0.1 Contact Information

**Instructor:**

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**Teaching Assistant:**

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0.2 Course Information

- **Course Materials:**
  - Lecture Notes

- **Course Website:**
  [http://arrow.utias.utoronto.ca/~groth/aer1310](http://arrow.utias.utoronto.ca/~groth/aer1310)

- **Timetable:**
  - Fridays, 2–5 pm, UTIAS Lecture Hall
  - January 11 – April 26, 2019.

0.3 Marks and Assignments

- **Marking Scheme:**
  - Four Assignments (60%)
  - Final Exam (3 hours in April 26, 2019) (40%)

- **Assignment Due Dates:**
  - Assignment #1, Due: February 22, 2019.
  - Assignment #2, Due: March 15, 2019.
  - Assignment #3, Due: April 5, 2019.
  - Assignment #4, Due: April 22, 2019.
0.4 Course Outline

0. Course Information
1. Introduction to Turbulent Flows (Chapter 1)
2. Conservation Equations for Turbulent Flows (Chapters 2 & 5)
3. Algebraic Turbulence Models (Chapter 3)
4. One-Equation Turbulence Models (Chapter 4)
5. Two-Equation Turbulence Models (Chapter 5)

0.5 Course Outline

6. Effects of Compressibility (Chapter 5)
7. Second-Order Closure Turbulence Models (Chapter 6)
8. Direct Numerical Simulation (DNS) (Chapter 8)
9. Large-Eddy Simulation (LES) (Chapter 8)
10. Hybrid RANS/LES Methods: Detached-Eddy Simulation (DES) (Chapter 8)