



Report to ECC from the Board of Examiners

SEMESTER 2 2015

PART III

BOARD OF EXAMINERS' REPORT

(Public Version)

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Board of Examiners' Report Semester 2 2015

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CHAIR'S REPORT

SUMMARY

Examination Administration

The Semester 2 2015 Part III examinations of the Actuaries Institute ("Institute") were held from the 13 October through to the 21 October 2015.

Pass Rates

The number of candidates presenting for the Semester 2 2015 Part III Exams, the number of passes and the resulting pass rates are shown in the table below, together with the corresponding numbers for the previous three exam periods.

Table A: Pass Rates by Part III Course

	2015 (2)			2015 (1)			2014 (2)			2014 (1)		
	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%
2A Life Insurance	57	18	32	65	20	31	56	25	45	62	16	26
2B Life Insurance	50	17	34	53	21	40	51	20	39	60	22	37
3A General Insurance	82	23	28	90	28	31	76	15	20	66	17	26
3B General Insurance	54	20	37	54	20	37	63	24	38	61	16	26
5A Invest. Man. & Fin.	49	10	20	n/a	n/a	n/a	32	17	53	n/a	n/a	n/a
5B Invest. Man. & Fin.	n/a	n/a	n/a	24	15	63	n/a	n/a	n/a	24	7	29
6A GRIS	n/a	n/a	n/a	21	10	48	n/a	n/a	n/a	15	9	60
6B GRIS	17	7	41	n/a	n/a	n/a	11	7	64	n/a	n/a	n/a
ST9 ERM	92	44	54	104	38	37	113	41	36	98	22	22
ST1 Health & Care	82	41	50	19	6	32	19	3	16	20	2	10
C10 CAP	81	51	63	78	47	60	85	49	58	86	52	60
Total	564	231	41%	508	205	40%	506	201	40%	492	163	33%

For this semester, all subjects, except CAP, were assessed on the new model comprising 10% online forum participation, 20% multiple choice questions and 70% for two or three long answer questions.

The Chief Examiners aim to produce consistent standard of passing candidates, rather than a consistent pass rate from year to year. The overall pass rate for this semester is 40%, which is the same as the pass rate for the previous semester. This is a pleasing result.

It is disappointing that the 5A pass rate decreased significantly from the previous semester.

Fellows

The number of members that will be made Fellows (subject to attendance at a Professionalism Course and paying any relevant exemptions) will be:

Table B: Number of Fellows

2015 (2)	2015 (1)	2014 (2)	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)
29	29	39	32	31	29	27	43

Online Forum Participation

The online forum participation mark continued for all Institute delivered courses this semester except C10.

Students are required to post 2 original posts and 4 replies. A participation mark was awarded based on the quality of these posts.

The following table provides a distribution of the participation marks received by students (excluding those who withdrew or did not sit the exam):

Participation Mark	Subject						Total
	2A	2B	3A	3B	5A	6B	
10	25	9	33	15	29	5	116
9	18	10	12	16	1	3	60
8	9	11	18	14	7	6	65
7	2	3	1	2	1	1	10
6	0	4	5	1	1	0	11
5	0	4	6	3	7	1	21
4	0	4	0	0	0	0	4
3	0	0	3	0	1	0	4
2	2	0	1	0	0	1	4
1	0	0	1	0	0	0	1
0	1	5	4	3	2	0	15
No. of Candidates	57	50	84	54	49	17	311
Average Mark	8.8	7.0	7.9	8.2	8.3	8.2	8.0

Observations:

- Except for 2B, the engagement by students in the online forums continues to be very good. This is a pleasing result.
- The proportion of students achieving the maximum mark of 10/10 was 37%, which continues to be at a high level, consistent with the 38% for the previous semester.
- For this semester and the previous two semesters, 2B has the lowest average participation mark of all the subjects. In particular, a relatively high number of students did not make any posts (5 in all, 10% of the total). The importance of the participation assessment needs to be reinforced to students in 2B.

Examination Administration

1. Course Leaders

Since October 2004, Course Leaders have been appointed by the Institute to undertake a variety of tasks relating to modules 1-3 of the Part III education program. Course Leaders draft examination questions, conduct tutorials, monitor forums and assess the online participation mark. The following is a list of the Course Leaders for this semester:

Table 1: Course Leaders

Course	Roles
2A	Exam: Aaron Bruhn Tutorials, Forum Participation: Bruce Thomson
2B	Long Answer Question Writers: Fei Zhang MCQ Writers: Sammy Liu Tutorials: Richard Land Forum Participation: Andrew Patterson
3A	Exam: Andrew Teh Tutorials: Jeff Thorpe Forum Participation: Felix Tang
3B	Exam: Jacqui Reid Tutorials: Ben Qin Forum Participation: Mathew Ayoub
5A	Exam, Tutorials, Forum Participation: Andrew Leung
6B	Exam, Tutorials and Forum Participation: Vivian Dang
CAP	Exam: David Service, Julie Cook, Colin Priest, Bruce Edwards Post-Course Assignment: Naomi Edwards, Kirsten Armstrong, David Service
ST9	This course is run completely external to the Institute.
ST1	This course is run completely external to the Institute.
F101	This course is run completely external to the Institute

2. The Board of Examiners

The Board of Examiners oversee the Part III examination process of the Actuaries Institute. The Board of Examiners consist of the Chair and the Chief Examiners for each subject, supported by Institute staff.

The constitution for the Board of Examiners for this semester was as follows:

2.1. BoE Chair

Chair Gary Musgrave

2.2. Chief Examiners

Course 2A:	Life Insurance	Andy Siu
Course 2B:	Life Insurance	Matthew Wood
Course 3A:	General Insurance	Nadeem Korim
Course 3B:	General Insurance	Jacob Sharff
Course 5A:	Investment Management & Finance	Andrew Goddard
Course 6B:	Global Retirement Income Systems	Stephen Woods
Course 10:	Commercial Actuarial Practice	Bruce Thomson

I would like to take this opportunity to thank all of the members of the Board of Examiners and their assistants for their efforts in preparing and marking the examination papers. The management of the examination process is an extremely important function of the Institute and it is currently being run by a small group of committed volunteers.

2.3. Meetings of the Board

The Board met on three occasions this semester as part of the exam process as follows:

Table 2: Meetings of the Board

Meeting	Purpose
1 July 2015	<ul style="list-style-type: none">• Update on enrolment numbers and course offerings for this semester.• Identify Chief & Assistant Examiners and Course Leaders for each course for this semester.• Outline the responsibilities of Chief Examiners and this semester's schedule.• Review progress on the drafting of the exams to date
9 September 2015	<ul style="list-style-type: none">• Discuss the status of this semester's examination papers, model solutions and sign-off process.• Discuss the marking spreadsheets and review the recruitment of markers.
25 November 2015	<ul style="list-style-type: none">• Review the recommended pass lists and treatment of borderline candidates.

3. Assistant Examiners

The Assistant Examiners for Semester 2 2015 were:

Course 2A:	Life Insurance	Alissa Holz and Bridget Browne
Course 2B:	Life Insurance	Kirsty Hogan and Yee Lin Yang
Course 3A:	General Insurance	James Pettifer and Yvonne Wong
Course 3B:	General Insurance	Ammar Khan
Course 5A:	Investment Management & Finance	Syd Bone
Course 6B:	Global Retirement Income Systems	Jim Repanis
Course 10:	Commercial Actuarial Practice	Matthew Ralph

4. Scrutineers

The Scrutineers for Semester 2 2015 were:

Table 3: Scrutineers

Course	MCQs	Longer Answer Questions, Case Study Assignment and Exam
Course 2A	Ka Ki Ho	Bronwyn Lusby, Xue'Er Lin, Andy Law
Course 2B	Kirsten Flynn, Jennifer Bonnett, David Shuvalov, Keith Cheung	Kirsten Flynn, Jennifer Bonnett, David Shuvalov
Course 3A	Mudit Gupta, Michael Storozhev, Kathleen Wong	Kieran Leong, Michael Storozhev, Kathleen Wong
Course 3B	Yongjie Qi, Michael Storozhev, Kylie Hogan, Li Mei	Michael Storozhev, Kylie Hogan
Course 5A	Jonathan Ng, Jie Ding, Alex Leung	Jonathan Ng, Jie Ding, Alex Leung
Course 6B		Nathan Bonarius, Su Li Sin, Young Tan
Course 10		David Shuvalov (Life Insurance) Alex Leung (Investments) Stephen Edwards (Health) Raymond Chow (GRIS) Michael Storozhev (General Insurance) Milton Lim (ERM) Gautham Suresh (ESG) Stephen Lynch (Banking)

5. Exam Administration and Supervision

The Board of Examiners was ably assisted by a number of Institute staff, the Education Team, in particular Sarah Tedesco and Karenn Chhoeung. They were responsible for administering the entire process and ensuring key deadlines were met, compiling and formatting the examination papers, distributing material to candidates and to exam centres, processing results and collecting historical information for the production of this report. They did a great job and the Board of Examiners team is indebted to them all.

The Part III examinations were run by an external consultancy – Cliftons, a computer training venue.

Other examinations in temporary exam centres were administered by Fellows or other approved supervisors.

