

The American Chemical Society (ACS) Division of Chemical Education (Chem Ed) Examinations Institute (found at <http://chemexams.chem.iastate.edu/>) has several standardized examinations in various disciplines of chemistry. These exams can be found by following the “Exams” link on the webpage aforementioned.

For Organic Chemistry (our CHM 238 & 239 lecture course sequence), there are first semester exams and exams that cover the full year course (found by clicking “Organic Chemistry” on <http://chemexams.chem.iastate.edu/materials/exams.cfm>).

The most recent full year organic chemistry exam (OR08) is currently given as a final examination for CHM 239.

The exam (Stock Code OR08, Title: Organic Chemistry 2008 –full year organic chemistry exam) is a 70 question, multiple choice timed examination (110 minutes). The exam is confidential, so I cannot provide a copy. The questions are not divided into headed sections, so I will not provide a breakdown on the number of questions on each topic.

The ACS Chem Ed Examinations Institute collects data on all examinations given and reports statistical data for every examination. For OR08, the mean was 39.47, the standard deviation ( $\sigma$ ) was 12.16, the median was 38.2, KR-21 rel 0.90 and Std error/meas 3.91. One  $\sigma$  below the mean is 27.31, and a score of 27 is the 17<sup>th</sup> percentile. One  $\sigma$  above the mean is 51.63, and a score of 52 is the 82<sup>nd</sup> percentile. These statistics are based on 2758 students at 48 colleges ranging from community colleges to liberal arts colleges to state research universities.