Report to ECC from the Board of Examiners

SEMESTER 2 2014

PART III

BOARD OF EXAMINERS' REPORT

(Public Version)

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CHAIR'S REPORT

SUMMARY

Examination Administration

The Semester 2 2014 Part III examinations of the Actuaries Institute ("Institute") were held from the 14 October through to the 22 October 2014.

Candidate Numbers

The semester 2 2014 candidate numbers can be summaries as follows

	C2A	C2B	C3A	C3B	C5A	C6B	C10
Originally enrolled	57	54	90	65	34	12	85
Deferred prior to exam	0	0	1	0	0	0	0
Withdrawn prior to exam	1	1	9	1	1	0	0
Absent from exam	0	2	4	1	1	1	0
Presented at exam	56	51	76	63	32	11	85
Passed	25	20	15	24	17	7	49
Failed	30	31	61	39	15	4	36
Pass Rate (%)	45%	39%	20%	38%	53%	64%	58%

Analysis by Examination Centre

Pass Rates

The number of candidates presenting for the Semester 2 2014 Part III Exams, the recommended 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: Recommended Number of Passes by Part III Course

	2014 (2)			2014 (1)			2013 (2)			2013 (1)		
	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%
2A Life Insurance	56	25	45	62	16	26	59	25	42	50	26	52
2B Life Insurance	51	20	39	60	22	37	44	17	39	43	11	26
3A General	76	15	20	66	17	26	76	14	18	96	31	32
3B General	63	24	38	61	16	26	64	17	27	62	22	35
5A Invest.	32	17	53	n/a	n/a	n/a	41	21	51	n/a	n/a	n/a
5B Invest.	n/a	n/a	n/a	24	7	29	n/a	n/a	n/a	37	21	57
6A GRIS	n/a	n/a	n/a	15	9	60	n/a	n/a	n/a	19	8	42
6B GRIS	11	7	64	n/a	n/a	n/a	17	7	41	n/a	n/a	n/a
ST9 ERM1	113	41	36	98	22	22	98	39	40	91	30	33

[1]All ST9 figures are for non-fellows only.

ST1 Health & Care	19	3	16	20	2	10	20	9	45	16	6	38
F101 Health Principles2				n/a	n/a	n/a	1	0	0	n/a	n/a	n/a
C10 CAP	85	49	58	86	52	60	84	49	58	74	39	53
Total	**506**	**201**	**40%**	**492**	**163**	**33%**	**504**	**174**	**35%**	**499**	**206**	**41%**

For this semester, all subjects, except CAP, were assessed on the new model comprising 10% online forum participation, 30% multiple choice questions and 60% 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 a 7% increase from the 33% pass rate for the previous semester. This is a pleasing result.

It is pleasing that the 2A and 3B pass rates increased significantly from the previous semester. However it is disappointing that 3A pass rate continued to fall to a relatively low pass rate of 20% for this semester.

Fellows

If ECC adopts the recommended passes, 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: Recommended Number of Fellows

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

[2] The ASSA F101 exam was offered for the first time this semester.

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:

Participation Mark	Subject						
	2A	2B	3A	3B	5B	6B	Total
10	19	12	39	4	1	6	81
9	21	5	13	15	2	0	56
8	7	9	10	29	8	5	68
7	4	6	0	6	12	0	28
6	0	8	0	6	3	0	17
5	0	0	5	1	5	1	12
4	1	6	1	0	0	0	8
3	1	0	3	0	1	0	5
2	0	2	3	0	0	0	5
1	0	0	0	0	0	0	0
0	3	6	12	4	0	0	25
No. of Candidates	56	54	86	65	32	12	305
Average Mark	8.2	6.6	7.3	7.5	6.9	8.8	7.4

Observations:

- The 3A average mark of 7.3/10 is distorted by 8 of the 12 candidates not posting to the forum, withdrawing from the course and thus not sitting the exam. Removing these candidates gives an average mark of 8.1/10 for 3A and an overall average mark of 7.6/10 covering all subjects.
- The adjusted overall average mark was 7.6/10, slightly lower than the 7.8/10 average mark for the previous semester, Semester 1 2014.
- For GRIS there was an improvement in the level of performance in the online forum. The average participation mark increased from 6.9/10 for last semester to 8.8/10 this semester.
- There was a significant fall in the performance in the online forum for 2B and 5A/5B. The average mark for 2B decreased significantly from 7.8/10 for last semester to 6.6/10 for this semester. The average mark for 5A/5B decreased even more significantly from 8.5/10 for last semester to 6.9/10 for this semester. Both of these subjects have the lowest average participation marks of all the subjects. This is due to the significant fall in the number of students in these subjects receiving 8 or more marks. For last semester, 71% of 2B students received 8 or more marks compared to 48% this semester. For last semester, 79% of 5A students received 8 or more marks compared to 34% of 5B students this semester. Again, these two subjects have the lowest proportions by far of all subjects. This is particularly stark when 84% of 2A students receiving participation marks of 8 or more. The importance of the participation assessment needs to be reinforced to students in 2B and 5A/5B.
- The average mark in the online forum for 2A and 3B remained the same as the previous semester.

- The proportion of students achieving the maximum mark of 10/10 was 27% consistent with the 27% for the previous semester.
- These results indicate that there continues to be a high level of student engagement in the online assessment.

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	Exam: Andrew Gill Tutorials, Forum Participation: Richard Land
3A	Exam: James Pettifer (writer), Nadeem Korim (writer), Yvonne Wong (writer) Tutorials: Jeff Thorpe Forum Participation: Felix Tang
3B	Exam: Jacqui Reid Tutorials: Ben Qin Forum Participation: Danny Rouel
5A	Exam: Andrew Leung Tutorials, Forum Participation: Andrew Leung
6B	Longer Answer Question: David McNeice (writer), Adam Butt (reviewer) MCQ writers: Rowan Ming, Adam Butt, Jim Repanis, Derrick Bilney, Andrew Leung Tutorials, Forum Participation: Vivian Dang
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
CAP	David Service

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.

2.1. BoE Chair

Chair Gary Musgrave

2.2. Chief Examiners

Course 2A:	Life Insurance	Bridget Browne
Course 2B:	Life Insurance	Matthew Wood
Course 3A:	General Insurance	James Pettifer
Course 3B:	General Insurance	David Xu
Course 5A:	Investment Management & Finance	David Pitt and Tim Kyng
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
2 July 2014	• 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
10 September 2014	• 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.
26 November 2014	• Review the recommended pass lists and treatment of borderline candidates. • Review the recruitment of Chief Examiners and Assistant Chairs for next semester.

3. Assistant Examiners

The Assistant Examiners for Semester 2 2014 were:

Course 2A:	Life Insurance	Andy Siu and Alissa Holz
Course 2B:	Life Insurance	Emily Galer and Matthew Simon
Course 3A:	General Insurance	Nadeem Korim and Yvonne Wong
Course 3B:	General Insurance	Jacob Sharff
Course 5A:	Investment Management & Finance	David Pitt and Tim Kyng
Course 6B:	Global Retirement Income Systems	Jim Repanis
Course 10:	Commercial Actuarial Practice	Matthew Ralph

4. Scrutineers

The Scrutineers for Semester 2 2014 were:

Course	MCQs	Longer Answer Questions, Case Study Assignment and Exam
Course 2A	Elizabeth Guo, Xiaocong Li, Ka Ki Ho, Xue'Er Lin, Chung Law, Gary Kuek	Gary Kuek
Course 2B	Stephen Edwards, Xiaocong Li, Elizabeth Guo, Keith Cheung, Jeffrey Azzato	Stephen Edwards
Course 3A	Kerri Lam, Luke Cassar, Nicholas Whitlock, Andrew The	Andrew Teh

Course 3B	Ian Hyland, Ting Chen, Kerri Lam, Weihao Choo, Danny Zhang	Danny Zhang
Course 5A	Jonathan Ng, Jie Ding, Weimin Xie	Jonathon Ng Weimin Xie
Course 6B	Su Li Sun, Winston Lu, Richard Saverimuttu, Brnic Van Wyk, Nathan Bonarius	Raymond Chow
Course 10		Stephen Edwards (Health), Kuan Kiat Cheah (Environment), Ai Nee Seow (ERM), Weihao Choo (General Insurance), Raymond Chow (GRIS), Stephen Lynch (Banking), Michelle Shek (Investments), Victor Huang (Life Insurance)

5. Administration and Exam Supervision

The Board of Examiners was ably assisted by a number of Institute staff, in particular Philip Latham, Jennifer Robinson, Karenna Chhoeung and Taylor Dennis. 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. The Examination Process

The new assessment model was used for Life Insurance, General Insurance, Investment Management and Finance, and for the first time this semester, in Global Retirement Income Systems. The following assessment structure was in place for these courses:

- A multiple choice component. (weighted at 30%), and;
- A longer answer component (weighted at 60%).

Course 10 Commercial Actuarial Practice also continued with the same examination assessment structure as follows:

- An 8-hour case study exam (weighted at 80%)

Chief Examiners were appointed in all subjects and worked with either the Project Team or Course Leader on the draft exam questions.