6. Exam Candidature

6.1. Candidate Mix

The mix of courses sat by candidates is broadly similar to that in previous years

Table 4: Candidate Mix by Part III Course

Subject	2015 (2)	2015 (1)	2014 (2)	2014 (1)	2013 (2)	2013 (1)
Life Insurance	27%	32%	29%	32%	20%	19%
General Insurance	35%	37%	37%	34%	28%	32%
Investment Management & Finance	13%	6%	9%	6%	8%	7%
Global Retirement Income Systems	4%	5%	3%	4%	3%	4%
Enterprise Risk Management	n/a	n/a	n/a	n/a	19%	20%
Health	n/a	n/a	n/a	n/a	4% ¹	4%
Commercial Actuarial Practice	21%	20%	23%	23%	17%	15%
Total	100%	100%	100%	100%	100%	100%

BoE Members for Semester 1 2016

1. Board of Examiners

The composition of the Board of Examiners for next semester (semester 1 2016) is as follows:

1.1. Chair

Gary Musgrave

1.2. Chief Examiners

Course 2A: Life Insurance	Andy Siu
Course 2B: Life Insurance	Mark Barda
Course 3A: General Insurance	James Pettifer
Course 3B: General Insurance	Jacob Sharff
Course 5B: Investment Management & Finance	Charles Qin & Claymore Marshall
Course 6A: GRIS	Stephen Woods
Course 10: Commercial Actuarial Practice	Bruce Thomson

1.3. Assistant Examiners

Course 2A: Life Insurance	Julia Lessing, Alice Truong
Course 2B: Life Insurance	Matthew Wood, Danny Bechara
Course 3A: General Insurance	Daniel Lavender, Andrew Teh
Course 3B: General Insurance	Ammar Khan, James Fitzpatrick
Course 5B: Investment Management & Finance	
Course 6A: GRIS	Jim Repanis
Course 10: Commercial Actuarial Practice	Matthew Ralph

2. Examination Dates

The dates for the examinations in Semester 1 2016 are as follows:

Table 5: Examination Dates

Module	Subject	Exam Date
1 (7A – ST9)	Enterprise Risk Management	13 April
1 (STI)	Health & Care (IFoA)	19 April
1 (F101)	Health Principles (ASSA)	TBC
2 (2A)	Life Insurance	28 April
2 (3A)	General Insurance	26 April
2 (5B)	Investment Management & Finance	3 May
3 (2B)	Life Insurance	29 April
3 (3B)	General Insurance	27 April
3 (6A)	Global Retirement Income Systems	4 May
4 (10)	Commercial Actuarial Practice	5 May

3. Exam Solutions

Excluding the multiple choice questions and answers, the Board of Examiners have agreed to release this semester's examination questions only. The marking guides will be used as learning resources in Semester 1 2016.

Gary Musgrave
Chair, Board of Examiners
29 January 2016

EXAMINER REPORTS

COURSE 2A LIFE INSURANCE

Chief Examiner's Report Semester 2 2015

1. Summary

1.1. Course Overview

The aim of the 2A Life Insurance Course is to provide the market, legislative and product knowledge, along with the skills and judgment, necessary for an actuary to tackle a range of management related problems in life insurance relating to underwriting and risk management, experience analysis, assumption setting and pricing.

1.2. Assessment

The assessment model is broken down into three parts:

Forum Participation 10%

Multiple Choice Exam 20%

Long Answer Question Exam 70%

1.3. Pass Rates

63 candidates enrolled this semester. Of these, 4 withdrew and 2 were absent, leaving 57 sitting the exam.

It is proposed that 18 candidates be awarded a pass, which implies a pass rate of 32%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
Semester 2 2015	57	18	32%
Semester 1 2015	65	20	31%
Semester 2 2014	56	25	45%
Semester 1 2014	62	16	26%
Semester 2 2013	59	25	42%
Semester 1 2013	50	26	52%
Semester 2 2012	43	14	33%
Semester 1 2012	67	22	33%
Semester 2 2011	54	10	20%
Semester 1 2011	60	18	30%

The 32% pass rate for this exam is marginally higher than the 31% pass rate for the previous exam (Semester 1 2015) but lower than the historical average.

2. Assessment

2.1. Overall Performance

The pass rate for this semester is 32%, which is relatively poor but similar to the pass rate of 31% from the previous semester.

Performance in the forum participation component was strong, with a pass rate of 90.0%. The forum participation component was not a good differentiator of the quality of the candidates.

Performance in the MCQ component was weak, with a pass rate of 15.3%, using the default pass mark of 60% of the total available marks. Of the five components assessed, this is the component with the lowest pass rate. The low pass rate was surprising, as the exam scrutineers did not indicate that they found the MCQs to be unusually difficult. The low pass rate suggests a general lack of knowledge and basic understanding of the topics in the course.

For the LAQ component, there was a lack of consistency in the performance of each candidate across the three LAQs, suggesting a lack of broad understanding of the issues. For example, even the candidate ranked second overall scored grades of A, C and B respectively for the three LAQs. Very few candidates appeared strong across all areas of assessment.

Of the LAQs, Q1 and Q2 were done reasonably well, largely driven by a generous allocation of marks to the spreadsheet questions, which were straightforward. Candidates appeared to have more difficulty with Q3, which was about reinsurance. Candidates have generally performed poorly on reinsurance questions in past exams and that trend seems to have continued in this exam. One point to note is that Q3 consisted entirely of written components and therefore required the candidates to come up with points and construct arguments to back up their points. Even in Q1 and Q2, candidates appeared to have performed less well in the written components compared to the spreadsheet components.

2.2. Exam Question by Question Analysis

Table 12 – Question 1

Question 1	Total Marks: 40			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	30.0	75.0%	8	14%
Pass (B)	24.0	60.0%	15	26%
Slightly Below Standard (C)	21.6	54.0%	8	14%
Below Standard (D)	15.0	37.5%	18	32%
Weak (E)	10.0	25.0%	5	9%
Showed Little Knowledge (F)	1.0	2.5%	3	5%
Did Not Attempt (X)	0.0	0.0%	0	0%
Maximum Mark	34.5			
Average Mark	22.2			
Standard Deviation	6.3			
Coefficient of Variation	0.28			

Question 1 was about a decreasing term product linked to a mortgage.

Part a):

This part involved a spreadsheet calculation of the expected PV of claims on a decreasing term policy where the sum insured is equal to the outstanding balance on a mortgage. Assumptions were specified in the question.

Most candidates understood the decreasing nature of the sum assured although there were a few candidates that did not calculate the outstanding loan correctly (eg assumed an annual projection when the monthly interest rate was provided, assumed payments were at the beginning of the month and not the end). A few good students commented on the outstanding loan amount at the end of the loan period as an appropriate reasonableness test.

Most candidates were able to calculate a reasonable decrement table with correct selection factors although some candidates introduced unnecessary additional assumptions in the calculation (such as lapses and expenses) and complicated formulae. A few candidates calculated a decrement table and then did not apply the survival probability to the expected claims or applied decrements twice. A few candidates applied the selection discount incorrectly by using it as a factor rather than a discount.

Several candidates incorrectly calculated (or ignored) the reinsurance. Common errors included ignoring the maximum reinsurance payment or applying the maximum to the expected decremented death claim (rather than the loan outstanding).

There were quite a few candidates who did not use the correct discount rate (used simple interest rather than the effective rate or used an annual rate to discount monthly cash flows).

Part b):

This part required a description of the additional assumptions required to calculate a single premium for a policy similar to that described in a).

Many candidates listed assumptions but had no description of the assumption or why the assumption would be required/relevant for pricing. Some candidates specified random assumptions but this was clearly not required and received no marks.

Many candidates specified reserve basis and capital requirements but no marks were given for these points since they are not assumptions. Mortality improvement was also included by a few candidates but was not given any marks.

Part c):

This part required a comparison of the assumptions for a regular premium YRT policy and a single premium decreasing term policy linked to an outstanding mortgage. Candidates were asked to comment on the relative magnitude of assumptions and justify their response.

Many candidates commented on the relative magnitude of assumptions but did not state why or include any meaningful discussion.

Many candidates did not discuss the single premium structure of the decreasing term policy and compared two regular premium policies (with a decreasing and level sum insured and also level and renewable premiums). The question was clear but perhaps some students did not read the question properly.

Many candidates incorrectly stated that maintenance expenses under the decreasing term policy would be larger due to the expense of determining the sum assured. This expense would be minor compared to the regular premium related expenses, especially since the existing bank admin system should allow for the outstanding loan calculation already. There could be potential additional initial costs to link the bank system to the insurance admin system but not many candidates commented on this aspect.

Some candidates commented on additional maintenance expenses for surrender value (quotes, client communication etc). Marks were awarded for these comments.

Some candidates made dangerous comments. Typical dangerous comments related to:

- Reserving magnitude for the two products
- Investment strategy/return/duration for the two products

A large number of candidates did not earn many marks simply because they did not list a full range of assumptions. Most candidates mentioned expenses, lapses and commission but did not include investment earnings, tax, reinsurance, claim expenses, underwriting expenses, surrender values etc. Describing a full range of assumptions would have earned relatively easy marks.

Table 13 – Question 2

Question 2	Total Marks: 40			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	33.0	82.5%	5	9%
Pass (B)	27.0	67.5%	19	33%
Slightly Below Standard (C)	24.3	60.8%	11	19%
Below Standard (D)	20.0	50.0%	17	30%
Weak (E)	16.0	40.0%	4	7%
Showed Little Knowledge (F)	1.0	2.5%	1	2%
Did Not Attempt (X)	0.0	0.0%	0	0%
Maximum Mark	36.5			
Average Mark	25.8			
Standard Deviation	4.6			
Coefficient of Variation	0.18			

Question 2 was about annuities.

Part a):

Candidates were asked to suggest checks that could be made to verify policy data, and then to perform those checks on some data provided in a spreadsheet.

Candidates generally performed well in this part as there were a lot of marks available.

Part b):

Candidates were asked to identify the risks that would result from the introduction of a feature where annuity payments would increase at a constant rate of 4% pa. They were also asked to suggest ways to mitigate these risks and comment on the advantages and disadvantages of the suggested risk mitigants.

Candidates generally performed poorly in this part and often missed some of the key points of the question. Many candidates did not demonstrate a good understanding of the risks associated with annuities.

