Note the following Syllabus Changes for **2016** to the ratemaking portion of the exam:

Removed: ISO PP Auto Manual. See my Section 20.

Removed: Chapter 2 of Basic Ratemaking. See my Section 2.
        This is probably still useful background material.

Replace: American Academy of Actuaries Committee on Risk Classification,
"Risk Classification Statement of Principles," June 1980,
with Actuarial Standard of Practice No. 12: Risk Classification (for all Practice Areas), American
Academy of Actuaries, **2005**.
        http://www.actuarialstandardsboard.org/wp-content/uploads/2014/07/asop012_101.pdf
        See my Section 19.

page 142: The written dates should have been 2014 and 2015 rather than 2015 and 2016, and September should have been October.

Exercise: Assume the following exposures are written in 2014 and 2015.

April 1, 2014: 100   October 1, 2014: 100   April 1, 2015: 100   October 1, 2015: 100.

Determine the factor to bring CY2015 earned premiums on level.

[Solution:

Date	Expos.	Portion Earned in CY2015	CY2015 Earned Expos.	Rate Level	Product
April 1, 2014	100	1/4	25	1.0	25
Oct. 1, 2014	100	3/4	75	1.0	75
April 1, 2015	100	3/4	75	1.0	75
Oct. 1, 2015	100	1/4	25	1.1	27.5
Total			200		202.5

Average rate level of CY2015 earned exposures: 202.5/200 = 1.0125.

On-Level Factor is: 1.1 / 1.0125 = 1.0864.

Comment: With level writings this matches the parallelogram method.]

Exercise: Assume instead the following exposures are written in 2014 and 2015.

April 1, 2014: 100   October 1, 2014: 200   April 1, 2015: 300   October 1, 2015: 400.

Determine the factor to bring CY2015 earned premiums on level.

[Solution:

Date	Expos.	Portion Earned in CY2015	CY2015 Earned Expos.	Rate Level	Product
April 1, 2014	100	1/4	25	1.0	25
Oct. 1, 2014	200	3/4	150	1.0	150
April 1, 2015	300	3/4	225	1.0	225
Oct. 1, 2015	400	1/4	100	1.1	110
Total			500		510

Average rate level of CY2015 earned exposures: 510/500 = 1.02.

On-Level Factor is: 1.1 / 1.02 = 1.0784.

Comment: With increasing writings this differs from the result of the parallelogram method.]

Exercise: Assume instead the following exposures are written in 2014 and 2015.

April 1, 2014: 400   October 1, 2014: 300   April 1, 2015: 200   October 1, 2015: 100.

Determine the factor to bring CY2015 earned premiums on level.

[Solution:

Date	Expos.	Portion Earned in CY2015	CY2015 Earned Expos.	Rate Level	Product
April 1, 2014	400	1/4	100	1.0	100
Oct. 1, 2014	300	3/4	225	1.0	225
April 1, 2015	200	3/4	150	1.0	150
Oct. 1, 2015	100	1/4	25	1.1	27.5
Total			500		502.5

Average rate level of CY2015 earned exposures: 502.5/500 = 1.005.

On-Level Factor is: 1.1 / 1.005 = 1.0945.]

page 22, sol. 1.6c: For CY data, Reported Losses = Paid Losses + Change in Case Reserves.

page 22, sol. 1.8c: 65% + **25.46%** = 90.46%.

page 120, sol. 4.49: (a) For policy #**2**, there would have been 1 written exposure assigned to CY07 (which is closed at the end of 2007 for accounting purposes.)
Therefore, when this policy is cancelled midterm during 2008, we need to put -1/2 written exposure in CY08, so that in total for policy #**2** we have exposures of: 1 - 1/2 = 1/2

page 140: the denominator of the OLF should say **PY**08

page 141, sol. to exercise: Area = 7/8, and Area B = (**1/2**)(1/2)^2 = 1/8.

page 268, sol. 5.92: (395/390) 1.05$^{2.25}$ = **1.130**.

page 304, next to last line: the **$1000** loss did not lead to a payment before inflation

page 315: Table 6.3 in Basic Ratemaking uses the ratio of totals rather than working with the individual ratios by AY.

page 374, sol. 6.34: The average trended pure premium is **$11.23**.

page 383, sol. 6.48: Table 6.3 in Basic Ratemaking uses the ratio of totals rather than working with the individual ratios by AY.
Take the ratio of the total excess losses to total non-excess losses: 97/ (5230 - 97).= 0.0189
Subtract the excess losses for 2015 from the reported losses, then multiply by the adjustment factor: (1.0189)(550 - 18) = $542,055,000.

page 431, delete that whole second paragraph on the page that reads:
"Instead one could take the indicated statewide average basic limits loss pure premium and load it for all expenses plus profit and contingencies. This is the indicated average statewide basic limits rate. Multiplying by an average increased limit factor gives the average proposed rate."

page 455, Q. 7.17: Remove: "The expected loss and lae ratio underlying this rate is 68%."
Add: "The provision for variable expense plus profit in this rate is 26%."

page 510, exercise: "trended ultimate on-level exposures" should be "trended ultimate exposures."

page 624, sol. 8.28: or March 1, 201**7**, since the policies are for six month terms.
Thus the trend period from AY 2015 is from July 1, 2015 to March 1, 201**7**

page 638, sol. 8.50e: (**1.277**)(1 - 25%) = 0.958.

page 646, sol. 8.63b: Therefore, the effect on he permissible loss ratio is: $\dfrac{77\%}{76\%}$ - 1 = **1.3%**.

page 647, sol. 8.64a: CY0**7** projected premium at present rates: (436,385)(1.03$^{2.5}$) = 469,854.

page 711, Q.9.29: Class 2 should have 2**5**,000 exposures.

page 715, Q. 9.40b: Using the result of part (a), determine the territory relativities.

page 749, sol. 9.33: (63.2%)(1.3636) + (1 - 63.2%)(1.2069) = **1.3060**. OK in spreadsheet.

p. 837: BIC = (-2) (maximum loglikelihood)) + (number of parameters) **ln**(number of data points).

page 919, next to last line: (280,000/3) (3/4) = $70,000.

page 983, Q. 11.58: the profit provision should be 3% for all layers.

page 1031, sol. 11.43: replace "per $100 of value" with "per $100 of insured value"

page 1054, sol. 11.107: 1 - 6.5% = 0.9**3**5.

page 1394: The losses covered by Policy Group 2 will be part of lag 0 of Accident Year 2005 and lag 1 of Accident Year 200**4**.

page 1395: and also provides these same 700 doctors with coverage for Accident Year 200**4**, Report Year 2005

pages 1534 and 1536: should refer to Tables 13.**16** and 13.**17**.

In my **Section 21**, I should <u>not</u> refer to the present value of losses or discounted losses, but instead expected value of losses, in order to match Tables 13.16 and 13.17 in Werner and Modlin.