

# ATOC 512. ATMOSPHERIC AND OCEANIC DYNAMICS.

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Credits: 3

Offered by: Atmospheric & Oceanic Sciences (Faculty of Science)

Terms offered: Fall 2025

[View offerings for Fall 2025 in Visual Schedule Builder.](#)

## Description

Equations of motion used to study waves, turbulence, and the general circulation of the atmosphere and oceans. Standard approximations to these equations, including the Boussinesq, primitive, quasigeostrophic, and rotating shallow water equations. Emphasis is on effects for which rotation and/or buoyancy play essential roles. Simple classes of flow, e.g., geostrophic, thermal wind, Ekman, and inertial oscillations.

- Fall
- 3 hours lecture
- Prerequisite (Undergraduate): MATH 314, MATH 315, or permission of instructor

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