Table 14 – Question 3

Question 3	Total Marks: 40			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	24.0	60.0%	3	5%
Pass (B)	20.0	50.0%	16	28%
Slightly Below Standard (C)	18.0	45.0%	8	14%
Below Standard (D)	16.0	40.0%	11	19%
Weak (E)	12.0	30.0%	6	11%
Showed Little Knowledge (F)	1.0	2.5%	13	23%
Did Not Attempt (X)	0.0	0.0%	0	0%
Maximum Mark	30.0			
Average Mark	16.7			
Standard Deviation	5.7			
Coefficient of Variation	0.34			

Question 3 was about reinsurance.

Part a):

This part asked candidates to respond to a query from the CEO on whether the company should consider moving to a different reinsurance arrangement because the current arrangement does not provide a selection discount.

Markers' comments:

This was a relatively simple question with what we felt was quite a generous marking schedule e.g. 3 marks for discussing the interactions of commission/selection discount. However, many students struggled with it and thus failed to get even 1 of the 3 marks. Most marks were awarded for noting the two structures were interchangeable and that there were other factors/services reinsurers could offer.

Part b):

Candidates were asked to discuss catastrophe cover and whether increasing cover under a quota share arrangement might be preferable.

Markers' comments:

This was also answered quite poorly. Most candidates got 1 or 1/2 mark for defining one or both of the two different structures and for making a recommendation of some sort i.e. that catastrophe was more appropriate than QS. Better candidates got the profit reduction (under QS) and the relative costs.

Part c):

Candidates were asked to discuss the company's lack of reinsurance on whole of life and investment account business.

Markers' comments:

Few candidates actually mentioned the mortality risk element of WoL and lack of mortality risk element for IA. Many mentioned the size and maturity of the book would mean less need for reinsurance but few discussed the guarantee element of IA. Virtually no-one got the point about WoL being less risky than YRT.

Part d):

Candidates were asked to explain what is meant by "the underwriting terms of the obligatory treaty" in relation to a facultative reinsurance arrangement.

Markers' comments:

Most candidates managed to get at least 1 mark for describing fac v ob or describing a type of referral limit (Max SI most common). Better students got 2-3/3. Despite the simplicity the average mark was only 53%.

COURSE 2B LIFE INSURANCE

Chief Examiner's Report Semester 2 2015

1. Summary

1.1. Course Overview

The aim of the 2B Life Insurance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in life insurance relating to valuation techniques, capital management profit analysis, valuation of a company, reporting of results and professionalism.

1.2. Assessment

The assessment model is broken down into three parts

Forum Participation 10%

Multiple Choice Exam 20%

Long Answer Question Exam 70%

1.3. Pass Rates

50 candidates enrolled this semester. Of these, none withdrew and all presented, leaving all 50 sitting the exam. This is pleasing as in prior semester a handful of candidates usually pulled out.

It is proposed that 17 candidates be awarded a pass, which implies a pass rate of 34%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
Semester 2 2015	50	17	34%
Semester 1 2015	53	21	40%
Semester 2 2014	51	20	39%
Semester 1 2014	60	22	37%
Semester 2 2013	44	17	39%
Semester 1 2013	43	11	26%
Semester 2 2012	43	17	40%
Semester 1 2012	52	13	25%
Semester 2 2011	41	6	15%
Semester 1 2011	41	16	39%

The 34% pass rate for this exam is lower than the 40% pass rate for the previous exam (Semester 1 2015) and slightly above the historical average. Candidates seemed to have good course knowledge but not the ability to use that knowledge in a way that is relevant to the question.

2. Assessment

2.1 Overall Performance

The quality of the submissions to the Forum was generally very high but is still surprising to see some students who do not meet minimum standards. It would seem foolish to throw away these marks as in some cases can mean the difference between passing and failing.

The MCQs were reasonably straightforward and the distribution of marks has improved again from last semester and is far less disappointing than previous semesters.

The approach taken for the LAQs with regards to the splits between spreadsheet work and complex judgement was the same as last semester. This made the questions excellent discriminators, in particular, when assessing the borderline candidates.

The performance in the LAQs was variable – indicating that they were excellent discriminators of performance. Some candidates performed very well on one or two of the questions but performed badly on the others – potentially lack of time was part of the reason for this. This could be an indication that students are not ensuring that they have good knowledge of the entire course and are instead focusing on certain areas.

It was pleasing to observe some evidence of planning. I provided my tips on exam techniques session yet again at one of the tutorials and a number of papers demonstrated good structure and logic suggesting some planning went into the answers.

2.2 Exam Question by Question Analysis

Table 10 – Question 1

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	38.0	44.3			
Strong Pass	20.0	23.3	52.6%	5	10%
Pass	15.0	17.5	39.5%	10	20%
Slightly Below Standard	13.5	15.8	35.5%	11	22%
Below Standard	10.0	11.7	26.3%	15	30%
Weak	7.5	8.8	19.7%	4	8%
Showed Little Knowledge	1.0	1.2	2.6%	5	10%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	23.3	27.1			
Average Mark	13.4	15.6			
Standard Deviation	4.7	5.4			
Co-efficient of Variation	0.35	0.35			

This question was effectively about exploring the impacts of the new Life Insurance Framework proposals and in particular the impact on adviser behaviour (in particular sales and lapses) and on the key financial reporting metrics on both the short and long term. A short calculation demonstrating the potential impact on new business value was required in the final part including an explanation.

The quality of the answers was variable – indicating that this question was a good discriminator (except for part (c))

The performance for each part can be summarised as follows:

Part a)

The good candidates were able to identify the short term and long term impacts on Adviser behaviours with sufficient explanation to score 2 marks or more.

It was disappointing that not many students considered that the reform package would alter the quality of advice provided by advisers, i.e. from being primarily commission based to other factors that would improve the outcomes for customers.

Some candidates didn't consider the behavioural impacts which will occur in the short term before the new regulations would come into effect. Instead they focused on the short term impact after the impacts came into effect, which they were given credit for.

A few candidates didn't seem to understand that this was a reform applying to the whole market, and therefore said that advisers would sell our competitor's products at a higher commission rate.

Part b)

The marks awarded for this question were low given the 8 marks available and the model solution providing options that totalled 12.5 marks

The use of the term "key financial reporting metrics" in the question clearly identified the need to discuss profit but in many cases not all the factors affecting profit were included.

In most cases the discussion centred solely on the impact of lapses, commission and sales, and items with less obvious impacts such as claims and expenses being ignored.

Many students didn't think wide enough when answering this question. Capital impacts and economic value impacts were often missed in answers.

The question stated there were no assumption changes, but some students still talked about the impact of assumption changes.

Part c)

This was a very difficult question to conceptually consider in an exam situation and only two students correctly identified that the different renewal commission rates was the most likely reason for the negative impact on PVPM.

Many candidates said that the lapse rates were higher for the largest part of the portfolio (upfront), because the aggregate lapse rates would reflect this anyway. This is not correct as the lapse rates had been set so that in aggregate they are effectively the same.

Part d)

Most students were able to calculate initial commission and the PV of renewal commission correctly.

A good number of students were able to deduce the VNB for 2016 from the change in the commission values.

However, very few students attempted to explain the results. It is not clear whether this was due to time pressures, being unsure what to explain or whether they just missed that requirement in the question.

Table 11 – Question 2

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	29.5	34.4	73.8%	7	14%
Pass	23.5	27.4	58.8%	11	22%
Slightly Below Standard	21.2	24.7	52.9%	11	22%
Below Standard	15.5	18.1	38.8%	16	32%
Weak	10.0	11.7	25.0%	2	4%
Showed Little Knowledge	1.0	1.2	2.5%	3	6%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	34.8	40.5			
Average Mark	22.1	25.8			
Standard Deviation	6.1	7.1			
Co-efficient of Variation	0.27	0.27			

This question was a spreadsheet based question. It required candidates to investigate the impact on profit of policies that cancel and replace and then explain it to the CFO.

The quality of the answers was variable – indicating that this question was a good discriminator.

The performance for each part can be summarised as follows:

Part a)

Candidates had difficulties in this section, which demonstrates some weaknesses in basic accounting, which is a concern as this should be fundamental knowledge.

Most candidates were able to recognise that the trial balance should be 0, though some showed this through using the shareholder retained profit as a balancing item.

Common mistakes made included interest on assets, and not including net cash-flow from the policy into the balance sheet.

Part b (i)

This part was generally well attempted. Candidates were generally capable of performing cash-flow projections, and calculating the change in the profit margin. Mistakes made in projections were generally due to forgetting to allow for decrement when students added initial expenses in year 4 of the projection. Several candidates did not provide or incorrectly provided the profit for year 3 despite the question telling them to do so.

The analysis posed some difficulties for candidates as most considered only a 7-year cash-flow projection for a Cancel-Replace rather than the full 10-year projection including the 1st 3 years before the cancel and replace occurred.

Part b (ii)

Candidates struggled in this part due to them performing the analysis in b (i) incorrectly. Most candidates could pick up a point from the loss of DAC as a result of the lapse.

Many candidates lost the drafting mark from heavy usage of technical terms and not structuring the response for the CFO or even incorrectly addressing the CFO as CEO.

Table 12 – Question 3

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	42.0	49.0			
Strong Pass	30.0	35.0	71.4%	3	6%
Pass	24.0	28.0	57.1%	15	30%
Slightly Below Standard	21.6	25.2	51.4%	3	6%
Below Standard	18.0	21.0	42.9%	14	28%
Weak	10.0	11.7	23.8%	13	26%
Showed Little Knowledge	1.0	1.2	2.4%	2	4%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	35.0	40.8			
Average Mark	20.8	24.3			
Standard Deviation	6.4	7.4			
Co-efficient of Variation	0.31	0.31			

This question explored the implications of launching a new lifetime annuity product into a market dominated by one company. Part (a) allowed candidates to demonstrate their broad thinking while parts (b) and (c) focussed on the aspects of Regulatory Capital and Target Surplus.

As for the other two questions, the quality of the answers was variable – indicating that this question was a good discriminator.

