

### ACS Organic Exam: The Details.

The ACS organic exam will be given on Thursday, December 7<sup>th</sup> 2017 at 10:00-11:50 am in A 277. Arrive at 9:45 so that you have time to fill in some forms and so we can get started right on time. Everything that you need for the exam will be provided, including pencils.

***No notes, calculators, models or tables are allowed in the testing area! Everything that you will need is provided.***

#### How will the standardized ACS exam be figured into my course grade?

Your percent score will be based on national percentile ranking. A score at the 50th percentile is, by definition, average. Therefore the percentile score must be scaled to reflect grading on a 100-point scale and be consistent with the grade cutoffs listed in the course syllabus.

The class average in organic chemistry is usually 75/100. Therefore, a student scoring at the 50th percentile on the ACS exam should receive a grade of approximately 75%. This scaling will be accomplished by using the following formula:

$$\text{Scaled Score} = \text{ACS percentile} + [ (100 - \text{ACS percentile}) (\text{ACS percentile}/100) ]$$

Using the example given above, for a student score at the 50th percentile on the final, we get:

$$50 + [(100 - 50) (50/100)] = 75\%$$

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To see how this works, the following ACS percentile conversions were calculated using the formula given above:

90 percentile => 99 %  
80 percentile => 96 %  
70 percentile => 91 %  
60 percentile => 84 %  
50 percentile => 75 %  
40 percentile => 64 %  
30 percentile => 51 %  
20 percentile => 36 %  
10 percentile => 19 %

This is data from the American Chemical Society Exams Institute for the version of the exam that you will be taking. (from: <http://chemexams.chem.iastate.edu/national-norms/or12.html>). (The data periodically change slightly as more schools submit their exam scores to the Exams Institute.)

<b>American Chemical Society Division of Chemical Education Composite Norms Organic Chemistry Form 2012</b>					
Score	Percentile	Score	Percentile	Score	Percentile
70	100	46	79	22	6
69	100	45	77	21	4
68	100	44	74	20	3
67	100	43	72	19	2
66	100	42	69	18	2
65	100	41	66	17	1
64	100	40	63	16	0
63	99	39	60	15	0
62	99	38	58	14	0
61	98	37	54	13	0
60	98	36	51	12	0
59	97	35	48	11	0
58	96	34	44	10	0
57	95	33	41	9	0
56	95	32	37	8	0
55	94	31	33	7	0
54	92	30	29	6	0
53	91	29	25	5	0
52	90	28	21	4	0
51	88	27	18	3	0
50	87	26	15	2	0
49	85	25	12	1	0
48	83	24	10		
47	81	23	8		

Mean	39.47
Std deviation	12.16
Median	38.2
KR-21 reliability	0.90
Std error/meas	3.91