Teaching Undergraduates Scientific Writing: VU Perspective

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Freshman Year
- **Reading** Journal Articles
  - Bjerknes and Solberg (1922); Mass (1991); Semple (2003)
- **Write** about the evolution of a synoptic-scale system (i.e., mid-latitude cyclone)
- Make maps via GEMPAK
- Reference maps to describe evolution of event
- 5-6 pages

Junior Year
- **Thermodynamic Meteorology**
  - **Read** thermodynamic-based journal article
  - **Write** review of journal article
- **Dynamic Meteorology II**
  - **Read** dynamic-based journal articles
  - **Write** literature review of dynamic-based topic (10 pages)
- **Scientific Writing in Meteorology** (1 cr) NEW! (See Below)

Sophomore Year
- Meteorological Observations and Analysis
  - **Read** area forecast discussions
- Climatology
  - **Read** journal articles
  - **Write** journal article reviews
- MET Electives (Sophomore, Junior, and Senior)
  - **Read** journal articles
  - **Write** group projects

Senior Year
- **Synoptic Meteorology** (Writing Intensive Course)
  - **Write** weekly area forecast discussion (2/wk)
  - AFD Portfolio
  - **Write** Group Synoptic Case Study (10-15 pages)
    - **Draft/Revisions**
    - **Final version**
  - **Mesoscale Meteorology**
  - **Read** journal articles
  - **Write** group case study
  - Optional written in-depth case study (in lieu of final exam)

**Scientific Writing in Meteorology**

**Goals**
1. Explicitly introduce students to appropriate scientific writing standards in meteorology
2. Analyze scientific arguments and writing
3. Practice good scientific writing, reviewing, and revising habits

**Weekly Topics**
- What is scientific writing? Where to begin?
- Argumentative Writing
- Structure of Scientific Writing
- Brainstorming, Outlining, and Drafting
- Constructing Effective Paragraphs
- Constructing Effective Sentences
- Effective Words and Phrases
- Editing/Revising
- Citations and References
- Figures and Tables
- Abstracts and Titles
- Journal Reading Club

**References**
doi: 10.1017/S1350482703005004