The performance for each part can be summarised as follows:

Part a)

This part encouraged candidates to think carefully through the business environment and apply their knowledge to a practical business situation. This part was generally very well answered and candidates covered a number of business risks/issues and how they could be mitigated. Part (a) had a maximum of 9 marks and overall candidates averaged 6.5 marks, though a few candidates scored maximum marks.

Some features of good answers included:

- Contextualising the business environment;
- Carefully thought through and identifying the key potential issues that may arise (longevity, ALM, NB/Expense, and Capital risks);
- Providing mitigants that were generally well thought through, practical and tailored to the question; and
- Provided the response in a clear, logical, and well- structured form (most candidates provided the answer in a memo/letter structure with appropriate

language)

Common Mistakes included:

- Highlighting risks/issues but not linking them back to the specific context of the question or not explaining why these were issues. This generally distinguished good candidates from those who simply adopted generic responses; and
- Candidates were very detailed on some points and very brief on others and often missed some other obvious and critical issues.

Part b)

This part required candidates to have a strong understanding of the regulatory capital framework and think about aspects of the methodology that are relevant to the context of the question.

A large portion of the marks were allocated to recognising the synergy in the capital base from having YRT and lifetime annuities. No candidate recognised this point. However marks were available in recognising other areas of differences in the regulatory capital requirements.

This part of the question was generally not well answered. Out of a maximum of 6 marks, candidates averaged 1.5 marks. This question was relatively difficult to score full marks.

Features of good answers included:

- Applying understanding of the capital framework to the specific aspects of the question and explaining how it is relevant;
- Noting diversification benefit, operational risk charge, and supervisory adjustment; and
- Few mentioned expense stress and related differences in ARC back to the question.

Common mistakes included:

- Mentioning random risk margins as being a difference although not relating it to lifetime annuities and longevity stress; and
- Stating and explaining all/or some of the risk charges but not relating them back to the question.

Part c)

Candidates were required to provide an overview of the considerations into determining target surplus methodology, identify risks and explain how these risks might be incorporated into the Target Surplus methodology.

This part of the question was generally not well answered. Out of a total of 6 marks, candidates averaged 2.5. This question was a good discriminator as good candidates were able to provide an overview and 2-3 valid risk points.

Good responses included:

- Providing a strong overview of the various Target Surplus considerations and framework;
- Successfully relating risks identified in part (a) to Target surplus; and
- Providing a view on how these risks might be reflected within the Target Surplus framework.

Common mistakes included:

- Failing to discuss Target Surplus considerations
- Failing to relate risks identified in part (a) to Target Surplus, and how these might be reflected in the Target Surplus framework; and
- Some candidates misunderstood the relationship between PCA and Target Surplus.

COURSE 3A GENERAL INSURANCE

Chief Examiner's Report Semester 2 2015

1. Summary

1.1 Course Overview

The aim of the 3A General Insurance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of problems in general insurance relating to products, accident compensation schemes, valuation techniques, accounting and management information.

1.2 Assessment

The assessment model is broken down into three parts

Forum Participation	10%
Multiple Choice Exam	20%
Long Answer Question Exam	70%

1.3 Pass Rates

88 candidates enrolled this semester. Of these, 4 withdrew and 2 did not present, leaving 82 sitting the exam.

It is proposed that 23 candidates be awarded a pass, which implies a pass rate of 28%
Table 1 shows the historical pass rates for this subject:

SEMESTER	SAT	PASSED	PASS RATE
Semester 2 2015	82	23	28%
Semester 1 2015	90	28	31%
Semester 2 2014	76	15	20%
Semester 1 2014	66	17	26%
Semester 2 2013	76	14	18%
Semester 1 2013	96	31	32%
Semester 2 2012	96	29	30%
Semester 1 2012	103	29	28%
Semester 2 2011	78	18	23%
Semester 1 2011	76	24	33%

The 28% pass rate represents a slight decrease from the previous exam (Semester 1 2015) and is roughly consistent with the historical average of the pass rates from the above table. Although the pass rate slightly decreased this semester we observe that the performance of candidates is consistent with last semester. Candidates continue to struggle with key concepts such as the PCE model, applying basic actuarial skills (e.g. estimating exposure) on non-standard products and being able to articulate and justify observed claims trends.

2. Assessment

2.1 Overall Performance

Overall, the performance of students declined from last semester. However, this decrease is not considered to be material. Furthermore this variation in pass rates is to be expected given volatility in the numbers of students attempting.

However our observation is that this pass rate is still low. Key observations on the candidate's performance this semester are:

- Students again demonstrated an inadequate understanding of important and basic valuation models such as the PCE and BF models. These models have been continually tested and yet students are still not able to adequately use them.
- Students showed an inability to qualitatively discuss, articulate and provide suitable exhibits to justify their view of claims trends. It is likely that this is connected to the point above, as an understanding of the mechanics of valuation models is required to be able to explain claims trends as observed through valuation models.
- Students failed to apply basic actuarial techniques (such as estimating exposure) to a non-standard insurance product. This semester a question was focused around a unique ski insurance product and many students were confused by the term and exposure associated with this product.
- Students again failed to read the questions properly and answer the questions posed by the examiners.

2.2 Exam Question by Question Analysis

Question 1

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	29.0	33.8	72.5%	3	4%
Pass	23.0	26.8	57.5%	22	26%
Slightly Below Standard	20.7	24.2	51.8%	7	8%
Below Standard	15.0	17.5	37.5%	24	29%
Weak	10.0	11.7	25.0%	20	24%
Showed Little Knowledge	1.0	1.2	2.5%	5	6%
Did Not Attempt	0.0	0.0	0.0%	3	4%
Maximum Mark	32.5	37.9			
Average Mark	17.6	20.6			
Standard Deviation	7.0	8.2			
Co-efficient of Variation	0.40	0.40			

Candidates performed poorly on this question, with a pass rate of 30%.

This question was asking students to perform a PCE valuation and adjust their PCE assumption in light of a change in the way in which the company is allowed to set case estimates. Normally the company would set case estimates on receipt of a claim however now the company had to have a reasonable level of certainty around the cost of a claim to set case estimates. Other components of the question concerned superimposed inflation and justifying their views on potential changes to claims cost.

Q1 Part (a)

The construction of standard PCE triangles should be straight forward bookwork. However, several candidates either did not know the difference between accident years and financial years, or they revised their answer to part (a) based on what they learned during later parts of question one.

Where candidates chose to ignore the requirement to use development factors based on the last four financial years of experience, they would arrive at a different answer than that required for part (a) and, it would remove the basis for the expected comparison in part (d), where the (accident year) effects of the legislation change were taken into account. A few candidates thought it was appropriate to use simple rather than weighted averages. Full marks were not awarded where this was the case.

A common mistake was that candidates did not fully run-off the remaining case estimates. In the last development period of the projected payments triangle, the timing is such that if the PO factor being applied is not 1, then there are case estimates outstanding at the same development period in the case estimates triangle.

Many candidates did not apply or comment on the need for a tail selection.

The average mark for this part was 4.4/6.

Q1 Part (b)

This part was fairly well answered. It is worth remembering as part of exam technique, that two marks either requires two well explained points, or four smaller points, also with some

basic explanation. Candidates in this question and also other parts who did more, often lost focus and drifted from answering the question. Very few marks are ever awarded for one's knowledge where it does not address the question being asked. It was noted that several candidates ran out of time to answer parts of question one, potentially due to exam technique.

The average mark for this part was 1.4/2.

Q1 Part (c)

Very few candidates produced the graph that was presented in the model solutions. This in turn made it more difficult for them to observe and interpret the key features that the question was aiming at.

A key feature that the question was aiming at was that if one considered each accident year in turn, then it could be seen that accident years 2010 and 2011 had stabilized. At what point (i.e. what accident year), given the current level of development, had the case estimate development caught up to that observed historically on older accident years? If one were to consider, for example, that (say) 90% certainty was required before case estimates were entered on the system, then it is probable that accident years 2010 and 2011 would not have yet caught up and stabilized. Conversely, if only 50% certainty was required, then perhaps only the most recent couple of accident years would not have caught up.

Where accident years had not yet caught up, and depending on whether the derived development factors included triangle cells in their weightings prior to the legislation change, then those derived development factors would not be appropriate for use in the projection. Doing so in this instance resulted in under-projecting the ultimate claims costs on the most recent accident years.

Overall Q1 Part (c) was poorly answered. The average mark for this part was 1.6/7.

Q1 Part (d)

As mentioned in part (a) above, where candidates had not used the requested experience in deriving their development factors for part (a), then the derivation and comparison required for part (d) was problematic.

Full marks were not awarded where hard-coded numbers were used without links showing the working behind the derivation. The average mark for this part was 0.9/3.

Q1 Part (e) (i)

Part (e) states "Describe how SI may be applied". Several candidates spent valuable time justifying why 3% was or was not appropriate. It should be emphasized here the importance of reading and then answering the question that was asked. Marks were available for describing how SI may be applied, and hence one should explain that, if applicable, it applies to future payments, compounded for each future financial year beyond the valuation date. The average mark for this part was 0.4/1.

Q1 Part (e) (ii)

Several candidates did not know or forgot that where inflation (including super-imposed inflation) is not stripped from the historical data, then the projection of PCE triangles will implicitly project that inflation forward into future case estimates and payments. The average mark for this part was 0.3/1.

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Question 2

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	28.0	32.7	70.0%	0	0%
Pass	19.5	22.8	48.8%	14	17%
Slightly Below Standard	17.6	20.5	43.9%	14	17%
Below Standard	10.0	11.7	25.0%	42	50%
Weak	6.0	7.0	15.0%	7	8%
Showed Little Knowledge	1.0	1.2	2.5%	4	5%
Did Not Attempt	0.0	0.0	0.0%	3	4%
Maximum Mark	25.5	29.8			
Average Mark	15.0	17.5			
Standard Deviation	5.5	6.5			
Co-efficient of Variation	0.37	0.37			

The question concerned an actuary undertaking a valuation for a reinsurer's Motor Catastrophe Excess of Loss portfolio. Candidates had to perform a BF valuation using data provided and react appropriately to recent experience changes in the underlying portfolio. Overall, the question was extremely poorly answered with average mark of 7.5/20.

