Report to ECC from the Board of Examiners

SEMESTER 1 2014

PART III

BOARD OF EXAMINERS'

REPORT

(PUBLIC VERSION)

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CHAIR'S REPORT

SUMMARY

Examination Administration

The Semester 1 2014 Part III examinations of the Actuaries Institute ("Institute") were held from the 28 April through to the 9 May 2014.

Candidate Numbers

The semester 1 2014 candidate numbers can be summaries as follows

	C2A	C2B	C3A	C3B	C5B	C6A	C10	ST9[1]	ST1
Originally enrolled	64	64	72	68	25	17	86	131	24
Deferred prior to exam	0	0	1	0	0	0	0	0	0
Withdrawn prior to exam	1	1	2	6	1	0	0	0	0
Absent from exam	1	3	3	1	0	2	0	9	2
Presented at exam	62	60	66	61	24	15	86	122	22
Passed	16	22	17	16	7	9	52	36	8
Failed	46	38	49	45	17	6	34	86	14
Pass Rate (%)	26%	37%	26%	26%	29%	60%	60%	30%	36%

Analysis by Examination Centre

Pass Rates

The number of candidates presenting for the Semester 1 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 (1)			2013 (2)			2013 (1)			2012 (2)		
	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%
C1 Investments	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a[2]	43	18	42
2A Life Insurance	62	16	26	59	25	42	50	26	52	43	14	33
2B Life Insurance	60	22	37	44	17	39	43	11	26	43	17	40
3A General Insurance	66	17	26	76	14	18	96	31	32	96	29	30
3B General Insurance	61	16	26	64	17	27	62	22	35	69	26	38
5A Invest. Man. & Fin.	n/a	n/a	n/a	41	21	51	n/a	n/a	n/a	30	17	57

[1] Numbers in the table above are for non-fellows only. An additional 10 fellows enrolled, 4 did not attend exam, 6 sat and 2 passed.

5B Invest. Man. & Fin.	24	7	29	n/a	n/a	n/a	37	21	57	n/a	n/a	n/a
6A GRIS	15	9	60	n/a	n/a	n/a	19	8	42	n/a	n/a	n/a
6B GRIS	n/a	n/a	n/a	17	7	41	n/a	n/a	n/a	14	3	21
ST9 ERM exam [3]	122	36	30	98	22	22	98	39	40	91	30	33
ST1 Health & Care	22	8	36	20	2	10	20	9	45	16	6	38
F101 Health Principles[4]	n/a	n/a	n/a	1	0	0	n/a	n/a	n/a	n/a	n/a	n/a
C10 CAP	86	52	60	84	49	58	74	39	53	71	40	56
Total	**374**	**139**	**37%**	**504**	**174**	**35%**	**499**	**206**	**41%**	**516**	**200**	**39%**

The Chief Examiners aim to produce consistent standard of passing candidates, rather than a consistent pass rate from year to year. This semester, the recommended overall pass rate was 37%. Excluding the ERM and Health exams this is a 2% increase from the previous semester.

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 long answer questions.

It was disappointing that the 2A and 5B pass rate dropped significantly from the previous semester.

However, it was pleasing that the 3A pass rate increased significantly on the previous semester in its second semester under the new assessment model. The GRIS 6A pass rate also improved significantly on the previous semester in its first semester under the new assessment model.

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 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)
36	**31**	**29**	**27**	**43**	**36**

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:

[3] All ST9 figures are for non-fellows only.
[4] The ASSA F101 exam was offered for the first time this semester.

Participation Mark	Subject						
	2A	2B	3A	3B	5A	6B	Total
10	14	14	28	4	9	7	76
9	20	15	15	11	10	1	72
8	21	16	13	23	0	3	76
7	3	6	1	16	1	0	27
6	0	4	0	3	2	0	9
5	0	0	1	2	0	2	5
4	0	4	2	1	0	1	8
3	0	0	3	0	1	0	4
2	1	2	1	0	1	0	5
1	0	0	1	0	0	0	1
0	4	2	4	2	0	3	15
No. of Candidates	63	63	69	62	24	17	298
Average Mark	8.1	7.8	8.0	7.5	8.5	6.9	7.8

Observations:

