Geological Sciences 458: Volcanology
Syllabus

Fall Semester 2006
3 credits.

MWF 10:10-11:00 2146 Snee

Text: H. Schmincke *Volcanism*
Other readings from the literature will be assigned

Instructors: Prof. R. W. Kay  2122A Snee, 5-3461
            Prof. W. M. White  4112 Snee, 5-7466, wmw4@cornell.edu

Part I: Introduction, Magmas and their Properties

Week 1 (Aug 25). Introduction/ Historical Background (White)
Reading Assignment: Schmincke, Chapters 1 & 2

Week 2 (Aug 28 – Sept 1). Magmas and Melting (White)
Reading Assignment: Schmincke, Chapters 3 & 4

Part II: Overview of Global Volcanism

Week 3 (Sept 4-8). Global Volcanism I: Mid-ocean ridges, oceanic islands (Kay)
Reading Assignment: Schmincke, Chapters 5 & 6

Week 4 (Sept 11-15). Global Volcanism II: Continental Volcanoes and Island Arcs (Kay)
Reading Assignment: Schmincke, Chapters 7 & 8

Part III: Volcanic Eruptions and their Products

Week 5 (Sept 18-22). Volcanic Edifices and Deposits (White, Kay)
Reading Assignment: Schmincke, Chapter 9

Week 6 (Sept 25-Sept 29). Explosive Eruptions (White)
Reading Assignment: Schmincke, Chapter 10

Week 7 (Oct 2-6). Pyroclastic Falls and Flow Deposits, Surges; Lahars I (White)
Reading Assignment: Schmincke, Chapter 11

PRELIM EXAM (October 6 tentative)

FALL BREAK OCT 9-10
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Week 8 (Oct 11-13). Magma & Water (White)
Reading Assignment: Schmincke, Chapter 12

Part IV: Case Histories

Week 9 (Oct 16-Oct 20). Case Histories I: Iceland, Japan, Mid-ocean ridges (Kay)
Reading Assignment: TBA

Week 10 (Oct 23-27). Case Histories II: Mt. St. Helens, Hawaii (White)
Reading Assignment: TBA

Week 11 (Oct 30- Nov 3). Hawaii Case History/OPEN (White, Kay)
Reading Assignment: TBA

Part V: Benefits and Hazards of Volcanoes; Extraterrestrial Volcanism

Week 12 (Nov 6-10). Volcanic Hazards (White)
Reading Assignment: Schmincke, Chapters 13&14

Week 13 (Nov 13-17). Volcanic Hazard Assessment & Management/OPEN (White, Kay)
Reading Assignment: TBA

Week 14 (Nov 20-22). Benefits of Volcanoes (Kay)
Reading Assignment: Schmincke, Chapter 15

THANKSGIVING Break Nov 23-24

Week 15 (Nov 27 – Dec 1). Extraterrestrial Volcanism (Kay)
Reading Assignment: TBA

Final Exam: Friday, Dec. 8, 2:00-4:30 PM.