- a) This part of the question related around challenges when reserving for a reinsurance portfolio compared to direct insurance portfolio. Most students focused on reserving for outstanding claims, and very few candidates commented on premium liabilities. Most candidates commented on scarcity of data. The average mark for part a) was 0.7/2.
- b) This part of the question required students to describe the workings of the BF model, its advantages and disadvantages comparing to other projection methods. This part of the question was fundamentally bookwork and was generally well answered. The average mark was 2.2/5.
- c) i) In this part, students were required to on-level the accident year loss ratios as at the previous valuation to the current valuation, taking into account change in percentage of ceded premium and premium changes of the underlying portfolio. Students were also required to calculate earned premium by year and unearned premium as at the valuation date. Many students struggled with this part with very few calculated the on-levelled loss ratios correctly. Most candidates were able to correctly calculate the unearned premium for 2015 but many struggled with basic earned premium concepts. The average mark for this part was 1.1/3.

 ii) Students were required select appropriate initial loss ratios to complete the BF projection of ultimate costs by accident year. It was noted that there was hailstorm occurred very close to the valuation date, which would exceed the reinsurance retention. Most candidates realised that pre-2013 accident periods were unlikely to see further development. However the selections for 2014 and 2015 were not well thought through with little justifications. The average mark for this part was 0.8/4.
- d) Students were asked to undertake a liability adequacy test using information given. Candidates performed reasonably well in this part. Several candidates linked back to

results from Part c rather than using the information given in the question. Some candidates lost marks for providing no justification or explanation why the LAT test failed and what that meant for writing down the DAC and establishing a URR. The average mark for this part was 2.6/4.

- e) Students were asked to comment on how the risk margin percentage would change if the reinsurance treaty was changed to a quota share arrangement. This part was answered poorly with very few students noting the loss distribution will be similar in shape to the cedant's loss distribution and that the risk margin can vary depending on the skewness of the underlying loss distribution. The average mark for this part was 0.2/2.

Question 3

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	30.5	35.6	76.3%	14	17%
Pass	24.5	28.6	61.3%	22	26%
Slightly Below Standard	22.1	25.7	55.1%	4	5%
Below Standard	18.5	21.6	46.3%	12	14%
Weak	13.0	15.2	32.5%	15	18%
Showed Little Knowledge	1.0	1.2	2.5%	15	18%
Did Not Attempt	0.0	0.0	0.0%	2	2%
Maximum Mark	37.5	43.8			
Average Mark	21.4	25.0			
Standard Deviation	8.9	10.4			
Co-efficient of Variation	0.41	0.41			

This question was in relation to a hypothetical insurance product around snow cover which refunds gear and accommodation costs under a lack of snow. This required the candidate to understand the insurability, risks, exposure and drivers of profitability of the product. Overall, the question was relatively well answered with an average mark of 10.3/20 and 39% of students passing.

Part a)

This part of the question required the candidates to assess the insurability of the product. The part was simple and largely bookwork. Some students lost marks for not making an overall comment on the insurability of the product. Students who provided answers different to the exam answers in saying that the product was not insurable due to claim accumulations or the price being too high compared to the sums insured were given full marks. The average mark on this part was 2.75/3.

Part b)

This part of the question required the candidates to assess the best type of reinsurance to reduce the volatility of results. The candidates were required to identify that the risk revolves around the accumulation of claims and that some form of aggregate cover (e.g. event XOL, stop loss or aggregate XOL) is required. Students who recommended XOL cover without it being clear that they were referring to an aggregate cover were given half marks. Students who recommended proportional treaties including surplus and quota share were given no marks. This part was considered to be simple but was not answered well. The average mark on this part was 0.57/1.

Part c)

This part of the question required the candidates to identify other potential distribution channels. A few students put down distribution channels provided in the question or advertising channels. Overall the part was considered to be simple and was answered well. The average mark on this part was 0.84/1.

Part di)

This part of the question required the candidates to calculate the exposure in days. Many students struggled to earn the exposure correctly. The average mark on this part was 1.56/3.

Part dii)

This part of the question required the candidates to calculate the exposure in sums insured. This part was a relatively simple continuation of the previous part and was answered reasonably well. The average mark on this part was 1.16/2.

Part ei)

This part of the question required the candidates to calculate the central estimate. Many candidates applied the probability incorrectly and used the daily chance of snow as the frequency or applied the sum insured incorrectly. The average mark on this part was 0.85/2.

Part eii)

This part of the question required the candidates to calculate the 99% tail scenario. The scenario was actually the total sum insured for the product which was evident through a simple calculation of the probabilities. Many candidates did not attempt this question. Some students applied simulation models correctly and were awarded full marks. The average mark on this part was 0.24/2.

Part eiii)

This part of the question required the candidates to calculate and comment on the profitability of the product. Many candidates failed to comment on the profitability of the product. The average mark on this part was 1.31/3.

Part fi)

This part of the question required candidates to calculate the key insurance KPIs. This part was answered well with the average mark on this part was 0.68/1.

Part fii)

This part of the question required candidates to assess the differences in the profitability of actual results compared to the projected results. This part was not answered well with many students struggling to understand that the deviation in experience was driven by the higher volumes and higher acquisition costs from one of the distribution channels. The average mark on this part was 0.74/2.

COURSE 3B GENERAL INSURANCE

Chief Examiner's Report Semester 2 2015

1. Summary

1.1 Course Overview

The aim of the 3B General Insurance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in general insurance relating to the pricing of all general insurance products, as well as capital management and financial condition reporting.

1.2 Assessment

The assessment model is broken down into three parts

Forum Participation 10%

Multiple Choice Exam (MCQ) 20%

Long Answer Question (LAQ) Exam 70%

1.3 Pass Rates

58 candidates enrolled this semester. Of these, 1 withdrew and 3 did not present, leaving 54 sitting the exam.

It is proposed that 20 candidates be awarded a pass, which implies a pass rate of 37%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
Semester 2 2015	54	20	37%
Semester 1 2015	54	20	37%
Semester 2 2014	63	23	37%
Semester 1 2014	61	16	26%
Semester 2 2013	64	17	27%
Semester 1 2013	62	22	35%
Semester 2 2012	69	26	38%
Semester 1 2012	71	27	38%
Semester 2 2011	65	20	31%
Semester 1 2011	58	20	34%

The 37% pass rate for this exam is in line with the previous exam (Semester 1, 2015) and slightly higher than the historic average since 2011. Candidates who marginally failed seemed to show some knowledge but unfortunately also showed signs of misunderstanding of key concepts or struggled with time management on calculation questions.

2.0 Assessment

2.1 Overall Performance

The marks for this semester were similar to last semester reflecting comparable difficulty and length of the exam.

- The highest mark was 135, which was slightly up on last semester's 133.8.
- Student marks on MCQs were bunched with the highest mark being 42/60, the average being 28.9/60 and standard deviation of 6.6/60. The resulting pass rate of 52% for the MCQs was pleasing.
- Online participation mark average of 8.1/10 was similar to last semester. It is pleasing to see students continue to make good use of the online learning resource for the course.
- For the LAQs, some students struggled with the concept of cyber risk insurance in LAQ1, likely driven by the relative newness of this product and their lack of familiarity with it, although better students were able to demonstrate reasonable understanding of the key concepts. Candidates also found elements of LAQ2 challenging due to a combination of running out of time and misinterpretation of part a of the question. The misinterpretation in part a related to some candidates referring to political, rather than economic issues in their answers, which was likely caused by the wording of the question not specifically asking about economic issues. The calculation component of this question in part b seemed to be a good differentiator of candidates, with better students demonstrating actuarial judgment in their assumptions. LAQ3 was relatively well answered, with this question mainly focused on knowledge and understanding, rather than complex judgment.

Specific issues relating to each exam section are discussed below.

2.2 Exam Question by Question Analysis

Multiple Choice Questions	Total Marks: 40			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	28.0	70.0%	1	1.9%
Pass (B)	20.0	50.0%	27	50.0%
Slightly Below Standard (C)	18.0	45.0%	10	18.5%
Below Standard (D)	16.0	40.0%	4	7.4%
Weak (E)	8.0	20.0%	12	22.2%
Showed Little Knowledge (F)	0.3	0.8%	0	0.0%
Did Not Attempt (X)	0.0	0.0%	0	0.0%
Maximum Mark	28.0			
Average Mark	19.3			
Standard Deviation	4.4			
Coefficient of Variation	0.23			

The highest mark was 28.0/40, the lowest was 8.0/40, and the average was 19.3/40.

The assessed pass grade (B grade) for multiple choice questions was set at 50% (20/40).

The resulting pass rate of 52% was pleasing.

Long answer questions below show the distribution of the LAQ results, allowing for adjustments to the pass marks applied by the Chief Examiner. Note that the raw marks were scaled by a factor of 140/120 to allow for a 70% exam weighting.

Long Answer Question 1

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	30.0	35.0	75.0%	3	6%
Pass	26.0	30.3	65.0%	12	22%
Slightly Below Standard	23.4	27.3	58.5%	16	30%
Below Standard	19.0	22.2	47.5%	12	22%
Weak	15.0	17.5	37.5%	10	19%
Showed Little Knowledge	2.0	2.3	5.0%	1	2%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	32.3	37.6			
Average Mark	23.1	27.0			
Standard Deviation	4.3	5.1			
Co-efficient of Variation	0.19	0.19			

The pass rate for LAQ1 was 28%, lower than the overall exam pass rate of 37%.

The question challenged some students by testing their understanding of a relatively new and emerging insurance product, being cyber risk insurance. Better students were able to show a good understanding of the key issues and apply judgement to the issues at hand.

