

CSC401/2511 Report of grades 2012

The 2012 class had 33 undergraduates and 18 graduates. Seven individuals dropped the course. The 2012 class did significantly better than the 2011 class on the final exam and on assignment 3, with no significant difference on the other two assignments.

The project option was introduced as a pilot this year for graduate students. The average project grade was 83.5%.

These data do not include alterations to grades after 19 April 2012 (including granted late submissions of assignments). This is not an official document.

Assignments

Assignment means and standard deviations are summarized over all undergraduates and graduates in the table below. No distinction is made between undergraduate and graduates here.

Table 1 Means (and standard deviations) for each of the three assignments.

Assignment 1	Assignment 2	Assignment 3
82.1% ($\sigma = 16.8$)	82.0% ($\sigma = 15.9$)	70.6% ($\sigma = 24.4$)

We compare the 2012 class to the 2011 class.

1. There is no statistical difference between classes on assignment 1 (heteroscedastic one-tailed $t(117) = -1.66, p = 0.29$, interval ± 3.26 , Cohen's $d = 0.12$. The 2011 average was 79.92%
2. There is no statistical difference between classes on assignment 2 (heteroscedastic one-tailed $t(117) = -1.66, p = 0.11$, interval ± 3.02 , Cohen's $d = 0.26$. The 2011 average was 77.62%.
3. The 2012 class did significantly better on assignment 3 (heteroscedastic one-tailed $t(111) = -2.62, p < 0.005$, interval ± 7.06 , Cohen's $d = 0.64$. The 2011 average was 53.76%.

Histograms of the distribution of marks follow.

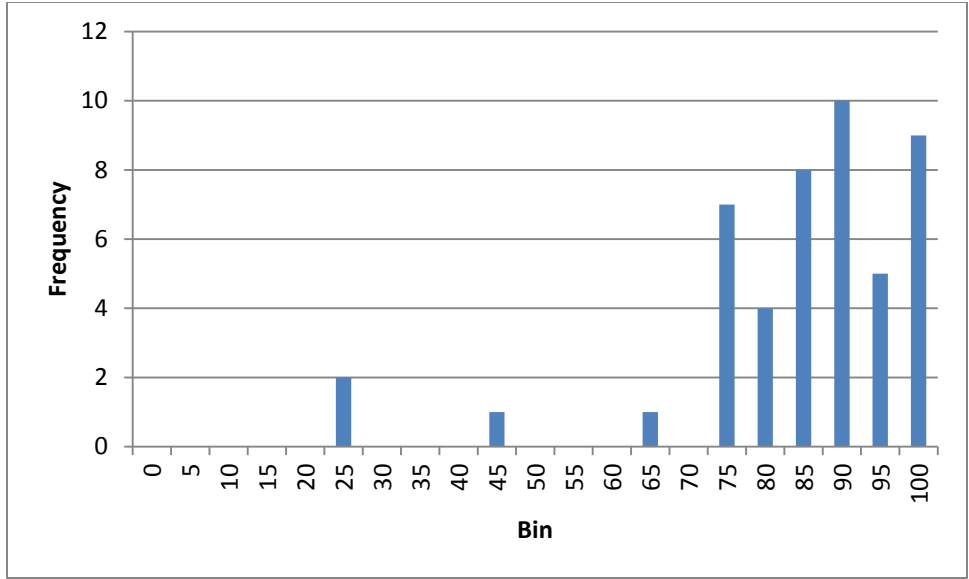


Figure 1 A1: Distribution of marks (%).

