

Grading System

- Coursework will be weighted as follows:

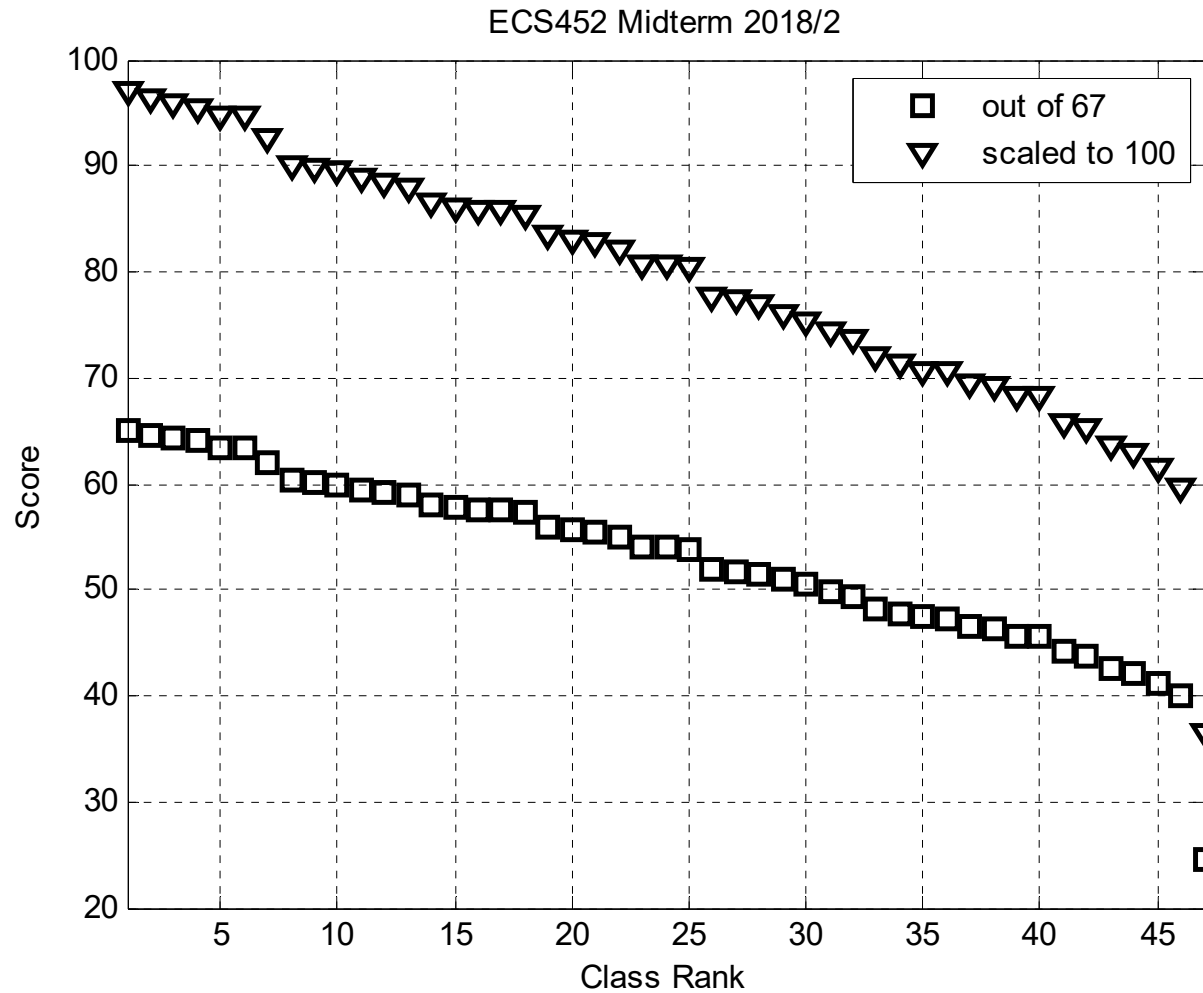
Assignments	5%
Class Discussion	5%
In-Class Exercises	10%
Midterm Examination	35%
Final Examination (comprehensive)	45%

