

1035-W1-645 **Richard J. Bagby*** (rbagby@nmsu.edu), Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003. *Keep it real!* Preliminary report.

Undergraduate courses in real analysis should be designed to meet the needs of the students in the course, rather than the goals of the instructor. These introductory courses become terminal all too often. It is vital that the students gain an appreciation not only of how the subject can be developed but why it should be; its presumed utility in later courses is not enough justification for them. Here we present some thoughts about how to design the content of an introductory course in real analysis. As examples, we offer some unusual but informative proofs of compactness, the existence of extreme values of continuous functions, and uniform continuity. (Received September 12, 2007)