6.1. Multiple Choice Component Question setting

The multiple choice questions in Life Insurance, General Insurance and Investment Management and Finance were developed and reviewed by Course Leaders and the project team and delivered to students using a customised version of the Australian and

New Zealand Institute of Insurance and Finance's (ANZIIF) exam system. The multiple choice component was conducted under closed book conditions. The following process was followed:

- 6 additional multiple choice questions and sample answers were written for each course and made available to students in the LMS during the semester
- All new questions were reviewed by an independent member of the project team
- All new questions were tested by an expert, where possible
- Chief Examiners reviewed for overall course coverage and pre-selected examination questions.
- Testing with new Fellows
- scrutineers completed the multiple choice component in the actual ANZIIF online exam system
- Final selection of questions by the Chief Examiners and project team
- Sign-off of all questions for semester 2 2014 by Chief Examiners and one other writer from the project team, or the Assistant Examiner

Table 3 – Multiple Choice Coverage by Unit

UNIT 1	**2A**	**2B**	**3A**	**3B**	**5A**	**6B**
Number of Questions	6	7	7	12	2	2
Key Performance Outcome	1,2,3,9	1.2	1	1	1	1
Learning Objective	1.1,1.2,2.4, 3.2,9.3,10.3	1.1,1.3,2.1 2.2	1.2,1.3,1.5 1.6	1.1,1.2,1.5,1.6,1.7,1.8 1.9,1.10,1.11,1.12	1.1	1.1,1.3
Unit 1 Marks	15	21	17	31	4	4
UNIT 2						
Number of Questions	5	5	8	12	4	4
Key Performance Outcome	4,5,7	4	2	2	2	2
Learning Objective	4.2,5.1,5.2, 7.5,7.6	4.3	2.1,2.2,2.3 2.5	2.1,2.2,2.3, 2.4,2.5,2.6	2.3,2.6	2.1,2.2, 2.3,2.4,2.6
Unit 2 Marks	13	16	19	31	8	10
UNIT 3						
Number of Questions	6	6	10	4	2	8
Key Performance Outcome	8,10,11	5,6	3	3	3	3
Learning Objective	8.3,10.1, 10.2,11.2	5.3,5.7,6.1,6.2	3.1,3.2,3.4, 3.6,3.9	3.1,3.2,3.3	3.4,3.5	3.1,3.2,3.4
Unit 3 Marks	14	15	28	8	4	16

UNIT 4						
Number of Questions	7	2	5		7	4
Key Performance Outcome	12,13,14	7,8	4		4	4
Learning Objective	12.3,12.4,13.1, 14.1,14.2,14.3	8.3,8.4	4.2,4.3,4.5		4.1,4.2,4.3 4.4,4.7,4.8	4.1,4.2,4.3, 4.4,4.6
Unit 4 Marks	24	5	13		16	9
UNIT 5						
Number of Questions	4	5			7	2
Key Performance Outcome	15	10,11			5	6
Learning Objective	15.1,15.2,15.3	10.1,11.1			5.1,5.2,5.3 5.4	6.2
Unit 5 Marks	10	14			14	4
UNIT 6						
Number of Questions		3				3
Key Performance Outcome		12				8
Learning Objective		12.1,12.4				8.1,8.3
Unit 6 Marks		7				8
UNIT 7						
Number of Questions						3
Key Performance Outcome						10,11
Learning Objective						10.1,10.3,11.3
Unit 7 Marks						6
UNIT 8						
Number of Questions						3
Key Performance Outcome						12
Learning Objective						12.2,12.3
Unit 8 Marks						7

The available marks for the multiple choice component varied between 41 and 80. Therefore, percentages have been used for comparisons between subjects. The highest mark was 92% (61 out of 66) in 6B. The lowest mark was 18%, which was achieved in 3A (14 out of 76). The overall average score for the multiple choice component was 56%.

The table below shows the candidate performance on the multiple choice component for all courses.

Table 4A: MCQ Result Summary

MCQ	2A	2B	3A	3B	5A	6B	Overall Average
Questions	30	28	30	28	20	30	28
Total marks	78	80	76	70	41	66	69
Average (%)	58%	45%	41%	63%	52%	77%	56%
Highest (%)	79%	76%	62%	90%	80%	92%	80%
Lowest (%)	33%	26%	18%	40%	27%	65%	35%

6.2. Longer Answer Component Question setting

The Course Leader developed the longer answer questions in Life Insurance, General Insurance and Investment Management and Finance and a project team developed the longer answer questions for Global Retirement Income Systems. The longer answer questions were conducted under open book conditions. The following process was followed:

- Review and edit by Chief and Assistant Examiners.
- Testing with new Fellows
- Sign-off of all questions by Chief Examiners one other person (Assistant Examiner or member of the project team).

Longer Answer Coverage by Unit

Course	Question	Units	KPO	LO	Total Marks
2A	Q1	2, 3, 5	4, 5, 6, 7, 8, 9, 10, 15	4.1, 4.2, 5.1, 5.2, 5.3, 6.1, 6.2, 7.1, 8.3, 9.2	30
	Q2	1, 2, 3, 4	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	1.1, 1.2, 2.3, 2.4, 4.1, 4.2, 5.4, 6.1, 6.2, 6.3, 7.1, 7.2, 7.6, 8.1, 8.2, 8.3, 9.2, 9.3, 9.4, 10.3, 11.7, 12.3, 13.1, 13.4, 14.1, 14.2	30
2B	Q1				34
	Q2				26
3A	Q1				20
	Q2				20
	Q3				20

3B	Q1	1	1	1.1, 1.2, 1.3, 1.4, 1.6, 1.7, 1.8, 1.9, 1.11	30
	Q2	1,2, 3	1, 2, 3	1.1, 1.6, 1.7, 1.9, 1.11, 1.12, 2.1, 2.3, 2.4, 2.5, 3.2, 3.3	30
5A	Q1	1,3	1, 3	1.1, 1.3, 3.2, 3.4, 3.7	30
	Q2	2	2	2.1, 2.4, 2.5	30
6B	Q1				30
	Q2				30

6.3. CAP Paper Based Exam Question setting

The exam assessments for C10 were set as per previous semesters. These examinations were also conducted under open book conditions. The framework used to set these papers is described as follows:

- The Course Leader (or equivalent) drafts the examination questions in consultation with the Chief Examiners.
- Draft exams and solutions are reviewed for coverage and fairness.
- A recently qualified Fellow scrutineered the paper under exam conditions to assess analysis, clarity, coverage and length.
- Exams are redrafted after feedback from the scrutineer.
- Exams, solutions and marking guides are finalised by the Chief Examiners and their Assistants.
- The Chief Examiner and an Assistant Examiner sign off the final examination papers and solutions.

6.4. Exam marking

The general framework used to mark examination papers, grade candidates and determine passes, except for the ST9 Enterprise Risk Management, ST1 Health & Care and F101 Health Principles, is described as follows:

Subject	**Minor Assessment**	**Weighting**
2A, 2B, 3A, 3B, 5A, 6B	Online forum participation	10%
C10	Post course report assignment	20%
Subject	**Major Assessment**	**Weighting**
2A, 2B, 3A, 3B, 5A, 6B	Multiple Choice Component	30%
2A, 2B, 3A, 3B, 5A, 6B	Longer Answer Component	60%
C10	Case Study Exam	80%

- Except for CAP, two markers marked each question, with CAP only those candidates with a mark above 40% or below 60% were marked a second time. Inconsistencies in marks for a candidate were discussed by the markers and resolved (in most cases), before the results were forwarded to the Chief Examiner.
- Each candidate was awarded a grade (A, B, C, D, E or F) for each question, where A was regarded as a strong pass and B an ordinary pass.

- Candidates' overall performance was determined by the total raw mark.
- Candidates were ranked based on total raw mark.
- Candidates' online forum participation, multiple choice marks and assignment marks were added to the exam marks.
- For the multiple choice component, ANZIIF provided a report which included a total mark per candidate.
- Candidates were divided into clear passes, clear failures and a middle group that required further consideration.
- The Chief Examiner reviewed the middle group individually. The pass/fail decision was made after determining the overall raw mark across all assessments.

The principle of "fitness to practise" was applied on the basis of the following questions:

In the answers to the long answer questions:

1. The absence of any serious misunderstandings and dangerous statements.
2. The demonstration of the understanding of the key concepts of the course.
3. The presentation of reasonable arguments to back up their conclusions in their assessments.

If there are no issues regarding these considerations, the candidate should pass.

7. The Online Forum and Assignment Process (Subject 10 and Modules 2-3)

7.1. Online Forum Participation

The online forum participation mark was introduced for subjects: Life Insurance, General Insurance and Global Retirement Income Systems in Semester 1 2012, replacing the previous assignment assessment. The participation mark was introduced for Investment Management and Finance in Semester 1 2013. The online forum participation mark contributed 10% of the total assessment.

Following feedback from students and Course Leaders, the marking guidelines were changed in semester 2 2012 from students having to post three original posts and reply to three posts from other students to students having to post two original posts and reply to four from other students. A participation mark was awarded based on the quality of these posts, using the following marking guidelines:

Marks	Description
2	Candidate meets the minimum standard of 2 original posts and 4 responses to other students' posts
PLUS	
3	Posts are **usually** well communicated
2	Posts are **sometimes** well communicated
0	Posts are **never** well communicated
PLUS	
3	Posts **usually** discuss the issues and recommend a solution or practical difficulties, in the context of the current discussion (where relevant)
2	Posts **sometimes** discuss the issues and recommend a solution or practical

	difficulties, in the context of the current discussion (where relevant)
0	Posts **never** discuss the issues and recommend a solution or practical difficulties, in the context of the current discussion (where relevant)
PLUS	
2	Candidate makes additional posts which assist other candidates
*Maximum of 10 marks If the candidate does not meet the minimum requirement of 2 original posts and 4 responses to other students' post they will be limited to a maximum of 5 marks.	

8. Module 4 CAP - The Case Study Process

The CAP course was developed and originally delivered for the Institute by the ANU but is now run directly by the Institute. The CAP team included David Service, Bruce Edwards, Julie Cook, Colin Priest, Naomi Edwards, Kirsten Armstrong, Bruce Thomson, Stuart Crockett, Peter Martin and Aaron Bruhn. The team also developed the assessment materials for the course and did the marking.

The assessment method changed in Semester 2 2010 due to the restructure of the CAP course. There are still two assessment tasks, but they are now:

1. A post-course report assignment on one of the three non-traditional topics, distributed after the residential course. This semester one third of the students were randomly allocated to each non-traditional topic. It is worth 20% of the final mark.

2. An 8-hour case study report chosen by each student from among the 5 traditional topic areas, to be prepared under exam conditions but with use of a computer. This is worth 80% of the final mark.

The pass mark is 50%. Candidates who had passed part of the previous course were allowed to submit only the other equivalent part this semester.

It is not mandatory for failing candidates to re-attend the residential course.

The development and delivery of the course was overseen by a Faculty, consisting of Bridget Browne (Chair), David Service (Course Leader), Bruce Thomson (Chief Examiner), Matthew Ralph (Assistant Examiner) and case study question writers.