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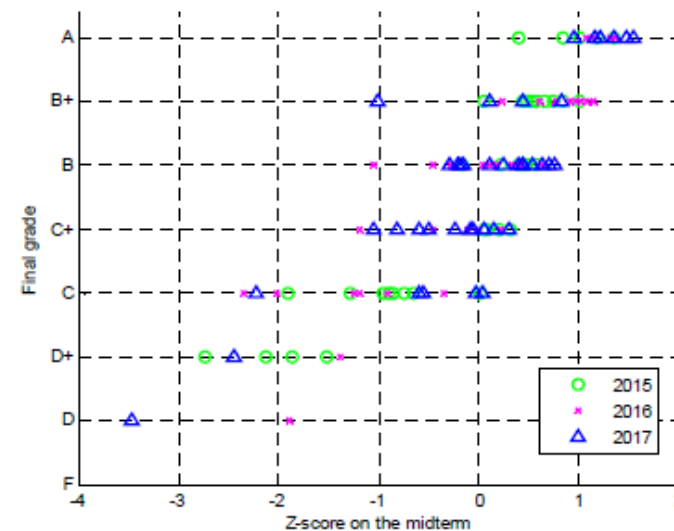
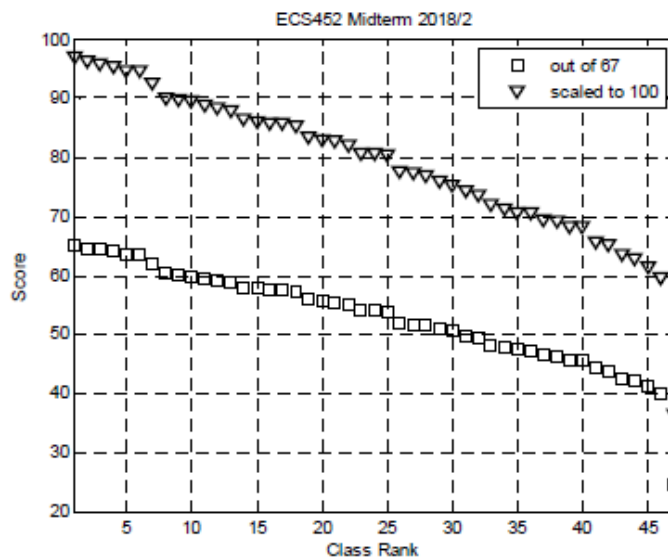
ECS452 Midterm 2018/2



