



# Biomedical Mass Transport and Chemical Reaction: Physicochemical Principles and Mathematical Modeling

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## DESCRIPTION

**Teaches the fundamentals of mass transport with a unique approach emphasizing engineering principles in a biomedical environment**

- Includes a basic review of physiology, chemical thermodynamics, chemical kinetics, mass transport, fluid mechanics and relevant mathematical methods
- Teaches engineering principles and mathematical modelling useful in the broad range of problems that students will encounter in their academic programs as well as later on in their careers
- Illustrates principles with examples taken from physiology and medicine or with design problems involving biomedical devices
- Stresses the simplification of problem formulations based on key geometric and functional features that permit practical analyses of biomedical applications
- Offers a web site of homework problems associated with each chapter and solutions available to instructors

Homework problems related to each chapter are available from a supplementary website (<http://engineering.case.edu/BMTR>).

These problems provide practice in basic computations, model development, and simulations using analytical and numerical methods.

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## ABOUT THE AUTHOR

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