- The overall average mark was 7.8/10, slightly higher than the 7.6/10 average mark for the previous semester, Semester 2 2013.
- For 3B there was an improvement in the level in performance in the online forum. The average participation mark increased from 6.7/10 for last semester to 7.5/10 this semester. The average mark also increased significantly in the Investment Management and Finance subject from 7/10 in the previous semester to 8.5/10 this semester.
- The GRIS performance improved slightly with the average mark increasing from 6.6/10 to 6.9/10 this semester, however this is lower than the average participation marks for the other subjects. The importance of the participation assessment needs to be reinforced to students in GRIS.
- The average mark in the online forum for 2A and 3A remained the same as the previous semester.
- Only 2B had a lower average mark in the online forum than the previous semester, with the average mark dropping from 8.3/10 to 7.8/10.
- The proportion of students achieving the maximum mark of 10/10 was 27% consistent with the 28% 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 and Participation: Bruce Thomson Expert Testing of MCQs: Andrew Patterson
2B	Exam: Andrew Gill Tutorials, Forums and Participation: Anthony Brien Expert Testing of MCQs: Andrew Patterson
3A	Exam: Neelish Tiwari Tutorials: Jeffrey Thorpe Forums and Participation: Felix Tang
3B	Exam: Jacqui Reid Tutorials: Ben Qin Forums and Participation: Danny Rouel
5B	Exam: Tim Kyng Tutorials, Forums and Participation: Marlon Chan
6A	Longer Answer Question: David McNeice (writer), Adam Butt (reviewer) MCQ writers: Rowan Ming, Adam Butt, Jim Repanis, Derrick Bilney, Andrew Leung MCQ reviewer: Andrew Leung
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 5B:	Investment Management & Finance	David Pitt
Course 6A:	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
15 January 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
26 March 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.
11 June 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 1 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 5B:	Investment Management & Finance	Claymore Marshall
Course 6A:	Global Retirement Income Systems	Jim Repanis
Course 10:	Commercial Actuarial Practice	Matthew Ralph

4. Administration and Exam Supervision

The Board of Examiners was ably assisted by a number of Institute staff, in particular Philip Latham, Rebecca Moore and Liz Harding. Philip, Rebecca and Liz 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.

5. 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.

5.1. 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 1 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**	**5B**	**6A**
Number of Questions	8	5	7	15	5	3
Key Performance Outcome	1,2,3	2	1	1	1	1
Learning Objective	1.1,1.2, 2,2, 3.1, 3.2, 3.4	2.1, 2.2	1.1, 1.3 1.5, 1.6	1.1, 1.2, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10, 1.11, 1.12	1.1, 1.2, 1.3, 1.4	1.1
Unit 1 Marks	21	12	16	42	10	6
UNIT 2						
Number of Questions	6	7	8	8	2	4

Key Performance Outcome	4,5,6	3, 4	2	2	2	2
Learning Objective	4.1, 5.4, 6.1	3.1, 4.3	2.1, 2.2, 2.3, 2.5	2.1, 2.3, 2.4, 2.5	2.2	2.2
Unit 2 Marks	18	21	20	21	6	9
UNIT 3						
Number of Questions	6	4	8	7	9	5
Key Performance Outcome	8,9,11	5,6,7	3	3	3	3
Learning Objective	8.1, 8.2, 9.2, 9.5, 11.1	5.2,5.3, 6.1,7.2	3.3, 3.4, 3.6	3.1, 3.2, 3.3	3.1, 3.2 3,3, 3.4, 3.6	3.14
Unit 3 Marks	17	11	24	19	20	10
UNIT 4						
Number of Questions	6	5	7		4	4
Key Performance Outcome	12,13, 14,15	7,8,9	4		4	4
Learning Objective	12.2, 12.3, 12.4, 13.1, 14.1, 14.2	8.3, 8.5, 9.4	4.2, 4.3, 4.5		4.1, 4.2, 4.3, 4.4	4.2, 4.3, 4.4, 4.5
Unit 4 Marks	17	15	19		10	12
UNIT 5						
Number of Questions	4	3			3	5
Key Performance Outcome	15	9,10,11			5	5
Learning Objective	15.1, 15.3	9.3, 10.1, 11.1			5.1, 5.2, 5.3	5.2, 5.3, 5.4, 5.6
Unit 5 Marks	9	7			6	14
UNIT 6						
Number of Questions		5			3	5
Key Performance Outcome		12, 13			6	6
Learning Objective		12.1, 12.2, 12.4, 13,2, 13.3			6.1, 6.2	6.1, 6.3
Unit 6 Marks		14			8	11
UNIT 7						
Number of Questions						4
Key Performance Outcome						8, 9, 10
Learning Objective						8.2, 9.1, 10.1
Unit 7 Marks						9
UNIT 8						
Number of Questions						4