The case study assessment questions were reviewed by Actuaries from the different areas of practice, specifically:

Life Insurance:
General Insurance:
Global Retirement Income Systems:
Investments:
Banking:
Environment:
Health:
Enterprise Risk Management:

9. Examination Dates

This semester's Part III examinations were held on the following dates:

Table 5: Examination Dates

Course	Subject	Exam Date
2A	Life Insurance	14 October 2014
2B	Life Insurance	15 October 2014
3A	General Insurance	16 October 2014
3B	General Insurance	17 October 2014
5A	Investment Management & Finance	20 October 2014
6B	Global Retirement Income Systems	21 October 2014
7A	Enterprise Risk Management	24 September 2014
ST1	Health & Care	30 September 2014
CAP	Commercial Actuarial Practice	22 October 2014
F101	Health Principles	

10. Post Course Assignment Dates

This semester's Part III Post Course assignment was due on 25 September 2014.

11. Exam Candidature

11.1. Candidate Mix

The mix of courses sat by candidates is broadly similar to that in previous years. C1 Investments was discontinued in 2013 and the new module one structure was introduced allowing candidates to choose a variety of different options. This change has slightly affected the candidate mix in 2014.

Table 6: Candidate Mix by Part III Course

Subject	2014 (2)	2014 (1)	2013 (2)	2013 (1)	2012 (2)
Investments	n/a	n/a	n/a	n/a	8%
Life Insurance	29%	32%	20%	19%	17%
General Insurance	37%	34%	28%	32%	32%
Investment Management & Finance	9%	6%	8%	7%	6%
Global Retirement Income Systems	3%	4%	3%	4%	3%
Enterprise Risk Management	n/a	n/a	19%	20%	18%
Health	n/a	n/a	4%[3]	4%	3
Commercial Actuarial Practice	23%	23%	17%	15%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

[3] From semester 2 2013, the candidate mix includes both the IFoA ST1 Health and Care and the ASSA Health Principles examinations.

12. Examination Centres

Candidates sat the exams in 6 centres in Australia and 10 centres overseas.

Table 7: Candidates by Exam Centre

Location	Number of Candidates																				
	2A			2B			3A			3B			5A			6B			C10		
	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%
AUSTRALIA	49	22	45%	43	18	42%	68	14	21%	52	19	37%	22	13	59%	11	7	64%	70	38	54%
Brisbane							3	0	0%	2	1	50%	1	0	0%	1	1	100%			
Canberra																			2	1	50%
Darwin										2	1	50%							1	1	100%
Melbourne	12	7	58%	4	3	75%	14	5	36%	8	2	25%	6	2	33%				9	5	67%
Perth																8	5	63%	1	0	0%
Sydney	37	15	41%	39	15	38%	51	9	18%	40	15	38%	15	11	73%	2	1	50%	57	31	54%
OVERSEAS	7	4	57%	8	2	25%	8	1	12%	11	5	45%	10	4	40%				15	11	73%
Vietnam										1	0	0%									
Ireland										1	1	100%									
China	2	0	0%	1	0	0%							1	0	0%				1	1	100%
USA							1	0	0%				1	1	100%						
Hong Kong	1	1	100%	1	0	0%							4	1	25%				3	2	67%
Malaysia	2	2	100%	1	1	100%				3	1	33%									
New Zealand	1	1	100%	1	1	100%	2	1	50%	2	1	50%							4	3	75%
Singapore	1	0	0%	3	0	0%	5	0	0%	1	0	0%	3	1	33%				3	2	^67%
Canada				1	0	0%															
United Kingdom										3	2	67%	1	1	100%				4	3	75%
TOTAL	56	25	**45%**	51	20	**39%**	76	15	**20%**	63	24	**38%**	32	17	**53%**	11	7	**64%**	85	49	**58%**

Examination Papers and Assignments

1. Examination Structure

The following components were included for Life Insurance, General Insurance, Investment Management and Finance, and Global Retirement Income Systems examinations: structure:

Multiple Choice Component	1 hour
Lunch	1 hour
Longer Answer Component (two questions)	3 hours

The multiple choice component of the exam was worth 30% and the longer answer component was worth 60% of the final assessment.

For Modules 2-3, each course was assessed individually. That is, a candidate can choose to sit (and subsequently pass or fail) only Course A (relating to Module 2) or Course B (relating to Module 3) of the subject. This differs from 2004 and earlier exams where candidates sat for the entire course (both A and B parts). For the 2004 exams, candidates were awarded a transitional pass for a paper if they passed either Paper 1 (Course A) or Paper 2 (Course B).

For Module 4, Commercial Actuarial Practice, candidates sat an eight-hour case study exam paper on five traditional areas of actuarial practice, answering 1 out of 5 questions and worth 80% of the final assessment.

2. Online Forum Participation/Assignment / Case Study Structure

The non-exam assessment structure for Modules 2 & 3 comprised of an online forum participation mark weighted at 10% of the final assessment.

Module 4 (Course 10 – Commercial Actuarial Practice) included a post course assignment on one of the 3 non-traditional topics (Banking, Health, Environment), distributed after the residential course for completion within 2 weeks. This semester one third of the students were randomly allocated to each topic which was worth 20% of the final assessment.

3. Examination Standards

Life Insurance, General Insurance, Investment Management and Finance, and Global Retirement Income Systems, adopted the *Miller's Pyramid* approach, which is about professional performance. It is divided into four different levels of performance: *Knows*, *Knows How*, *Shows How*, and *Does*. A good system for assessing professional performance should cover all levels of the pyramid. The higher levels of the pyramid are particularly important, as the higher levels subsume the lower levels.

The questions aimed to cover the whole syllabus.

The standards to be achieved by candidates sitting each course, the principles on which papers are to be set and the marking procedures, are set out in the Guidelines to Examiners.

Copies of the examination papers have not been included within this report in the interests of space. They are available from the Institute if required. Detailed comments on the quality of candidates' answers to the exam questions are contained in each Chief Examiner's report.

4. Security of Examination Papers

With the use of modern technology the security of Examination papers has significantly improved. Scanning is no longer required due to computer based assessments. Exam scripts were uploaded onto an internal installation of the Institute's Learning Management System and made available to markers and examiners.

5. Comments on Candidates' Minor Assessment Performance

As the Chief Examiners were unable to review candidates' online forum participation/assignments, no comments on their non-exam performance can be provided.

Results

1. Pass Standards

The standards for determining whether a candidate should be granted the status of Fellow of the Institute of Actuaries of Australia are based on whether an individual demonstrates core capabilities required for an actuary practicing professionally in their specialty area(s).

Candidates are required to demonstrate:

- a strong knowledge of the nature, operations, legislation and current issues of the selected practice area(s)
- a detailed knowledge and understanding of the application of actuarial concepts and skills to the chosen practice area(s)
- an ability to apply judgement to solve problems in the chosen practice area(s) that may be characterised by complexity, varying degrees of clarity of definition and novel or unseen circumstances.

A candidate is not expected to demonstrate these capabilities at the level of an experienced and skilled practitioner. It is unreasonable to expect candidates to demonstrate the degree of understanding of an actuary of some year's experience. Rather, the benchmark is whether the candidate is proficient to commence practicing professionally in their specialty area(s). Provided the candidate shows a grasp of the main principles, a pass should be awarded. Conversely, a candidate who demonstrates dangerous misconceptions or misapplication of concepts or ideas is viewed more seriously than a candidate who shows a simple lack of knowledge.

The Chief Examiners in the Part III Courses place greater emphasis on the questions that require the candidate to demonstrate the ability to apply bookwork to specific situations and show judgement to solve problems. When grading borderline candidates, their ability to do well in such questions has a greater bearing on whether they pass or fail. The Chief Examiners however, are very conscious of the fact that it is unreasonable to expect candidates to demonstrate the degree of understanding of an actuary with years of experience. In addition, actuaries are expected to be able to demonstrate their skills to those outside the profession. Candidates are expected to be able to communicate clearly and may be penalised if their answers are not clearly expressed.

For Course 7A and ST1 Health and Care, passes are approved by the Board of Examiners of the Institute and Faculty of Actuaries in the UK.

For Course F101, passes are approved by the Board of Examiners of the Actuarial Society of South Africa.

2. Pass Rates by Centre

The pass rates by exam centre were as follows:

Table 8: Comparison of Pass Rates by Centre

	2014 (2)	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)
Sydney	40%	37%	34%	39%	38%	33%
Melbourne	48%	39%	31%	40%	51%	48%
Other Australian	38%	33%	57%	42%	48%	27%
Overseas	46%	37%	35%	51%	39%	30%
Other Australian & Overseas combined	44%	36%	38%	49%	42%	29%
Total	**42%**	**37%**	**35%**	**41%**	**40%**	**37%**

I have examined the pass rates by specialist subject and examination centre. This analysis shows that the pass rates increased from the previous semester for all location categories, with increases of 3% for Sydney, 9% for Melbourne, 5% for Other Australian locations and 9% for Overseas.

