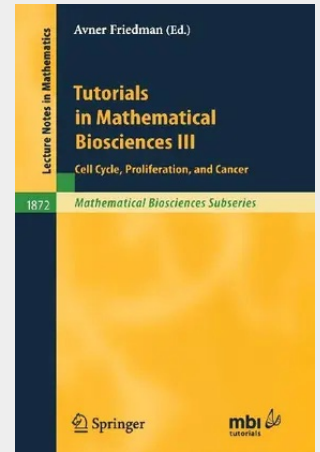
Friedman

## Tutorials in Mathematical Biosciences III

Cell Cycle, Proliferation, and Cancer

This volume introduces some basic mathematical models for cell cycle, proliferation, cancer, and cancer therapy. Chapter 1 gives an overview of the modeling of the cell division cycle. Chapter 2 describes how tumor secretes growth factors to form new blood vessels in its vicinity, which provide it with nutrients it needs in order to grow. Chapter 3 explores the process that enables the tumor to invade the neighboring tissue. Chapter 4 models the interaction between a tumor and the immune system. Chapter 5 is concerned with chemotherapy; it uses concepts from control theory to minimize obstacles arising from drug resistance and from cell cycle dynamics. Finally, Chapter 6 reviews mathematical results for various cancer models.

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