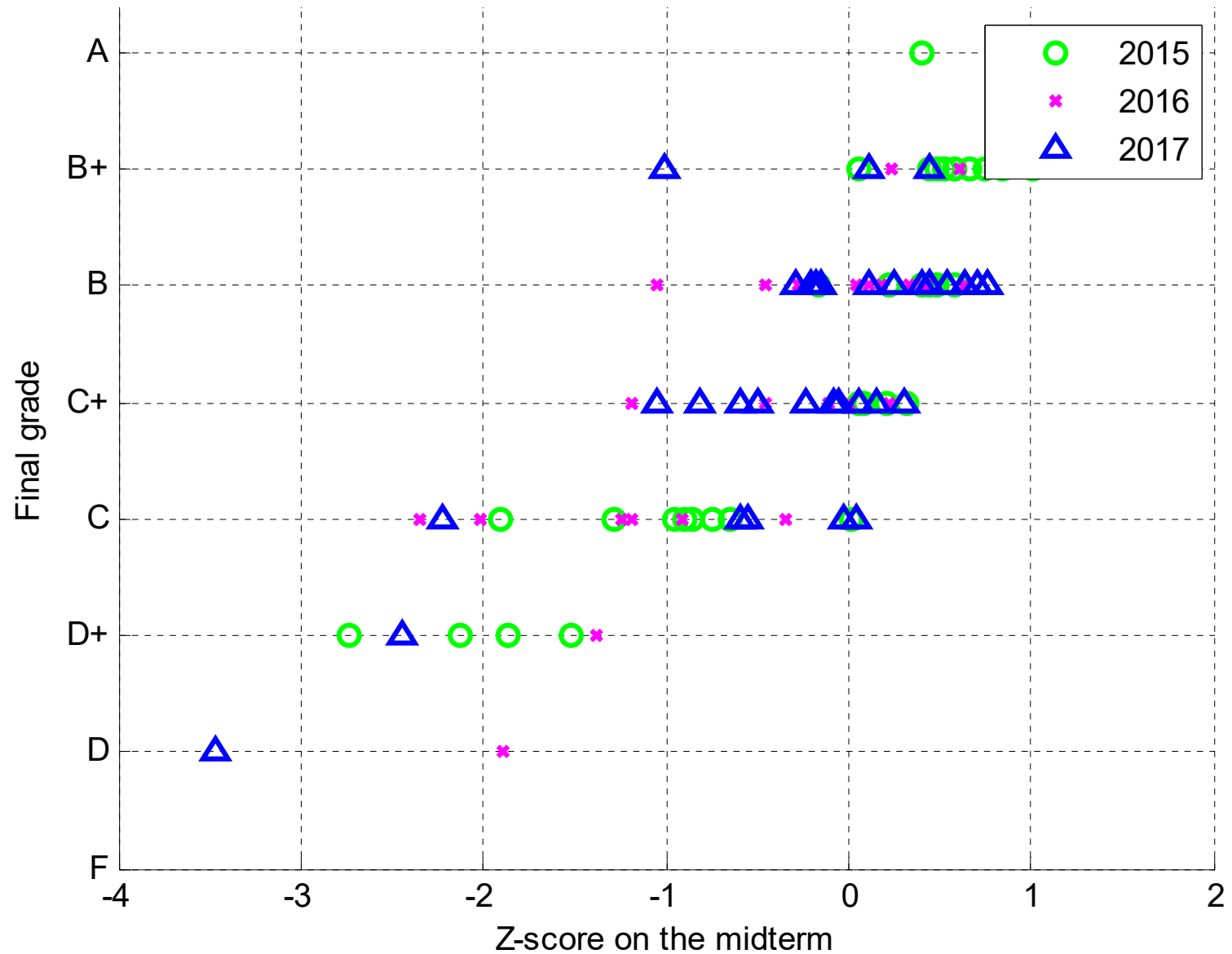
Average	79.0/100
Standard Deviation	12.2/100

Reading the cover page

Name	
ID	
Score (out of 67)	65
Score (out of 100)	97
Class Rank	1
Z-score	1.48
Class Average (out of 67)	52.9
Class Average (out of 100)	79.0
Standard Deviation (out of 100)	12.2



2015-2017 Information



Reading the graded exam

- Based on subtraction out of the full score (67).
- See the red circled numbers for the subtracted scores on each page.
- “OK” usually means your answer is incorrect but points are not deducted.

Problem 2. (3 pt) Consider two codes (for source coding) below.

Codebook for Code C:						Codebook for Code D:					
x	e	l	m	n	o	x	e	l	m	n	o
$c(x)$	00	01	010	011	1100	$c(x)$	0	001	0101	1101	11

(a) (1* pt) Is code C uniquely decodable? If yes, explain how to decode any encoded string. If no, give an example of an encoded string that is not uniquely decodable.

~~Yes~~ because the start and the next source can be separate to find the string ends.

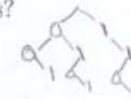
-2

(b) (1 pt) [ENRPa] Is code D uniquely decodable?

NO X

(c) (1 pt) [ENRPa] Is code D instantaneous?

Not instantaneous



Problem 3. (10 pt) Consider a random variable X which has five possible values. Their probabilities are shown in the table below.

x	$p_X(x)$	Codeword $c(x)$	$\ell(x)$
e	0.42	000 OK	3 ✓
l	0.17	0010 OK	4
m	0.08	1011 X	4
n	0.08	01 OK	2
o	0.25	1 OK	1

-3

-1

OK.

1-3