In part a, some students were challenged when asked to describe the types of claims that cyber insurance would cover, although this part was reasonably well answered overall.

Parts b and c were the most straight forward and students scored well. Having said this, some students struggled to differentiate between underwriting and rating factors in part c.

In part d, better students were able to stand out by understanding that cyber was a relatively new product and identified risks associated with it. They then provided sensible recommendations for future frequency assumptions.

In part e, there was a mix of responses by candidates, with weaker students struggling to identify the capabilities achievable from industry data including data segmentation, analysis of trends, distributions and event types.

Part f had the biggest allocation of marks, with no student achieving full marks in this part. Strong candidates considered different measures of exposure beyond monetary value and discussed PML. Weaker students repeated similar themes and did not consider the wider business decisions required when deciding on writing a new product. Not many students discussed the impact of cyber being a new and growing product.

Long Answer Question 2

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	24.0	28.0	60.0%	3	6%
Pass	19.0	22.2	47.5%	20	37%
Slightly Below Standard	17.1	20.0	42.8%	8	15%
Below Standard	14.0	16.3	35.0%	12	22%
Weak	12.0	14.0	30.0%	6	11%
Showed Little Knowledge	1.0	1.2	2.5%	4	7%
Did Not Attempt	0.0	0.0	0.0%	1	2%
Maximum Mark	25.3	29.5			
Average Mark	17.2	20.1			
Standard Deviation	4.4	5.2			
Co-efficient of Variation	0.26	0.26			

The pass rate for LAQ2 was 43%, higher than the overall exam pass rate.

In part a of the question, there was a notable level of misinterpretation of the question, with some candidates mentioning political rather than economic implications of workers compensation premium rate differences. This was likely caused by the wording of the question not specifically asking about economic implications. The marks awarded for this question were therefore quite low, which the markers took into account by adjusting the pass mark down by 1 mark for this LAQ overall.

Part b of this question was also not very well answered, with candidates' likely experiencing time pressure in completing the required calculations. Better candidates were able to demonstrate actuarial judgment in their assumptions and arrive at a reasonable premium estimate comparable to that for 2014.

Students generally scored better in parts c and d. In part c most candidates were awarded marks for industry mix and types of coverage. Marks were also awarded for relevant points outside the marking guide. Nevertheless, candidates did not list enough points to gain full marks. In part d, candidates did relatively well with some candidates getting full marks.

For part e most candidates were awarded marks for mentioning potential positive impacts of the star rating on claims and alignment of interests for the scheme, employers and workers. Better candidates flagged potential implementation costs which may outweigh/ limit expected benefits.

Long Answer Question 3

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	40.0	46.7			
Strong Pass	31.5	36.8	78.8%	5	9%
Pass	26.0	30.3	65.0%	16	30%
Slightly Below Standard	23.4	27.3	58.5%	9	17%
Below Standard	21.0	24.5	52.5%	11	20%
Weak	15.0	17.5	37.5%	10	19%
Showed Little Knowledge	1.0	1.2	2.5%	3	6%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	33.0	38.5			
Average Mark	23.8	27.8			
Standard Deviation	5.2	6.0			
Co-efficient of Variation	0.22	0.22			

The pass rate for LAQ3 was 39%, higher than the overall exam pass rate of 37%.

In part a, the majority of candidates knew how to calculate underwriting profits. A few candidates added investment income at the end, showing a lack of understanding of the definition of underwriting profit. Candidates also made errors from calculating future year GWP incorrectly.

For part b, the majority of candidates mentioned return on equity as a calculation method to assist in deciding on whether to enter the LMI market and marks were awarded. Very few students mentioned two different calculation methods however, and many failed to connect their answer in part b to the cash flows in part a of the question.

Part c was relatively well answered, although few students mentioned opportunity costs and stress testing.

Part d was generally well answered, although students were penalised if they mentioned that using an economic capital model was an alternative to complying with APRA's minimum capital requirement. Even if an economic capital model was approved by APRA, students needed to recognise that during the first 2 years of use, the insurer's minimum required capital still needs to be at least 90% of the amount determined by the prescribed method under GPS113.

Part e of this question was also relatively well answered, although some students failed to reference GPS116 and hence didn't get this question right.

Students failed to score full marks in part f as they focused on describing PML but didn't link the relationship between the PML and ICRC.

Part g was very well answered, with most students scoring full marks.

COURSE 5A INVESTMENT MANAGEMENT AND FINANCE

Chief Examiner's Report Semester 2 2015

1. Summary

1.1 Course Overview

The aim of the 5A Investment Management and Finance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in investment and finance relating to analysis of accounting information, valuation of debt securities, equity markets and portfolio management, company valuation and asset allocation.

1.2 Assessment

The assessment model is broken down into three parts

Forum Participation	10%
Multiple Choice Exam	20%
Long Answer Question Exam	70%

1.3 Pass Rates

57 candidates enrolled this semester. Of these, 4 withdrew and 4 did not present, leaving 49 sitting the exam.

It is proposed that 10 candidates be awarded a pass, which implies a pass rate of 20.4%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

Semester	Sat	Passed	Pass Rate
C5A Semester 2 2015	49	10	20%
C5B Semester 1 2015	24	15	63%
C5A Semester 2 2014	32	17	53%
C5B Semester 1 2014	24	7	29%
C5A Semester 2 2013	41	21	51%
C5B Semester 1 2013	37	21	57%
C5A Semester 2 2012	30	17	57%
C5B Semester 1 2012	22	13	59%
C5A Semester 2 2011	26	16	62%
C5B Semester 1 2011	16	6	38%
C5A Semester 2 2010	38	20	53%

The 20% pass rate for this exam is lower than the 53% pass rate for the previous exam (Semester 2 2014) and much lower than the historical average. Candidates seemed to have good course knowledge but not the ability to use that knowledge in a way that is relevant to the question.

The long answer questions included two questions that tested the ability to apply judgment, both of which were not well handled.

2 Assessment

2.1 Overall Performance

Overall performance was disappointing and this is reflected in the low percentage of recommended passes. Performance was particularly poor on the two long answer questions that required significant judgment (questions 1 and 3). Forum participation was at the required standard for 80% of the students and performance in the multiple choice questions was very similar to that in prior years.

2.2 Exam Question by Question Analysis

Table 10 – Question 1

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	80.0	56.0			
Strong Pass	50.0	35.0	62.5%	0	0%
Pass	30.0	21.0	37.5%	8	16%
Slightly Below Standard	27.0	18.9	33.8%	1	2%
Below Standard	20.0	14.0	25.0%	10	20%
Weak	13.0	9.1	16.3%	16	33%
Showed Little Knowledge	1.0	0.7	1.3%	14	29%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	41.5	29.1			
Average Mark	18.5	13.0			
Standard Deviation	8.1	5.7			

Candidates did not perform well on this question, with a pass rate of 16%.

The question related to reverse mortgages.

Part a):

Candidates were asked how the mortgage provider derives its revenue.

Many candidates failed to recognize that as with a normal mortgage the revenue of the provider is generated by an interest margin, but with no cash being received until the end of the term.

Part b):

Candidates were asked what financial variables they would use to model the contract.

Candidates generally answered this part of the question reasonably well, however many failed to recognise the difference between the rate at which the mortgage provider charges interest and the cost of the provider's funding. Some candidates failed to distinguish between financial variables and all other types of variables.

Part c):

Candidates were asked what characteristics their model should satisfy and why (they were advised that statistical tests were not required to be undertaken).

Candidates generally addressed how the model should be constructed rather than the characteristics that it should have.

Part d):

Candidates were asked to specify an appropriate objective in terms of the mortgage provider's profitability that would enable the assessment of the interest rate margin that

would be necessary to cover the cost of providing a guarantee to the mortgagor that the amount returned to the mortgagor (or their estate) at the time of repayment of the loan would never be less than half of the then value of the property.

Candidates found this part of the question difficult and most failed to recognise that the objective was to estimate the interest rate margin appropriate for meeting the cost of the guarantee, relative to a similar mortgage which did not offer this guarantee.

Part e):

Candidates were asked how they would go about assessing the terms of the contract (they were advised that they were not required to give numerical answers, only an outline of the numerical calculations that would be undertaken was required).

This part of the question was answered poorly with many candidates failing to address the issue of how the data provided could be used in the modelling of the required financial variables. Many failed to recognise the stochastic nature of the financial variables.

Part f):

Candidates were asked how the mortgage provider could in practice manage the risk of the mortgagor's death in the early years of the contract.

Although some candidates answered this part of the question well, many focussed on the expenses of writing the business rather than the bigger risk of falling house prices.

Part g):

Candidates were asked how the model could be made more realistic.

Many candidates failed to identify any reasonable improvements.

Table 11 – Question 2

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	60.0	42.0			
Strong Pass	37.0	25.9	61.7%	9	18%
Pass	30.5	21.4	50.8%	18	37%
Slightly Below Standard	27.5	19.2	45.8%	7	14%
Below Standard	23.0	16.1	38.3%	6	12%
Weak	14.0	9.8	23.3%	7	14%
Showed Little Knowledge	1.0	0.7	1.7%	2	4%
Did Not Attempt	0.0	0.0	0.0%	0	0%
Maximum Mark	42.0	29.4			
Average Mark	29.5	20.7			
Standard Deviation	7.6	5.3			

Candidates performed well on this question with a pass rate of 55%.

The question related to the construction and use of a multi-factor model for a hybrid security.

Part a):

Candidates were asked what factors should be included in the model and why.

Candidates generally performed well in this part of the question, although some listed irrelevant factors and not all gave any rationale for the inclusion of the factors that they had listed.

Part b):

Candidates were asked how they would linearise the effect of the factors.

Most candidates understood the concept of linearity here, but only a few were able to identify the factors requiring adjustment.