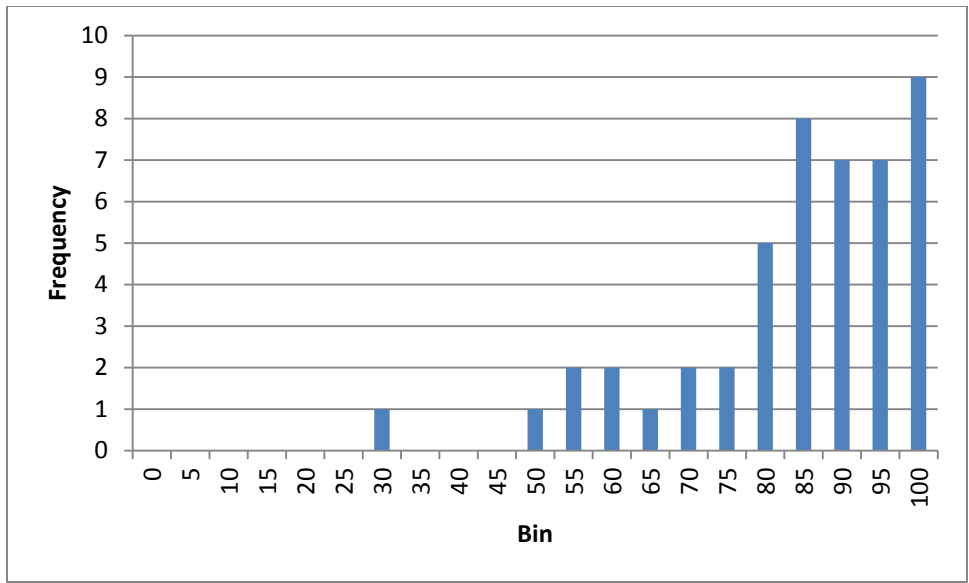


Figure 2 A2: Distribution of marks (%).

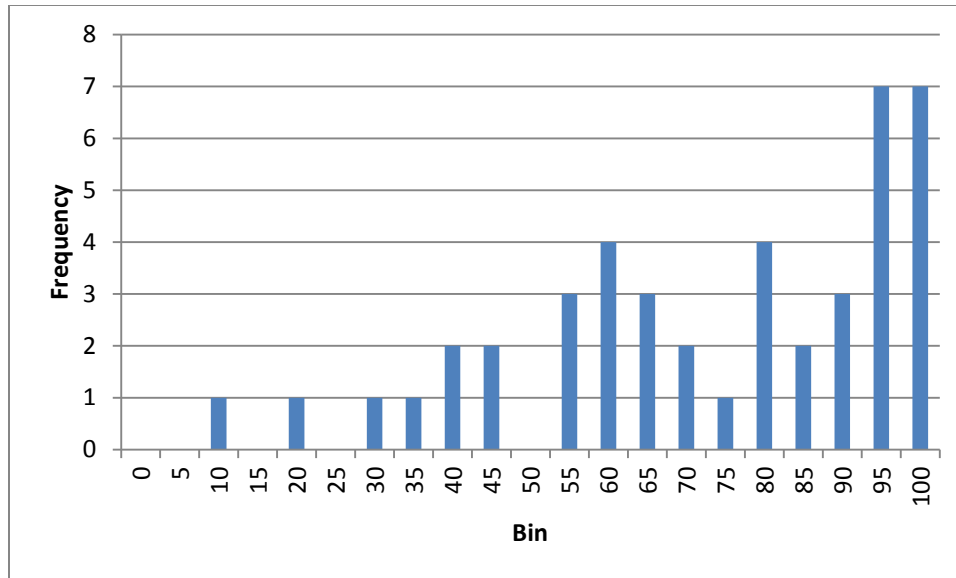


Figure 3 A3: Distribution of marks (%).

Final

33 undergraduates and 18 graduates wrote the final exam. The breakdowns per section are shown in the table below

Table 2 Average (and standard deviation) of marks for each of the 5 sections of the exam, across both undergraduates and graduates.

	MC	SA	HMM	SMT	ASR	Total
Undergrad	30.0 (4.2)	23.5 (4.2)	6.9 (2.2)	6.8 (3.1)	5.9 (2.4)	73.1 (10.9)
Grad	29.6 (7.2)	24.9 (5.4)	8.5 (1.9)	8.5 (2.1)	6.3 (2.1)	77.7 (15.9)
Out of	40	30	10	10	10	100

Undergraduate marks ranged from 51 to 93.5. Graduate marks ranged from 44 to 99.5. Only one individual failed the final exam. Histograms for undergraduate and graduate marks on the final are shown below.