3. Pass Marks

Table 9: Raw Pass Marks by Part III Subject

	Subject	2014 (2)	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)
2A	Life Insurance	117	109.6	123.7	113.1	113.2	104.5	93.0
2B	Life Insurance	112	125	114.7	111.1	116	105.0	105.0
3A	General Insurance	110.4	119.1	105.1	117.7	111.4	109	105.0
3B	General Insurance	120	120	104.1	114.5	105	115.0	100.1
5A	Investment Management and Finance	107	n/a	106.5	n/a	107.1	N/A	111.9
5B	Investment Management and Finance	n/a	98.3	n/a	95.0	n/a	112.1	n/a
6A	Global Retirement Income Systems	n/a	110	n/a	116.8	n/a	104.4	n/a
6B	Global Retirement Income Systems	125	n/a	116	n/a	106.9	N/A	106.6

BoE Members for Semester 1 2015

1. Board of Examiners The recommended constitution for the Board of Examiners for next semester (semester 1 2015) is as follows:

1.1. Chair

Gary Musgrave

1.2. Chief Examiners

Course 2A: Life Insurance	Andy Siu
Course 2B: Life Insurance	Matthew Wood
Course 3A: General Insurance	Nadeem Korim
Course 3B: General Insurance	David Xu
Course 5B: Investment Management & Finance	David Pitt
Course 6A: GRIS	Stephen Woods
Course 10: Commercial Actuarial Practice	Bruce Thomson

1.3. Assistant Examiners

Course 2A: Life Insurance	Alissa Holz, Bridget Browne
Course 2B: Life Insurance	Natalie Tan
Course 3A: General Insurance	Yvonne Wong, James Pettifer
Course 3B: General Insurance	Grace Ng
Course 6B: GRIS	Jim Repanis
Course 10: Commercial Actuarial Practice	Matthew Ralph

2. Examination Dates

The dates for the examinations in Semester 1 2015 are as follows:

Table 10: Examination Dates

Module	Subject	Exam Date
1 (7A – ST9)	Enterprise Risk Management	30 April 2015
1 (STI)	Health & Care (IFoA)	22 April 2015
1 (F101)	Health Principles(ASSA)	TBC
2 (2A)	Life Insurance	28 April 2015
2 (3A)	General Insurance	4 May 2015
2 (5B)	Investment Management & Finance	6 May 2015
3 (2B)	Life Insurance	29 April 2015
3 (3B)	General Insurance	5 May 2015
3 (6A)	Global Retirement Income Systems	7 May 2015
4 (10)	Commercial Actuarial Practice	8 May 2015

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 2015. It is recommended that the 2014 Semester 2 examination papers be released on 10 December or as close to this time as possible.

Gary Musgrave
Chair, Board of Examiners
10 December 2014

EXAMINER REPORTS

COURSE 2A LIFE INSURANCE

Chief Examiner's Report Semester 2 2014

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	30%
Long Answer Question Exam	60%

1.3. Pass Rates

57 candidates enrolled this semester. Of these, 1 withdrew, leaving 56 sitting the exam.

It is proposed that 25 candidates be awarded a pass, which implies a pass rate of 45%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
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%
Semester 2 2010	55	17	31%
Semester 1 2010	39	11	28%

The 45% pass rate for this exam is higher than the 26% pass rate for the previous exam (Semester 1 2014) and higher than the historical average. Candidates seemed to have a overall good course knowledge and were usually able use that knowledge to answer the questions as asked.

2. Assessment

2.1. Overall Performance

- Performance in the Forum, MCQs and LAQs was generally acceptable.
- Very few students considered underwriting loadings or understood that policies outside of a reinsurance arrangement should be excluded. Further the question on annuity pricing did appear to stretch some candidate's knowledge. Thus candidates need to improve their understanding of reinsurance types and processes and their understanding of mortality assumption setting when mortality rates are changing over time.
- Finally, students should be reminded that reasonableness checking is a key skill – for example a single premium annuity premium that seems reasonable with respect to the periodic payment and other characteristics of the product. If it seems unreasonable (due to an error which is not resolved) this must be noted in the student's response.

Question 1 **Total Marks:** **60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	40.0	66.7%	6	11%
Pass	30.5	50.8%	20	36%
Slightly Below Standard	27.5	45.8%	6	11%
Below Standard	23.0	38.3%	15	27%
Weak	16.0	26.7%	9	16%
Showed Little Knowledge	1.0	1.7%	0	0%
Did Not Attempt	0.0	0.0%	0	0%

Maximum Mark	50.5
Average Mark	30.0
Standard Deviation	7.2
Co-efficient of Variation	0.24

Question 2 **Total Marks:** **60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	46.0	76.7%	5	9%
Pass	36.5	60.8%	13	23%
Slightly Below Standard	32.9	54.8%	9	16%
Below Standard	20.0	33.3%	26	46%
Weak	12.0	20.0%	2	4%
Showed Little Knowledge	1.0	1.7%	1	2%
Did Not Attempt	0.0	0.0%	0	0%

Maximum Mark	52.5
Average Mark	32.6
Standard Deviation	8.7
Co-efficient of Variation	0.27

Question 1

Question 1 considered the impact of reinsurance on a mortality block and the implications of a pandemic on a company's reinsurance strategy and operations.

Pass mark was set by assuming the students should at least a score of 15 out of the 30 marks question. The papers of students who have scored around 15 marks were then reviewed.

Overall this question was fairly well answered, with a pass rate of 47%.

Part a)

This part of the question required students to calculate the premium payable to a reinsurer under an existing reinsurance treaty.

The majority of the students did not exclude all the policies that did not fall under the obligatory treaty. Many students applied a maximum to the reinsured SI or the gross SI rather than separating the policies for facultative reinsurance.

Students should be reminded to show their workings/audit trail or add commentary to provide the marker with an understanding of how they decided which policies to exclude

– simply labelling policies as facultative with no explanation as to why does not help when they have selected incorrect policies.

Only about half of the students incorporated the underwriting loadings in the calculation of the reinsurance premium, even though this information was obviously in the data provided for the question.

There are examples of answers that are set out well in excel and the word document described what they did – this could be shown, in addition to the marking guide, as an example of what a good solution looks like.

Part b)

This part of the question required students to consider the financial impact if a pandemic occurred.

The question stated that if a pandemic occurred, the standard mortality would increase by 500% or by 200% with certainly probabilities. Quite a number of students interpreted this as the standard mortality would increase to 5 times/2 times standard mortality rather than to 6 times/3 times standard mortality.

Most students did not incorporate underwriting loadings into mortality calculation or document any consideration as to whether they should do so. Further, only a handful of students considered select mortality.

Part c)

This part of the question required students to consider the appropriateness of various reinsurance strategies to mitigate a company's pandemic risk.

A number of students failed to provide adequate description of the proposal they were recommending.

Part d)

This part of the question required students to consider the sources of risk other than mortality arising from the company's exposure to a pandemic.

It was noted that some students provided very limited answers for the marks available Points were allocated for discussion on the counterparty risk of a reinsurer being unable to meet its obligations in a pandemic situation, and the use of multiple reinsurers as mitigation strategy.

It was noted that consideration of associated morbidity risk was relatively rare amongst the responses.

Question 2

Question 2 considered annuity pricing. Pass mark was set at a score of 18 out of the 30 marks question.

Overall this question was fairly well answered with a pass rate of 32%.

Part a)

This part of the question involved a spreadsheet calculation of a single premium lifetime annuity. Candidates were asked to comment on the mortality improvement assumption but otherwise use the latest specified pricing basis.

A number of students failed to allow for mortality improvement, including the given historical improvements in mortality. Even when an allowance was made many did not compound their mortality improvement assumptions.

Many candidates failed to use the pricing basis as asked by the question and instead changed and justified assumptions. There were also a significant number of mistakes in the use of decrements. Candidates should be reminded to perform reasonableness checks eg a single premium of $14,000 is not reasonable for a $40,000pa annuity.

Part b)

This part of the question asked the candidates to specify the risks involved in selling the annuity product and to outline risk mitigation strategies and discuss their effectiveness. Additional PS200 issues were also requested.

Most candidates were able to identify inflation and mortality improvements as key risks but some explanation was required to award full marks. Few candidates proposed a cap on the inflation rate as a mitigation technique.

Most candidates identified reinsurance as a method to reduce risk but fewer candidates recognised that an appropriate contract may not be available in the market and would be expensive.

Most candidates mentioned asset liability mismatching and about half the candidates mentioned the mortality hedge with the YRT business.

Few candidates mentioned sensitivity analysis.

Some candidates missed out on valuable marks by not answering all parts of the question. For instance, the risks were outlined in detail but the answer did not address mitigation techniques (5 marks) or the effectiveness of these (another 5 marks). Some candidates also did not list any additional PS200 issues (2 marks). Candidates should be reminded that the best answers are structured to correspond to the parts of the question.

A number of candidates provided a whole list of risks without considering which ones were the most important. Many candidates elaborated in more detail than necessary regarding operational risks and asset liability management issues.

Few candidates commented on there being no commissions and what this meant for the product.

COURSE 2B LIFE INSURANCE
Chief Examiner's Report Semester 2 2014

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	30%
Long Answer Question Exam	60%

1.3. Pass Rates

54 candidates enrolled this semester. Of these, 1 withdrew and 2 did not present, leaving 51 sitting both exams.

It is proposed that 20 candidates be awarded a pass, which implies a pass rate of 39%

Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
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%
Semester 2 2010	39	16	41%
Semester 1 2010	63	28	44%

The 39% pass rate for this exam is slightly higher than the 37% pass rate for the previous exam (Semester 1 2014) and higher 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 performance on the LAQs was somewhat disappointing. Most candidates' ability to come up with suitable risk margins was very poor – and may suggest a shortfall in the education process.

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 should have been reasonably straightforward, so this distribution of marks, while better than last semester, is disappointing.

The LAQs contained less spreadsheet work than last semester and more components requiring complex judgement. This made the questions far better discriminators, in particular, when assessing the borderline candidates.

There was clear evidence of a lack of understanding of basic concepts such as risk margins in Q1 and in simple Embedded Values calculations in 2 a). There seemed a lack of understanding in some of the basic concepts such as for Capital - and a tendency to over-complicate things in 2 b). It was surprising how few candidates identified that there would be no impact on capital from a change in the accounting standards. Consideration should be made in re-writing the course material for these components, with involvement of the Chief Examiner.

In many cases, the answers did not relate to the question asked or the context of the question – such as in 2 d) Poor exam technique was evident – and I would suggest improved training of students in exam technique. The Chief Examiner provided some tips on exam techniques at one of the 2B tutorials – based on many of the papers I question whether my suggested approach was adopted – it would be interesting to find out.

2.2. Exam Question by Question Analysis

Question 1 **Total Marks 68**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	42.0	61.8%	8	15%
Pass	37.0	54.4%	13	25%
Slightly Below Standard	33.3	49.0%	11	21%
Below Standard	28.5	41.9%	11	21%
Weak	19.0	27.9%	6	11%
Showed Little Knowledge	1.0	1.5%	2	4%
Did Not Attempt	0.0	0.0%	2	4%

Maximum Mark	47.0
Average Mark	33.0
Standard Deviation	10.3
Co-efficient of Variation	0.31

Question 1 was on Capital with a focus on the setting of risk margins. Candidates were also required to perform some calculations of the Capital Base and prescribed capital amount.