Part c):

Candidates were asked, in the context of a specified particular hybrid security, how they would, in theory, model the decision as to when to convert from debt to equity.

Although most candidates recognised that the decision was based on the values of the debt and the equity alternatives, fewer proceeded to discuss how these alternatives might be valued and very few pointed out the stochastic nature of the equity valuation.

Part d):

Candidates were asked how adverse market risk could be hedged against.

The better candidates were able to separate the debt and equity risks and to discuss how

they might be hedged separately.

Part e):

Candidates were asked if option pricing techniques and reserving methods were appropriate.

The quality of the answers to this part of the question varied significantly between candidates.

Table 12 – Question 3

	Marks Required	Weighted Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	60.0	42.0			
Strong Pass	26.0	18.2	43.3%	2	4%
Pass	20.0	14.0	33.3%	8	16%
Slightly Below Standard	18.0	12.6	30.0%	2	4%
Below Standard	15.0	10.5	25.0%	7	14%
Weak	10.0	7.0	16.7%	17	35%
Showed Little Knowledge	0.5	0.4	0.8%	12	24%
Did Not Attempt	0.0	0.0	0.0%	1	2%
Maximum Mark	29.0	20.3			
Average Mark	13.6	9.5			
Standard Deviation	6.5	4.5			

Candidates did not perform very well on this question with a pass rate of 20%.

The question was set in the context of giving investment advice, based on asset liability modeling, to an organization that manages inflation-linked liabilities and was related to definitions of expected inflation and to the Fisher Hypothesis that the real interest rate was independent of the rate of inflation and also stationary in a statistical sense.

Part a):

Candidates were asked to discuss the advantages and disadvantages of different definitions of expected inflation.

Not all candidates appeared to understand the proposed definition of expected inflation or were able suggest alternative definitions of expected inflation.

Part b):

Candidates were asked if they thought that expected inflation would be realized in practice and why. If it was not they were asked what the implications would be.

Very few candidates mentioned the application of control cycle methodology in this context.

Part c):

Candidates were asked what the implications would be for their asset liability modeling if the Fisher Hypothesis was correct in the medium term.

Most candidates did not recognize that the truth of the Fisher hypothesis would make the immunization of liabilities less of an issue.

Part d):

Candidates were asked to discuss the implications of the hypothesis for modeling non-debt asset classes.

Only a few candidates recognized that the Fisher hypothesis would have implications for investment types other than debt, or were able to give good examples of this.

Part e):

Candidates were asked what the implications of the hypothesis are for asset liability management for institutional investors.

Very few candidates recognized that if the Fisher hypothesis is valid, then returns, volatilities and correlations would be more stable in real terms. Few suggested the use of co-integrating models for long term modeling in these circumstances.

Part f):

Candidates were asked to suggest reasons why the hypothesis may not always hold in all economies.

Most candidates failed to comment on the effect that the objectives of central bank policies can have on this issue.

Candidates struggled to answer all parts of this question and were frequently unable to list the main points of a solution.

COURSE 6B: GLOBAL RETIREMENT INCOME SYSTEMS

Chief Examiner's Report Semester 2 2015

1. Summary

1.1 Course Overview

The aim of the GRIS 6B course is to provide the knowledge, skills and judgement necessary for an actuary to effectively tackle a range of issues as retirement income systems evolve away from group-based defined benefit schemes to individual defined contribution plans. The changing context has significant implications for product design, risk management and how scheme members are communicated with (sic). Actuaries need the skills and knowledge to help design and manage schemes to best meet members' individual retirement income needs.

1.2 Assessment

The assessment comprised three parts:

Forum Participation	10%
Multiple Choice Question (MCQ) Exam	20%
Long Answer Question (LAQ) Exam	70%

1.3 Pass Rates

20 candidates enrolled this semester, of whom 3 withdrew and 17 sat the exam.

It is proposed that 7 candidates be awarded a pass, which implies a pass rate of 41%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

GRIS	Course A Semester 1			Course B Semester 2		
Year	Sat	Passed	Pass Rate	Sat	Passed	Pass Rate
2015	21	10	48%	17	7	41%
2014	15	9	60%	11	7	64%
2013	19	8	42%	17	7	41%
2012	16	5	31%	14	3	21%
2011	18	9	50%	8	5	63%
2010	16	4	25%	13	7	54%
2009	14	5	36%	19	10	53%

The recommended pass rate for this semester is broadly in line with the average for this subject, although it is noted that the pass rate does display significant variation year to year due to the relatively small candidate numbers. It is also comparable to the pass rate from subject 6A in semester 1.

2 Assessment

2.1 Overall Performance

Both the participation mark and the MCQ exam are poor differentiators and poor assessment tools. Their main effect appears to be increasing the overall course mark for all candidates. They obfuscate the true ability and fitness to practice of candidates, particularly around the borderline cut off where this identification is most important.

I am very pleased to know that MCQs have been discontinued. I hope that the participation mark follows shortly.

All 3 LAQs were useful in assessing candidates overall. I believe the fact that passing 2 of the 3 LAQs (achieved by 5 candidates) coincided with an automatic pass demonstrates that the exam paper was fair and within reach of a reasonable candidate.

2.2 Exam Question by Question Analysis

Table 10 – Question 1

	Raw Marks	Weighted Marks	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	34	47.6			
Strong Pass (A)	24	33.6	71%	1	6%
Pass (B)	18	25.2	53%	4	24%
Slightly Below Standard (C)	16.2	22.7	48%	2	12%
Weak (D)	12	16.8	35%	6	35%
Showed Little Knowledge (E)	6	8.4	18%	3	18%
(F)	1	1.4	3%	1	6%
Did Not Attempt (X)	0	0			
Maximum Mark	24				
Average Mark	14.9				
Standard Deviation	5.8				
Coefficient of Variation	0.39				

This question was a good differentiator.

5 candidates passed (29%) and 4 of those passed the course.

The question asked candidates to advise an employer regarding the transfer of a senior executive from the defined benefit plan to the accumulation plan.

Candidates should have been able to handle this standard topic quite easily. However the quality of responses was not as high as expected. In particular, calculations provided were typically lacking. Also many candidates did not match benefits for ages 55 to 65 despite this being explicit in the question.

Advantages and disadvantages were generally well set out.

The options proposed were generally inadequate.

Comments on the impact of the transfer on accounting results were generally poor, with few candidates making the connection between the funding transfer value and the higher accounting DBO for the member.

Very few candidates took the initiative to generate a higher up front transfer value as a trade-off for lower ongoing contributions. This simple approach is often used in practice and should have been easily within reach for a candidate in this subject.

The markers suggested that some candidates had attempted this question last (despite this being LAQ1) based on the order of their responses and they ran out of time as their spreadsheets did not contain much, if anything at all.

Table 11 – Question 2

	Raw Marks	Weighted Marks	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	34	47.6			
Strong Pass (A)	28.1	39.3	83%	3	18%
Pass (B)	22.1	30.9	65%	5	29%
Slightly Below Standard (C)	19.8	27.7	58%	6	35%
Weak (D)	14.5	20.3	43%	2	12%
Showed Little Knowledge (E)	8	11.2	24%	1	6%
(F)	1	1.4	3%		
Did Not Attempt (X)	0	0			
Maximum Mark	33				
Average Mark	23.7				
Standard Deviation	5.4				
Coefficient of Variation	0.23				

This question was a good differentiator; it could have been an even better differentiator except that the marking guide and/or the markers were generous relative to the other questions, resulting in a distribution of marks that was compacted towards the top end. 8 candidates passed (47%) and 5 of those passed the course (in fact they were the top 5 candidates overall).

The question asked candidates to consider tontine-style pooled longevity products.

Part (a) required the advantages and disadvantages from the perspective of a trustee or fund members.

Part (b) required a description and graph of 3 possible payment structures.

Part (c) required consideration of product design issues.

A large proportion of this question was theoretical bookwork, albeit on a topic that is not commonplace today. This combination likely explains why the marks were relatively high despite feedback from the markers that many candidates were perplexed – presumably when they had to extend their thinking. Knowledge of the word 'tontine' was not required as the question was descriptive and even provided a fair amount of information that could be used as answers to parts (b) and (c)!

It was very disappointing that not a single candidate noted that tontines are fully-funded, which is probably the main advantage to the trustee and was worth a mark explicitly. As one of the markers commented, "An actuary who does not live and breathe solvency in my view does not live and breathe!"

Few candidates addressed the important consideration of equity.

Some candidates simply listed bullet points without explanations, as required by the question.

Table 12 – Question 3

	Raw Marks	Weighted Marks	% of Total Marks	Number of Candidates	Proportion of Candidates
Total Marks Available	32	44.8			
Strong Pass (A)	23	32.2	72%	1	6%
Pass (B)	19.5	27.3	61%	3	18%
Slightly Below Standard (C)	17.6	24.6	55%		
Weak (D)	15.5	21.7	48%	3	18%
Showed Little Knowledge (E)	8.5	11.9	27%	7	41%
(F)	1	1.4	3%	3	18%
Did Not Attempt (X)	0				
Maximum Mark	23				
Average Mark	14.3				
Standard Deviation	4.9				
Coefficient of Variation	0.35				

This question was a good differentiator.

4 candidates passed (24%) and 3 of those passed the course.

The question asked candidates to perform a traditional valuation.

Part (a) required calculation of contribution rates via 2 methods and explanation of the different results.

Part (b) required a simplified analysis of surplus.

This topic should be bread and butter for a candidate in this subject. The quality of responses overall was disappointing and this was reflected in the relatively low pass rate. The smaller part (a) generally was well answered. The larger part (b) generally was poorly answered.

This suggests to me – and was evident in the borderlines reviewed – that candidates are prone to applying a calculation without properly understanding the resultant impacts of the variables. Furthermore there was a lack of checks and balances demonstrated. This was most evident in part (b) when calculations did not balance and candidates did not recognise this as a problem and attempt to correct it or even explain it.