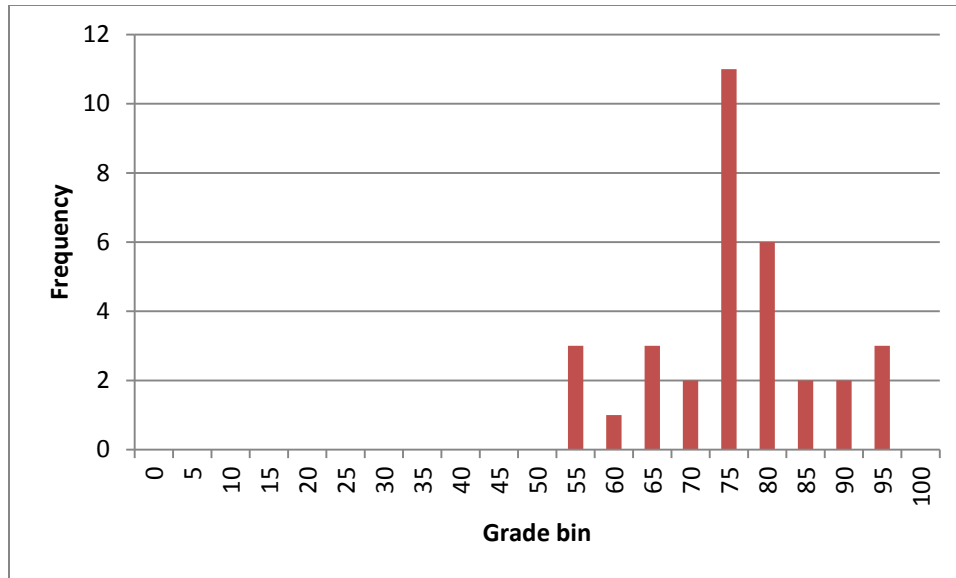


Figure 4 Distribution of final marks -- undergraduate.

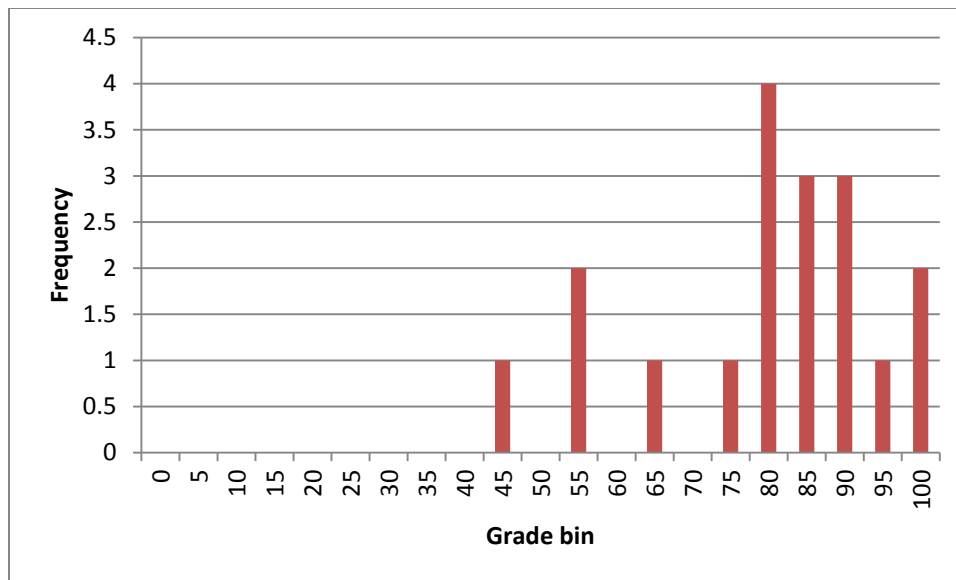


Figure 5 Distribution of final marks -- graduate.

There is no significant difference between graduates and undergraduates on the final exam given a one-tailed heteroscedastic $t(49) = -1.68, p = 0.14$, interval ± 3.64 , Cohen's $d = 0.36$.

Overall, the 2012 class did significantly better than the 2011 class on the final exam with a heteroscedastic one-tailed $t(94) = -1.66, p < 0.05$, interval ± 4.16 , Cohen's $d = 0.44$. The average in 2011 was 67.96%.