Overall, the question was not well answered with a clear lack of ability to come up with appropriate risk margins. The pass rate was 40%.

Part a)

Candidates were given some company and industry claims experience data along with 99.5% confidence intervals. They were asked to recommend random and future stress margins for use in the Insurance Risk change.

Overall this part was poorly answered. No candidates noted that a different margin should be applied for Cobra and ASP's disability insurance book. Very few candidates used the 99.5th percentile range provided to estimate random stress margin. Many candidates recommended future stress margins below the acceptable range in the Marking Guide. In some cases the risk margins were zero, and in one extreme example, negative. The teaching of risk margins should be reviewed. I suspect that the better performing candidates in this part were those with some practical working experience of risk margins.

Part b)

Candidates were given a spreadsheet with some asset and liability data and asked to

calculate various components of the PCA and Capital Base. Most candidates could calculate the Aggregation Benefit, Operation Risk Charge, Capital Base and Capital in excess of PCA.

Not many candidates allowed for tax in calculating Insurance Risk Charge. Overall, the Combined Stress Scenario was poorly answered.

Part c)

Candidates were asked to explain some aspects of LAGIC questioned by an actuarial analyst. On the whole this part was reasonably well answered.

Part ci)

This part asked for an explanation around the purpose of the regulatory adjustments in the capital base calculation. On the whole this was dealt with well, but there was a tendency just to quote bookwork rather than relating it to the circumstances in the question. Only a few candidates distinguished that there are different regulatory adjustments to net assets made for the statutory fund and general fund.

Part cii)

In this part, candidates were asked to explain how an insurance risk charge could be zero. Most candidates gave the situation and an example of where insurance risk margin can be zero. Better candidates gave a few examples, including for commenting that investment linked products will have zero insurance risk margin.

Part ciii)

In this part, candidates were asked to explain the difference between PCA and PCR. This question was well answered and most candidates noted the difference between PCA and PCR. Good candidates went on to provide some rationale around why the PCR is not disclosed.

Part d)

In this final part, candidates were given some details around a fictional country (actually based on New Zealand) and then asked to comment on how their setting of each of the risk margins would differ from Australia. This was best answered part of this question. Common mistakes included:

- Noting random, future, event, lapse margins will change but not indicating whether it will increase or decrease.
- Not realising expense stress margin is prescribed and therefore won't be impacted.

Question 2 **Total Marks: 52**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	36.0	69.2%	3	6%
Pass	28.0	53.8%	17	32%
Slightly Below Standard	25.2	48.5%	6	11%
Below Standard	22.0	42.3%	9	17%
Weak	16.0	30.8%	8	15%
Showed Little Knowledge	1.0	1.9%	7	13%
Did Not Attempt	0.0	0.0%	3	6%

Maximum Mark	40.8
Average Mark	23.6
Standard Deviation	9.9
Co-efficient of Variation	0.42

This question was essentially around assessing the impact on life insurance reporting if the current proposed IFRS4 Phase 2 standards came in. Candidates did not require any knowledge of these draft standards as the relevant aspects were clearly set out in the question. The key change was around the inability to defer acquisition expenses beyond the guaranteed premium period – essentially the proposed boundary condition under IFRS4 Phase 2.

On the whole, this was not a difficult question, but it was not handled well by a number of candidates with a pass rate of 38%.

Part a)

This question asked for a fairly simply Embedded Value calculation given some information. No candidate was able to provide a fully correct answer to this part although many gave answers that were rewarded with high marks. The common errors were:

In calculating the Adjusted Net Worth:

- Using total assets rather than net assets
- Not reducing the net assets by the net of reinsurance DAC
- Treating Target Surplus as part of the adjusted net worth rather than capital backing the business.

In calculating the VIF:

- Not valuing the release of the Target Surplus.

A proportion of candidates were unable to provide a reasonable attempt for this part. Possibly there is a need to review the course work to ensure that it provides exposure to practical embedded value examples.

Part b)

Candidates were asked to give the impact on current year's profits, future profit and capital following the introduction of the new standards. This part was particularly disappointing. Candidates were asked to write a note to the board. A mark was available based on presentation and language used. Many candidates ignored the need to address the answer to the Board or used language that was not fully appropriate and lost this mark.

Most candidates were able to identify the likely impact on the reported profit of the Life Company at the time of the accounting change. But the impacts going forward were not well addressed. Only a small proportion of candidates noted that the underlying profit of the product was not changing and many missed discussing the impact on the total business and just concentrated on the new business impact.

Given that the change is purely a technical accounting change, it was surprising to see so few candidates realised the there was essentially no impact on capital. They had a tendency to over complicate things. It makes me think that the way that capital standards are taught is over complicated.

Part c)

In this part, candidates were asked to provide some options available to the company to protect the profits in the event of the accounting change and pros and cons for each option. Many candidates were able to provide a reasonable list of options with good arguments for and against. Some answers had options with very little or weak arguments. A good mark would have been received by discussing three options each with two well explained sensible arguments for and two against.

Part d)

Finally, candidates were asked to come up with two alternatives for management reporting. Most candidates were able to provide one management reporting approach with a reasonable list of advantages and disadvantages. Many however had difficulties in providing a second well-argued approach.

It was noted that some answers on the approaches appeared straight from the textbook. Candidates should be reminded to tailor such answers to the particular question and ensure that the advantages and disadvantages are fully suitable for the circumstance of the question.

COURSE 3A GENERAL INSURANCE
Chief Examiner's Report Semester 2 2014

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 management related problems in relating to the general insurance industry, estimation techniques for claim cost projection, estimation of insurance liabilities, and management information for underwriting of general insurance.

1.2. Assessment

The assessment model is broken down into three parts

Forum Participation	10%
Multiple Choice Exam	30%
Long Answer Question Exam	60%

1.3. Pass Rates

89 candidates enrolled this semester. Of these, 9 withdrew, 1 deferred and 3 did not present, leaving 76 sitting the exam.

It is proposed that 15 candidates be awarded a pass, which implies a pass rate of 20%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
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%
Semester 2 2010	66	24	36%
Semester 1 2010	76	28	37%

The 20% pass rate for this exam is lower than the 26% pass rate for the previous exam (Semester 1 2014) and much lower than the historical average prior to the change in the

exam structure. Candidates struggled in particular on question 1 which tested knowledge and understanding of the PCE model which could not be tested in depth under the previous exam structure

In addition, the average mark for the multiple choice questions was significantly lower than either of the previous semesters.

2. Assessment

2.1. Overall Performance

The overall performance across the exam was significantly worse than the prior semester. The main concern from the examiners was the poor performance on Question 1, which focused on the PCE method. Many of the borderline students reviewed by the examiners appeared to be unable to put together a PCE model let alone deal with the specifics of the question.

2.2. Exam Question by Question Analysis

Question 1 **Total Marks 40**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	21.0	52.5%	1	1%
Pass	17.0	42.5%	10	12%
Slightly Below Standard	14.9	37.1%	11	13%
Below Standard	10.5	26.3%	30	35%
Weak	6.5	16.3%	16	19%
Showed Little Knowledge	1.0	2.5%	8	9%
Did Not Attempt	0.0	0.0%	10	12%

Maximum Mark	21.0
Average Mark	10.7
Standard Deviation	5.5
Co-efficient of Variation	0.51

This question was in relation to an immature medical indemnity claims portfolio that had experienced a recent review of case estimates. This caused all open claims to have had their case estimates increased. The key themes in this question were to demonstrate an understanding of the PCE model, understand how changes to case estimates impact the AvsE experience of different reserving models and to be able to use the PCE model in an uncertain claims environment. Overall, it was felt that this question was not overly complex and that it was examining elementary parts of the syllabus. However, the performance on this question was poor and only 12.8% of students were able to achieve a pass grade on this question.

Part a):

This question, which was fundamentally bookwork, was poorly answered. At the core of the question was explaining to the claims manager why the Projected Case Estimate (PCE) method was more appropriate than the Incurred Chain Ladder (ICL) method. The majority of candidates gave simple bookwork answers, which suggested the PCE handles tail liabilities better than ICL. However, very few tied this to the context of the question and

stating because this is a Medical Indemnity portfolio (which is long-tail, and a new portfolio) that the PCE is a preferred method.

Most candidates missed the point around a payment pattern being explicitly part of the PCE method. A large proportion of candidates showed flawed understanding of incurred cost, stating that ICL focuses only on payments and ignores case estimates entirely.

The average mark for this part was 0.4/2.

Part b):

This question received mixed responses but overall was answered much better than Part a). All candidates attempted this question and majority got a mark for identifying that the change in case estimates would have no direct impact on the Actual vs. Expected analysis for the Payment per Claim Finalised (PPCF) method. A number of candidates did not comment at all on the PO factors for the PCE method – whereby, the PO factors are a function of the case estimates. Very few candidates discussed the Actual vs. Expected analysis on the IBNR component of the B-F method. However, a large number of candidates got a mark for understanding the impact of the increased in case estimates on the B-F reported loss ratio.

The average mark for this part was 1.5/4.

Part c):

This question asked students how they would verify the explanations provided by the claims team. Many candidates suggested examining the raw data, to see if actual payments were closer to the revised case estimates. However, only a few candidates took the next step to recommend a detailed file review or to consider how the actual settlement compared to case estimates prior to the settlement.

The average mark for this part was 0.3/2.

Part d):

This question asked students how their approach to assumption selection would change in light of the review of case estimates. A number of candidates misunderstood the intent of the question and simply tried to repeat answers from Part B. A large number of candidates recognised that assumptions would not change for the PPCF, however, very few were able to articulate that there would be some question around the reserve strength of the PPCF. Most candidates identified a change in the IBNR for the B-F method; again very few took the next step in understanding the implications of a higher reported loss ratio. Students generally observed that PCE assumptions would need to change, however only a few offered further insights into how they would do this or the directional change of these factors.

The average mark for this part was 0.8/6.