Many candidates failed to identify that salary and/or investment return experience would only impact the defined benefit portion of vested benefits. This is a serious oversight for a candidate in this subject.

Many candidates did not distinguish between DBO and vested benefits in their explanations and/or calculations. This too is a serious oversight for a candidate in this subject.

Very few candidates identified the death insurance issue. The fact that the question highlighted a distinction in insurance arrangements was an obvious clue. No candidate calculated the impact of the engineering death shortfall. This is a minor oversight but was an opportunity for candidates to demonstrate a thorough knowledge of the analysis.

COURSE 10 COMMERCIAL ACTUARIAL PRACTICE

Examiners' Report Semester 2 2015

1. Summary

1.1. Course Outline

The Commercial Actuarial Practice (CAP) Course is designed to teach students to apply actuarial skills across a range of traditional and non-traditional areas by "contextualizing" actuarial solutions or approaches in the wider commercial environment.

The two assessment tasks are:

1. A take-home Post-Course Assignment ("Assignment") on one of the 3 non-traditional topics (Banking, Health, ESG). One-third of the students were randomly allocated to each topic. It is worth 20% of the final mark.
2. An 8-hour Case Study Exam ("Exam") worth 80% of the final mark, under exam conditions with the use of a computer (open book, but no internet access). The candidates had to choose 1 from the 5 mainstream topics (Life Insurance, General Insurance, Investment, Global Retirement Income Systems - GRIS, Enterprise Risk Management - ERM), perform all the necessary analysis and prepare a substantial written report.

An overall pass requires a total of 50%, without necessarily passing the Exam.

1.2. Pass Rates

81 candidates completed the course. Of these, it is proposed that 51 be awarded a pass, representing an all-time highest **pass rate of 63%.**

Table 1 – Recent Course Experience

Semester	Sat	Passed	Pass Rate %
Semester 2 of 2015	81	51	63
Semester 1 of 2015	78	47	60
Semester 2 of 2014	85	49	58
Semester 1 of 2014	86	52	60
Semester 2 of 2013	84	49	58
Semester 1 of 2013	74	39	53
Semester 2 of 2012	71	40	56
Semester 1 of 2012	82	47	57
Semester 2 of 2011	87	48	55
Semester 1 of 2011	79	47	59
Semester 2 of 2010	102	56	55
Semester 1 of 2010	97	57	59

1.3.Candidate Numbers

A total of 84 candidates were originally enrolled for the CAP course in Semester 2 of 2015. 55 candidates attended the 4-day CAP residential course at MGSM, being all those sitting CAP for the first time. In addition, 1 repeat candidate attended the GRIS session at our request, in order to give a better number of attendees (3).

The candidate numbers and results can be summarised as follows:

	Post-Course Assignment only	Case Study Exam only	Both	Total
Originally enrolled	0	0	84	84
Withdrawals	0	0	1	1
Absent	0	0	2	2
Presented	0	0	81	81
Passed	0	0	51	51
Failed	0	0	30	30

The analysis by number of attempts is as follows:

Table 2A – Number of CAP Attempts

Attempt	Presented	Passed	Pass rate
1	55	35	64%
2	18	10	56%
3	5	3	60%
4	2	2	100%
5	1	1	100%
Total	81	51	63%

- It is a relief to see the high pass rates among those with multiple attempts. We now only have 3 candidates who have failed more than twice (1 did not re-sit this semester).

The analysis by chosen Exam Topic is as follows:

Table 2B – Analysis by Topic

Exam Topic	Candidates	No. of passes	Pass rate
ERM	16	9	56%
GI	26	18	69%
GRIS	3	3	100%
Invest	3	2	67%
Life	33	19	58%
Total	81	51	63%

In recent semesters we have commented on the sometimes high pass rate in ERM and low pass rate in Life. This semester we are more pleased with the pass rates, particularly when viewed in relation to candidates' average performance in the Assignment (see s4.3). The high pass rate in General Insurance is particularly pleasing, and we note this was not changed by consideration of the complaint about the exam (see s5.3.3).

The analysis by examination centre is as follows:

Table 3 – Analysis by Examination Centre

Centre	Presented	Passed	Pass rate
Brisbane	2	1	50%
Canberra	1	1	100%
Melbourne	18	7	39%
Sydney	50	35	70%
Subtotal Australia	71	44	62%
Hong Kong	2	2	100%
Malaysia (KL & PJ)	2	1	50%
London	2	1	50%
Singapore	2	1	50%
Wellington	2	2	100%
Subtotal Overseas	10	7	70%
Total	81	51	63%

The number of overseas candidates presenting has remained low in the 2 semesters of 2015. There was no significant difference in the performance between domestic and overseas candidates. It is pleasing to see at least 1 pass in every country. The only results of interest were a low pass rate in Melbourne and a high rate in Sydney; the reverse of the situation a year ago.

2. Course Administration

2.1 Course Outline

The overall objectives of the CAP course are to enable students to:

- Apply actuarial skills across a range of traditional and non-traditional areas by “contextualising” actuarial solutions or approaches in the wider commercial environment;
- Apply ethical concepts, corporate governance requirements and actuarial professional standards when writing a report; and
- Successfully communicate the actuarial solutions or approaches to a range of audiences.

Given these objectives, the assessment for the course is focused on the practical application of judgment and on the written communication skills of the students, rather than on bookwork. The two assessment tasks are:

1. A take-home Post-Course Assignment (“Assignment”) on one of the 3 non-traditional topics (Banking, Health, ESG), distributed after the 4-day residential course, for completion within 2 weeks. One-third of the students were randomly allocated to each topic, albeit with a check that repeat candidates are not allocated to the same topic 3 times in a row. The Assignment is worth 20% of the final mark. The result and feedback were supplied to candidates 3 weeks prior to the Exam.
2. An 8-hour Case Study Exam (“Exam”) worth 80% of the final mark, under exam conditions with the use of a computer (open book, but no internet access). The candidates had to absorb the question material, choose 1 from the 5 mainstream topics (Life, General, Investment, GRIS, ERM), perform all the necessary analysis and prepare a written report (typically 10 to 15 pages plus any appendices).

The pass mark is 50%, which is regarded as equivalent to the 60% pass mark adopted for the other part III courses.

2.2 Examiners

The examiners for this semester were:

Chief Examiner: Bruce Thomson

Assistant Examiner: Matthew Ralph

2.3 Course Leader

The Course Leader for this semester was: David Service

The CAP Faculty Chair for this semester was: Bridget Browne

2.4 Preparation of Case Studies

Case studies were prepared by the Course Presenters in the 8 topic areas listed below. Each was designed to be completed within 8 hours under exam conditions, even though the 3 non-traditional topics were completed as a take-home assignment. Each was fine-tuned in consultation with the Chief Examiner, formally scrutineered, and signed off by the Examiners.

This semester the Environment topic was re-named as Environment, Social & Governance ("ESG") to reflect the evolution of the topic over recent semesters.

The 5 traditional-topic questions aim to be practical within the subject area, without necessarily being entirely and strictly within the Part III syllabus.

Topic	Course Presenter / Author
Health	Kirsten Armstrong
Banking	David Service
Environment	Naomi Edwards
ERM	Bruce Edwards
Life Insurance	David Service
Investments	David Service
GRIS	Julie Cook, Minjie Shen
General Insurance	Colin Priest

Marker 1 roles for Banking (Stuart Crockett), Life Insurance (Peter Martin) and Investments (Aaron Bruhn) freed up David Service to be Marker 2 for all topics.

3. Post Course Assignment results

Although marks and grades were given for the Post-Course Assignment, a pass/fail decision was not required for each candidate; this simply formed 20% of their overall mark.

Final scaled marks ranged from 37% to 88%, with an average of 62%. Candidates were only given a grade (Credit, etc) but were also given a copy of their Assignment with marked-up comments from the Marker. We believe these comments were particularly useful to candidates.

3.1 Banking

The Banking case study required candidates to advise the Treasurer of an imaginary country, on the introduction of risk-based capital for banks instead of the government guaranteeing bank deposits in return for a 1%pa fee on assets. Comments were required on the position of smaller banks and pricing of products, as well as broader issues for the country.

3.2 ESG

The ESG case study required candidates to prepare a report from the Treasury Secretary of an imaginary country to a government Senator, re his ideas to show the actuarial cost of future welfare in government accounts, and to pay jobseeker agencies a lump sum when they find a job for an unemployed person.

3.3 Health

The Health case study required candidates to advise the Ministry of Health in Pakistan on reducing blindness due to diabetic retinopathy. Although extensive real-world data was provided, candidates had to recognize and deal with significant gaps and inaccuracies.

4. Exam results

4.1 ERM

The ERM Exam required candidates to advise the Board of an Australian oil-industry shipping company on managing the risks involved in acquiring a foreign shipping company. Viewpoints of stakeholders including the Union had to be considered, and specific risks such as currency and oil price fluctuations.

4.2 GRIS

The Exam for Global Retirement Income Systems required candidates to provide advice to an imaginary government on the design of a scheme whereby the government would guarantee accumulation balances would earn at least the rate of inflation each year, but that any return greater than (inflation + 11%) would be paid to the government.

4.3 General Insurance

The General Insurance exam required candidates to develop a strategy for a company operating in a market where there is a mix of traditional and Islamic co-operative "Takaful" insurance and where capital regulations for Takaful are changing. It was necessary to analyse the differences between the two products and devise a logical plan to profitably grow the business.

4.4 Investment

This case required candidates to provide advice to a medical research institute on investing a very large bequest in order to finance research over 50 years. Some opinions of the testatrix had to be considered such as not investing in coal, gas, nuclear energy, bombs, booze or brothels.

4.5 Life Insurance

The Life case required candidates to advise a fund manager on the advantages of owning a life office, contrary to its parent company philosophy. Calculations and commentary on a given sample acquisition company were also requested.