

**MATH 4907 Methods of Mathematical Modelling
Fall 2020**

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| Instructor | David Amundsen |
| Email | dave@math.carleton.ca |
| Office Hours | by appt. (online) |
| Web page | http://mathstat.carleton.ca/~dave |
| Text | <i>Methods of Mathematical Modelling</i> T. Witelski and M. Bowen Springer |
| Lectures | Monday and Wednesday 1:00-2:30 (online) |
| Problem Sets | There will be four problem sets on a roughly bi-weekly basis. |
| Project | In lieu of exam, a final project will be submitted and presented at end of term. |
| Grading | Problem Sets 50 % Project 50 % |

Topics

- Rate Equations (**Ch. 1**)
- Transport Equations (**Ch. 2**)
- Variational Principles (**Ch. 3**)
- Dimensional Scaling and Analysis (**Ch. 4**)
- Self-similarity (**Ch. 5**)
- Model Reduction (**Ch. 11**) *–time permitting –*