Part e):

This question asked students to undertake a projection of outstanding claims liabilities using the PCE method. For a technical question, with easy marks to be scored, this question was answered poorly. Some of the most common errors were:

- Adopting a simple average of historical experience to select CED and PO factors with no thought or explanation around the case estimate revision.
- Many candidates attributed the increased CED factors in the latest diagonal to random volatility.

Moreover, there were a number of errors which showed a fundamental lack of understanding of the PCE method:

- CED Factors calculated as the ratio of CE at time t / CE at time t-1
- Outstanding Liability calculated as the sum of projected case estimates
- Projected payments calculated as Projected Case Estimates x CED Factor
- Paid to Outstanding (PO) factors and CED factors tailing off to 0
- Little or no sense check of the OCL against the Case Estimates

Only a minority of the candidates had allowed for the case estimate revision in assumptions and for a sufficient tail in the PCE calculation.

The average mark for this part was 2.4/6.

Question 2 **Total Marks 40**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	32.0	80.0%	11	13%
Pass	29.0	72.5%	18	21%
Slightly Below Standard	26.1	65.3%	23	27%
Below Standard	22.0	55.0%	10	12%
Weak	17.0	42.5%	10	12%
Showed Little Knowledge	1.0	2.5%	4	5%
Did Not Attempt	0.0	0.0%	10	12%
Maximum Mark	35.3			
Average Mark	23.7			
Standard Deviation	9.8			
Co-efficient of Variation	0.42			

The question concerned an actuary tasked with developing and then monitoring a business plan, which included:

- The projection of gross written premium from the policy counts and average premiums for new business and renewals,
- The construction of profit and loss statements over the business plan period including key financial performance indicators, and
- Comparing actual results against the business plan and communicating the key aspects to the company's CFO.

Most of the question did not require complex judgement and candidates generally made a good attempt at the question. However, a small number of candidates left the question for last and ran out of time.

Part a) required candidates to forecast gross written premium given a set of assumptions to determine the expected policy counts and average premiums for new business and renewals. It was a straightforward projection but around 80% of candidates lost a mark when they failed to recognise that the current average new business premium is a factor in setting the forecast average renewal premium.

The average mark for this part was 3.6/5.

Part b):

Given a set of assumptions, this question required candidates to project a combined profit and loss statement for the property and public liability portfolios over the business plan period and then calculate key financial performance indicators (KPIs) to check the reasonableness of the projections. Candidates were required to project gross and net earned premium, gross and net claims incurred, expenses and investment income.

Constructing the profit and loss statement was reasonably simple, with candidates scoring highly in this part of the question. Some of the more common errors that were of concern in this part of the question included:

- Not calculating, or incorrectly calculating, gross earned premium based on the projected gross written premiums in the business plan.
- Inadequately explaining the assumptions made in calculating earned premium.
- Applying the assumed loss ratio and expense ratios to gross written premium rather than gross earned premium to project the claims and expenses incurred within each financial period.
- Not stating underwriting profit or gross earned premium explicitly which are crucial components of a profit and loss statement.

The last section of part b) was calculating KPIs to check the reasonableness of the financial statement. Candidates performed worse in this section, with a significant number of candidates failing to calculate any KPIs.

The average mark for this part was 4.8/7.

Part c):

This question required candidates to perform some analysis to determine differences between actual and planned results, outline these differences in a memo to the company's CFO, and also suggest possible drivers for those differences. Actual profit results were significantly lower than plan.

Around a quarter of candidates were penalised for not stating the obvious; i.e., that actual profit was lower than plan. Candidates were also penalised where they focused solely on financial ratios, and neglected to discuss the absolute dollar differences from plan which would have been important from the CFO's point of view.

When explaining the drivers of experience, most candidates made a decent attempt to explain the fall in gross written premium; i.e., lower than planned volumes for renewal and new business, and lower than planned average premium for renewal and new business. Often candidates considered these factors to be observations rather than drivers of the experience, and suggested other underlying drivers of the experience; e.g., increased competition in the market and changes in business mix.

Most candidates scored poorly in identifying possible causes for the higher than expected claims incurred; e.g., large losses, increases in claim frequency or average size. Very few candidates noted that this could also be caused by deterioration in claim costs in prior years.

Few candidates noted that fixed expenses still had to be covered with much lower than expected premium and that this contributed to the higher than expected expense ratio.

The average mark for this part was 4.4/8.

Question 3 **Total Marks 40**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	28.0	70.0%	3	3%
Pass	19.5	48.8%	23	27%
Slightly Below Standard	18.0	45.0%	5	6%
Below Standard	14.0	35.0%	17	20%
Weak	9.0	22.5%	17	20%
Showed Little Knowledge	1.0	2.5%	10	12%
Did Not Attempt	0.0	0.0%	11	13%

Maximum Mark	29.5
Average Mark	14.2
Standard Deviation	8.0
Co-efficient of Variation	0.56

This question focused on the calculation of premium liabilities for a product which covered a multi year policy. This was expected to be a more difficult question than either of the other questions and had a large Coefficient of Variation suggesting that it was a good discriminator between students.

Part a) required candidates to calculate the premium liabilities for the product. To achieve full marks, candidates were required to earn the premium, understand that the performance of the product differs for each year of cover and to comment on reasons why the difference might occur.

Many students struggled in how to approach the question with some not understanding how a multi year policy works. Several candidates who did manage to derive and project claims triangles used 'simple' averages to select delay factors. Usually a weighted average is more appropriate, and full marks were not awarded where simple averages were used without accompanying rationale.

A few candidates were confused by the use of terminology in the question. Claims were listed as 'ultimate', but this is likely due to the fact that they would not increase (ignoring IBNER) as any future new claims would form part of a new future accident year. The second term to cause confusion was 'underwriting financial year'. A financial year or calendar year is typically a diagonal on a claims triangle. An underwriting year, like an accident year, is typically an origin period forming rows and is listed on the left hand side of a triangle. However, in this instance it refers to the accounting period when the premium was written, and should have been clear given the accident year (used to derive the development period) was given with the claims data.

Ultimate projected claims components (such as attritional, large and catastrophe claims) are often expressed as a proportion of ultimate premium. In these instances you can simply add the individual ultimate loss ratios together to arrive at a total. However, the exam question required the calculation of historic (reported claims) loss ratios, and future (unearned) loss ratios. These cannot be simply added together as they have different denominators.

Finally, it is worth noting that there were marks for 'noting any key trends'. Many candidates failed to respond to this part of the question. As part of good exam technique, it is worth reading the question again to make sure all parts have been answered.

The average mark for this part was 3.4/8 and had a very wide spread of marks.

Part b) required students to describe the additional components that are needed to calculate the premium liabilities as per the APRA standards and how the component impacts the premium liabilities.

This question was largely bookwork, however many candidates either did not read the question or chose to ignore what it asked. Key-words should have prompted candidates, as follows:

- "Describe" – suggests a sentence describing the component is required. Full marks were not awarded where candidates *listed* the components without a brief description.
- "…how…impacts…". Several candidates spent valuable time explaining why these components were important or how one would go about calculating them. This was not what the question asked for, and not surprisingly the marking schedule did not allocate any marks for answering the question in this manner. Marks were awarded where candidates correctly explained how the component impacts the premium liability.

The average mark for this part was 2.7/5.

Part c) required students to suggest how they would expect premium liabilities to change under a number of sensitivity scenarios. In general this part of the question was well answered. However, it was apparent that the majority of candidates did not understand how the insurance policy works.

- The policyholder is the customer (the car owner)
- The insurer is at risk for any loss (i.e. the *net* amount due, if any) crystallising when the customer decides to return the vehicle. That amount is the loan value outstanding, less the vehicle resale value, at that point in time. Note that there is no 'inflation' of claims costs. The loan value is fixed (but repayment amounts can change as it's a variable rate), and the car resale value will likely depreciate. It is worth pointing out that many candidates blindly used the word 'inflation' throughout answering this question.
- Consider for example:
    - The loan value initially is $20k. The car value initially is $20k. The net difference at outset might be close to zero. As soon as the car is driven off the forecourt, the resale value of the now owned and used vehicle immediately drops to $15k. The value at risk to the insurer is $5k.
    - During the final year of the policy term, the loan might be repaid down from $4k to zero. However, the resale value of the vehicle might remain constant, and above the outstanding value of the loan throughout the year. The insurer has little if any value at risk, and it's likely that the policyholder knows that their vehicle is worth more that the outstanding loan balance.
- Hence, the insurer is subject to a diminishing loss size (average claim size) during the term.

The loan size (and financial strain on the customer) reduces over the term of the policy, and the resale value of the vehicle at some time before the end of the 5-year term will be worth more than the loan, both of which reduce the incentive for the policyholder to exercise their option.

The average mark for this part was 1.45/3.

Part d) required candidates to compare and contrast the bringing forward of losses under the fail of a LAT test against bringing forward profits when the product is known to be

profitable. Candidates with a keen eye and good exam technique attempted to answer the three parts of part (d) being asked, namely:

- Why the organisation had to bring forward losses
- Provide rationale for why the scenarios are different
- Whether it would be possible to bring forward profit.

Many candidates chose to 'discuss' themes relating to key words they read in the question, but no marks were awarded where the question was not answered. Only one student was able to to come up with an appropriate method to bring forward profitability on this book through changing the earning patterns.

The average mark for this part was 0.5/4.

COURSE 3B GENERAL INSURANCE
Chief Examiner's Report Semester 2 2014

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)	30%
Long Answer Question (LAQ) Exam	60%

1.3. Pass Rates

65 candidates enrolled this semester. Of these, 1 withdrew and 1 did not present, leaving 63 sitting the exam. One student who sat the exam did not attempt the LAQs.

It is proposed that 24 candidates be awarded a pass, which implies a pass rate of 38%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
Semester 2 2014	**63**	**24**	**38%**
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%
Semester 2 2010	53	21	40%
Semester 1 2010	53	21	40%

The 38% pass rate for this exam is higher than the previous exam (Semester 1 2014) and similar to the 35% historic average since 2010. Candidates who marginally failed seemed to show some knowledge but either struggled with some of the practical elements such as giving a thoughtful recommendation or made a dangerous statement.

