

Structural Geology Seminar

GEOL 425

Fall 2016

Monday

1 – 3 p.m.

C. M. Bailey

Office- McStreet Hall 215

x12445

cmbail@wm.edu

Preamble

Tremendous forces within the Earth cause rocks to be stretched, rotated, buckled, and twisted. In this seminar we will study deformed rocks and attempt to quantify the distortion (strain) that these rocks have experienced (*well, enjoyed as rocks clearly enjoy being deformed*). Our main focus will involve collecting data for a number of new research projects: we'll start with a project on campus examining fractures in James Blair Hall, we'll study a magnificent outcrop in the Virginia Piedmont, and draw cross sections of some distinctively folded rocks in the Valley & Ridge province. Some of our projects may develop into research presentations for professional conferences, and possibly serve as the kernel of a Senior Research project. In the process, we'll also deepen our knowledge base by reading a suite of articles from the professional literature and discussing their significance in class.

#	Date	Topics & Assignments
1	Aug. 29 th	Structural Geology Reintroduced- Setting Our Research Agenda <i>Fossen- Ch. 1 & 2</i>
2	Sept. 5 th	Fractures are Fabulous- Mapping James Blair Hall's cracked 1 st floor, from field data to digital data <i>Fossen- Ch. 7 & 9</i>
3	Sept. 12 th	Strain on the Brain- 2D and 3D strain <i>Fossen- Ch. 2 & 3, Hatcher & Bailey</i> Article 1 (<i>Bailey presents</i>) – Pebble deformation and thrusting in the Bygdin area (Southern Norway)- Hossack, 1968, <i>Tectonophysics</i> Chose your article to present
4	Sept. 19 th	Microstructures 1- A Little World of Mystery <i>Fossen- Ch. 10</i> Article 2 - Evidence for non-plane strain flattening along the Moine thrust...- Strine and Wojtal, 2004, <i>Journal of Structural Geology</i> James Blair project due (5%)
5	Sept. 26 th	NO Class- GSA meeting in Denver, Colorado <i>Geology of Virginia review articles</i> Nottoway Falls sample analysis due (5%), Friday, Sept. 30th
	Saturday, Oct. 1 st	FIELD TRIP to Nottoway Falls (<i>rain date Sunday, Oct. 2nd</i>) Nottoway Falls field notes due (5%)
6	Oct. 3 rd	Field Review and Cross Section Construction: A Primer Article 3 - Deformation mechanisms: recognition from natural tectonites- Knipe, 1989, <i>Journal of Structural Geology</i>