This is the third semester in the new format of LAQ and MCQ exams. This semester's exam balanced up the observations from the previous semester. This was done by reducing the burden on students in the MCQs taking into account the 1 hour time limit, but also introducing more technical challenges in LAQs that actuaries may face in the workplace,

as well as questions asking students to draft advice such as giving a recommendation to a stakeholder.

2. Assessment

2.1. Overall Performance

- The marks for this semester were generally up on last semester reflecting the overall change in comparative difficulty and length of the exam. The best students worded answered in such a way as to tailor to the circumstances, thus truly demonstrating understanding of key concepts and providing good explanations.
- The highest mark was 149.3, which was significantly higher than last semester's top mark of 135.3 out of 200
- Students did well on MCQs with the highest mark being 63/70 and the average of 44/70. Hence the resulting pass rate of 44% for MCQs was pleasing.
- Online participation mark average 7.5/10 was consistent to the previous semester. The 6% increase in percentage of people getting 9/10 or better was pleasing.
- Specific issues relating to each exam section are discussed below.

2.2. Exam Question by Question Analysis

Multiple Choice Questions	**Total Marks: 60**			
	Marks Required	**% of Total Marks**	**Number of Candidates**	**Proportion of Candidates**
Strong Pass (A)	48.0	80.0%	4	6%
Pass (B)	39.0	65.0%	24	38%
Slightly Below Standard (C)	35.1	58.5%	13	21%
Below Standard (D)	24.0	40%	22	35%
Weak (E)	12.0	20%	0	0%
Showed Little Knowledge (F)	0.4	0.7%	0	0%
Did Not Attempt (X)	0	0	0	0%
Maximum Mark	54.0			
Average Mark	38.0			
Standard Deviation	6.8			
Coefficient of Variation	0.18			

- The highest mark was 54/60, the lowest was 24/60, and the average was 38/60.
- The assessed pass grade (B grade) for multiple choice questions was set at 65% (39/60).

The resulting pass rate of 44% was pleasing.

Long Answer Question 1 **Total Marks:** **60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	44.0	73.3%	4	6%
Pass	35.0	58.3%	23	37%
Slightly Below Standard	31.5	52.5%	19	30%
Below Standard	26.0	43.3%	12	19%
Weak	21.0	35.0%	3	5%
Showed Little Knowledge	1.0	1.7%	1	2%
Did Not Attempt	0.0	0.0%	1	2%

Maximum Mark	46.0
Average Mark	33.5
Standard Deviation	8.2
Co-efficient of Variation	0.24

The pass rate for LAQ1 was 43% so this question was well answered.

Students answered well across most sections with the parts that were answered the best relating to analysing simple historical frequencies, grouping vehicles for frequency purposes, and suggesting metrics for monitoring purpose.

Students struggled mostly in parts f, g and h, arguably the most technical components of the entire exam, because students were asked to manipulate claims data and fit a distribution and comment on the goodness of fit. The low marks suggest a lack of preparedness for doing these technical tasks.

(f) The premium calculation teased out a number of issues:

- Many students did not recognise as indicated in the question, that they were provided a subset of claims data. Better students cleaned the data by removing negative claims, etc. The claim frequency implied in the subset of claims data is materially less than the real claim frequency, resulting in some students recommending a low premium. Dangerous statements were made such as equating risk premium to charged premium, or equating average claim size to average charged premium.

- The better students scored the simple marks of adding on top of claims costs: expenses, commissions, net reinsurance costs, profit margin etc. Assumptions also needed to be appropriate and the better students also commented on the rationale behind their assumptions.

(g) The question required model fitting and calculations of residuals. Overall the question was poorly answered with most students struggling to perform the fitting. There were also a few students who were not able to accurately calculate residuals and graph them.

(j) The memo to the ministry was where the better students were able to gain many marks and was one of the key distinguishing parts between a fail and a pass. This attracted a variety of creative responses and students were awarded marks for points outside of the marking guide. Most students recognised the presence of cross-subsidy, with better students also recognising medium/long term effects.

Long Answer Question 2 **Total Marks:** **60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	40.0	66.7%	7	11%
Pass	32.0	53.3%	14	22%
Slightly Below Standard	28.8	48.0%	12	19%
Below Standard	20.0	33.3%	21	33%
Weak	14.0	23.3%	5	8%
Showed Little Knowledge	1.0	1.7%	3	5%
Did Not Attempt	0.0	0.0%	1	2%

Maximum Mark	41.5
Average Mark	28.1
Standard Deviation	9.0
Co-efficient of Variation	0.32

The pass rate for LAQ2 was 33%. This question tested students on the costs of protecting a construction company from natural catastrophes and drew on many of the aspects of the reinsurance strategy of general insurers.

In part a, students were able to carry out what were some challenging calculations using a table with return period costs. However students struggled more with describing their assumptions and the impact of each assumption.

Most students performed well in the follow-up questions following part a, which required interpreting and using their own stochastic models.

(e) This was generally well answered, with most students recognising that a freq x size approach was sound.

(f) This question was a good differentiator question. It was pleasing that most students mentioned board risk appetite as a strong determinant of the reinsurance purchase. The best students mentioned other appropriate considerations such as market cycle, stakeholder expectations, and cost of capital. It was a surprise no students described business interruption, indirect costs and claims handling issues relating to claims that may arise.

(g) The standard of answers was mediocre. The better students (few) gave concrete suitable actions to assess risk appetite such as testing the board's comfort levels using scenarios.

(h) The standard definitions of limits and deductibles were well answered, but students had more difficulty with making recommendations to fit to the situation. Memo style was generally well adhered to.

(i) Well answered, with students showing knowledge of alternative arrangements.

COURSE 5A INVESTMENT MANAGEMENT AND FINANCE COURSE
Chief Examiners' Report Semester 2 2014

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	30%
Long Answer Question Exam	60%

1.3. Pass Rates

34 candidates enrolled this semester. Of these, 1 withdrew and 1 did not present at the final exam, leaving 32 sitting the exam.

It is proposed that 17 candidates be awarded a pass, which implies a pass rate of 53%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

Semester	Sat	Passed	Pass Rate
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%
C5B Semester 1 2010	34	19	56%

The 53% pass rate for this exam is consistent with the recent historical average for Course 5A.

The long answer questions proved very good discriminators this session with an ability to apply judgement in complex settings tested effectively.

2. Assessment

2.1. Overall Performance

- Overall the performance was good and in line with previous offerings of Subject 5A. Forum participation was at the required standard for the vast majority of students with fewer students participating with great enthusiasm than in the past. The multiple choice questions proved challenging for many students. The first long answer question was intended to be challenging and to require significant judgement. This was well handled by the very best students and provided a good indicator of the level of understanding for the majority of the candidates. Question 2 was well handled with some very good answers. Candidates are reminded of the importance of relating their general recommendations and conclusions specifically to the contexts provided in the question. It is important to relate numerical analysis work performed to recommendations clearly. Explanations which draw on analysis performed and understanding of concepts that the candidate possesses were generally the highest quality. The two long answer questions were a fair test of the candidates' understanding of the key concepts in the course.

2.2. Exam Question by Question Analysis

Question 1	**Total Marks: 60**			
	Marks Required	**% of Total Marks**	**Number of Candidates**	**Proportion of Candidates**
Strong Pass (A)	31.0	51.7%	6	19%
Pass (B)	28.0	46.7%	4	13%
Slightly Below Standard (C)	25.2	42.0%	5	16%
Weak (D)	16.0	26.7%	12	38%
Showed Little Knowledge (E)	10.0	16.7%	5	16%
Did Not Attempt (X)	1.0	1.7%	0	0%
Maximum Mark	38.0			
Average Mark	24.5			
Standard Deviation	6.7			
Coefficient of Variation	0.27			

- Candidates found this challenging question difficult with a pass rate of 31%.

Part a):

Candidates were asked to critique an analysis, based on financial statement information, into the suitability of an acquisition.

While some candidates answered this well others did not relate their comments to the particular analysis given. At the very low end of the scale, some did not recognise differences between listed and unlisted entities.

Part b):

Candidates were asked about earnings before interest, tax, depreciation and amortization of goodwill along with PE ratios and valuation of synergies.

Again there were some who clearly understood the concepts being tested here but a good number failed to go beyond generalities in their answer and did not answer the specific questions being asked.

Part c):

Candidates were asked about valuation of a target company being considered for acquisition.

Most candidates knew the approach required here. Some level of detail was missing, in particular in relation to estimation of a suitable beta factor.

Part d):

Candidates were asked to perform a statistical analysis using share price return data and to use this analysis to inform a decision on the value add from an acquisition from a few years earlier. Commentary on the suitability of the analysis, given the limited information, was also invited.

There were some basic errors in the regression analyses performed here with weaker candidates failing to interpret or carry out a straightforward analysis. On the other hand, about half were able to conduct this analysis and draw suitable inferences. The commentary on the analysis and its suitability was mixed and a good discriminator of ability with some candidates able to see the issues and others not able to provide any sense of the extra information required to perform a more sophisticated analysis.

Part e):

Candidates were asked to identify risks involved in the acquisition analysed in the question.

This was generally answered well with most candidates able to identify risks involved.

Question 2	Total Marks: 60			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	34.0	56.7%	11	34%
Pass (B)	30.0	50.0%	4	13%
Slightly Below Standard (C)	27.0	45.0%	8	25%
Weak (D)	20.0	33.3%	8	25%
Showed Little Knowledge (E)	10.0	16.7%	0	0%
Did Not Attempt (X)	1.0	1.7%	1	3%
Maximum Mark	43.5			
Average Mark	30.3			
Standard Deviation	6.9			
Coefficient of Variation	0.23			

- Candidates performed reasonably well on this question with a pass rate of 47%.

Part a):

Candidates were asked about information sources relating to credit ratings, probability of default and recoveries after default.

Most of the students answered this part well with a good understanding of the role of rating agencies and displaying some knowledge of the literature on the topic.

Part b):

Candidates were asked to relate their understanding of credit rating agencies to experiences during the global financial crisis.

This was well answered with most of the students able to point out relevant issues.

Part c):

Candidates were asked to comment on the role of credit rating agencies post the global financial crisis.

Some well written answers were provided with good understanding of the issues shown by many.

Part d):

Credit risk modeling and related financial frameworks were tested in this part.

Candidates were generally able to list the factors necessary for consideration in model building. The ability to explain these and how they link to the modelling framework of this part was more mixed and helped differentiate better students from the weaker group.

Part e):

Candidates were asked to explain the relationship between a short position in a floating rate bond combined with a swap contract to receive a floating rate and pay a fixed rate and holding a short position in a fixed rate bond.

The majority of students answered this part well.

Part f):

Candidates were asked about 'duration targeting' in a specific context.

This proved challenging for many students as they failed to relate their answer to the specific context preferring instead to only discuss the issue in general terms. The link between the optionality in callable bonds and duration was not well understood by many students.

COURSE 6B: GLOBAL RETIREMENT INCOME SYSTEMS Chief Examiner's Report Semester 2 2014

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. 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 model comprised three parts:

Forum Participation	10%
Multiple Choice Question (MCQ) Exam	30%
Long Answer Question (LAQ) Exam	60%

1.3. Pass Rates

12 candidates enrolled this semester. 1 did not present, leaving 11 who sat the exam.

It is proposed that 7 candidates be awarded a pass, which implies a pass rate of 64%. 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
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 64% pass rate for this exam is considerably higher than the past 2 years but is in line with the 3 years prior to that. It is also comparable to the pass rate from subject 6A in semester 1.

It is possible that the strong pass rates are due to a strong cohort of candidates this year and/or it is very likely that candidates are performing better as a result of the revised exam structure (comprising participation, MCQ and 2 LAQs).

The removal of scaling has also meant that total marks can be relatively bunched and it may be difficult to justify differentiating outcomes for candidates with similar marks. Regardless, variability of pass rates is not unexpected when candidate numbers are small.

2. Assessment

2.1. Overall Performance

- The participation mark was a very poor assessment tool. The lowest score for participation by any candidate sitting the exam was 80%. All candidates scored either 80% or 100%.
- The MCQ section was a poor assessment tool. The lowest score for the MCQ section was 65%. Removing the top and the bottom performer, the range of scores was 71% to 83%.
- These 2 components offered little differentiation and therefore did not assist assessment. Their main effect appears to be increasing the course mark for all candidates. Potentially this could lead to sub-standard candidates passing a course. For example, based solely on the LAQs in this exam, there would have been 2 initial passes (ie above the initial pass cut off) and 4 borderlines. In practice, applying all assessment components, there were 9 initial passes and 1 borderline from 11 candidates.
- This particular exam had the added complication that one of the LAQs was not a good differentiator. As such, assessment relied primarily on only 1 (!) differentiating component out of 4. This is far from ideal.

2.2. Exam Question by Question Analysis

Question 1	**Total Marks: 60**			
	Marks Required	**% of Total Marks**	**Number of Candidates**	**Proportion of Candidates**
Strong Pass (A)	41	68%	3	27%
Pass (B)	35.5	59%	5	45%
Slightly Below Standard (C)	32	53%	1	9%
Weak (D)	28	47%	2	18%
Showed Little Knowledge (E)	20	33%		
Did Not Attempt (X)				
Maximum Mark	72%			
Average Mark	56%			
Standard Deviation	11.5			
Coefficient of Variation	0.34			

- Candidates performed very well on this question, with a pass rate of 73%.
- With hindsight, there was too much bookwork allowed in this question and not enough opportunity for better candidates to differentiate themselves. As such, the pass rate was extremely high and the marks were bunched.
- The lesson learned is that every question must have at least one free-form part, with a material number of marks attached, that allows stronger candidates to think laterally, apply complex judgement and generally demonstrate the depth and range of their knowledge.

In the context of retirement for a hypothetical couple:

Part (a) tested knowledge on the time value of money.

Part (b) asked for a definition of adequacy in respect of retirement income.

Part (c) asked for a description of the risks that adequacy in retirement could not be achieved.

Part (d) required candidates to prepare a model of future savings, including detailed explanation for all variables and assumptions applied.

Question 2	**Total Marks: 60**			
	Marks Required	**% of Total Marks**	**Number of Candidates**	**Proportion of Candidates**
Strong Pass (A)	38.5	64%		
Pass (B)	32.5	54%	4	36%
Slightly Below Standard (C)	25.5	43%	4	36%
Weak (D)	17.5	29%	2	18%
Showed Little Knowledge (E)	13.5	23%	1	9%
Did Not Attempt (X)				
Maximum Mark	63%			
Average Mark	43%			
Standard Deviation	10.6			
Coefficient of Variation	0.41			

- This question had a pass rate of 36% and was a good discriminator of performance, making it the only good discriminator of the 4 assessment components. Not surprisingly therefore there was a very high correlation between performance in this question and outcome in the course overall, with the 7 candidates recommended to pass the course overall also ranking as the top 7 candidates in this question.
- The question was a free-form exercise, with relatively little guidance for candidates. The objective was to prepare a report on a recommended conversion from defined benefit to defined contribution superannuation entitlement (on the premise of an employee's promotion and transfer from a legacy fund to the executive fund). The report specifically had to include:
- Recommendation for opening balance on transfer;
- Provision that future reward would not be diminished relative to the current arrangement;
- Initial estimate of company contribution rate required;
- Checks to validate the estimate; and
- Disclosure of all assumptions applied
- This question was an excellent, traditional, bread and butter application for a retirement actuary. Its form allowed superior candidates to demonstrate a thorough knowledge of the relevant issues. As there was no single correct answer, success depended on the application and interaction of the candidate's thought processes into a meaningful, practical approach.

- Candidates who failed the question typically omitted more than one of the items specifically required.

COURSE 10 COMMERCIAL ACTUARIAL PRACTICE Examiners' Report Semester 2 2014

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, Environment). 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

85 candidates enrolled in the course. Of these, it is proposed that 49 be awarded a pass, representing a **pass rate of 58%.** The pass rate has been very stable over time, and this semester is no exception.

Table 1 – Recent Course Experience

Semester	Sat	Passed	Pass Rate %
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 85 candidates were enrolled for the CAP course in Semester 2 of 2014. 57 candidates attended the CAP residential course. This comprised 55 sitting CAP for the first time, plus 2 repeat candidates attending for a total of 3x ½ days of the 4 day course.

The candidate numbers and results can be summarised as follows:

	Post-Course Assignment only	**Case Study Exam only**	**Both**	**Total**
Originally enrolled	0	0	85	**85**
Withdrawals	0	0	0	**0**
Absent	0	0	0	**0**
Presented	0	0	85	**85**
Passed	0	0	49	**49**
Failed	0	0	36	**36**

The analysis by number of attempts is as follows:

Table 2A – Number of CAP Attempts

Attempt	**Candidates**	**Passed**	**Pass Rate**
1	55	33	60%
2	18	8	44%
3	7	5	71%
4	2	0	-
5	1	1	100%
6	1	1	100%
9	1	1	100%
All	85	49	58%
2-9	30	16	53%

- The success of the candidates at the 5th, 6th and 9th attempt are obviously pleasing. When deciding on passes we did not know data on attempts or exam centre, but now seeing this table we do know who they are because we (Bruce and Matt) have given many post-exam interviews to these 3.

The analysis by Topic is as follows:

Table 2B – Analysis by Topic

Topic	Candidates	Passed	Pass Rate %
ERM	15	7	47
General Insurance	31	21	68
GRIS	1	1	100
Investment	6	4	67
Life	32	16	50
All	**85**	**49**	**58**

- Anecdotally we understand that some candidates have been selecting the ERM question as a perceived "easy" option, so in some ways it is satisfying to see that as the number of candidates grows, the historically high pass rate has not been maintained. The GI question was generally answered well and the pass rate reflects that. Three Life candidates who failed on raw marks were ultimately deemed to have performed well enough to have passed, but even so the Life pass rate was still disappointing.

The analysis by examination centre is as follows:

Table 3 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	*57*	31	54%
Melbourne	*9*	5	56%
Canberra	*2*	1	50%
Darwin	*1*	1	100%
Perth	***1***	0	0%
Subtotal Australia	***70***	38	54%
China	*1*	1	100%
Hong Kong	3	2	67%
New Zealand	4	3	75%
Singapore	3	2	67%
United Kingdom	4	3	75%
Subtotal International	**15**	11	73%
Total	85	49	58%

Looking on the bright side, the high overseas pass rate was pleasing. In fact, apart from 1 pass out of 1 in Darwin, every overseas centre had a higher pass rate than every Australian

centre. We do not believe this is a concern.

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, Environment), 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.

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
General Insurance	Colin Priest

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 35% to 82%. 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 provide advice to a small bank on measuring and managing asset/liability risk.

3.2 Environment

The Environment case study required candidates to design and model a not-for-profit scheme to provide rooftop photovoltaic cells for a low-income housing estate.

3.3 Health

The Health case study required candidates to construct and explain a 40-year projection of Australian government expenditure on private health insurance.

4 Exam results

4.1 ERM

The ERM Exam required candidates to provide advice to debenture trustees in relation to the sale of the performing loans of a failed finance company, by determining a minimum acceptable sale price for the book. They also had to provide ERM advice in relation to a second finance company, and advise the trustee as it prepares to attend a government hearing into the idea of statutory credit rating of finance companies.

4.2 GRIS

The Exam for Global Retirement Income Systems required candidates to provide advice to a company about to close its local manufacturing operation and retrench part of the workforce. Under-funding, defined benefits and defined contributions, and union pressure all had to be considered.

4.3 General Insurance

The case for General Insurance required candidates to provide advice to an insurer that provides professional indemnity cover to the member firms of a law society, where recent experience has deteriorated. Candidates were expected to analyse the reasons for the deterioration and make recommendations to restore profitability.

4.4 Investment

The Investments case required candidates to provide advice on a proposed charity to be financed from the uncertain future winnings of a young tennis player. Balances had to be sought, particularly in asset allocation, in order to achieve as many as possible of the objectives.

4.5 Life Insurance

The Life case required candidates to respond, as Chief Actuary of a life company, to a proposal to have no underwriting for a white-labelled mortgage protection product.