Key Performance Outcome						11, 12
Learning Objective						11.1, 12.1
Unit 8 Marks						10

The available marks for the multiple choice component varied between 60 and 82. Therefore, percentages have been used for comparisons between subjects. The highest mark was 91% (74 out of 81) in 6A. The lowest mark was 20%, which was achieved in two courses 3A (16 out of 79) and 5B (12 out of 60). The overall average score for the multiple choice component was 50.7%.

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

Table 4: MCQ Result Summary

MCQ	2A	2B	3A	3B	5B	6A	Overall Av.
Questions	30	29	30	30	26	34	30
Total marks	82	80	79	82	60	81	77
Av	53.6%	41.5%	43.7%	51.9%	40.5%	73.1%	50.7%
Highest	84%	66%	78%	67%	70%	91%	76%
Lowest	24%	23%	20%	34%	20%	54%	29%

5.2. 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

Table 5: Long Answer Coverage

Course	Question	Units	KPO	LO	Total Marks
2A	Q1	1, 2, 3, 4	1, 2, 5, 7, 8, 9, 10, 12, 13, 14	1.1, 2.3, 5.1, 5.2, 7.1, 7.2, 8.3, 9.2, 9.3, 9.4, 9.5, 10.3, 12.1, 13.1, 14.1, 14.2	30
	Q2	1, 2, 3, 4,	1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 14	1.1, 1.2. 3.1, 4.2, 5.1, 6.1, 6.2, 7.1, 7.4, 7.5, 7.6, 8.3, 9.2, 9.3, 9.5, 12.4, 14.3	30
2B	Q1	1	1	1.2	30
	Q2	1, 2, 3, 4	2, 4, 6, 8, 9	2.3, 4.2, 6.1, 8.4, 9.1	30
3A	Q1	1, 2	1, 2	1.5, 2.1, 2.2, 2.3, 2.5	30
	Q2	1, 2, 3, 4	1, 2, 3, 4	1.8, 2.3, 3.4, 3.6, 4.1, 4.2, 4.5	30
3B	Q1	1, 3	1, 3	1.2, 1.4, 1.5, 1.9, 1.10, 1.11, 1.12, 3.1, 3.2	30
	Q2	1, 2	1, 2	1.1, 1,2, 1.4, 1.5, 1.9, 1.10, 1.11, 2.1, 2.2, 2.4	30
5B	Q1	1, 2, 3, 4	1, 2, 3, 4	1.3, 1.4, 2.1, 2.2, 3.1, 3.6, 4.1, 4.4, 4.5	40
	Q2	2, 6	2, 6	2.2, 6.1, 6.2	40
6A	Q1				
	Q2				

5.3. 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 6B paper under exam conditions to assess clarity, coverage and length.

- A recently qualified Fellow scrutineered the CAP examination to assess any analysis/calculations, 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.

5.4. 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, 5B, 6A	Online forum participation	10%
C10	Post course report assignment	20%
Subject	**Major Assessment**	**Weighting**
2A, 2B, 3A, 3B, 5B, 6A	Multiple Choice Component	30%
2A, 2B, 3A, 3B, 5B, 6A	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 using several metrics including total raw mark, weighted average grade and weighted average rank. The key determinant however was 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 metrics.
- 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.

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

6.1. 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.	

7. 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, Adam Butt 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:

8. Examination Dates

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

Table 6: Examination Dates

Course	Subject	Exam Date
2A	Life Insurance	28 April 2014
2B	Life Insurance	29 April 2014
3A	General Insurance	30 April 2014
3B	General Insurance	2 May 2014
5B	Investment Management & Finance	7 May 2014
6A	Global Retirement Income Systems	8 May 2014
7A	Enterprise Risk Management	24 April 2014
ST1	Health & Care	30 April 2014
CAP	Commercial Actuarial Practice	9 May 2014
F101	Health Principles	4 June 2014

9. Post Course Assignment Dates

This semester's Part III Post Course assignment was due on 8 April 2014.

10. Exam Candidature

10.1. 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 7: Candidate Mix by Part III Course

Subject	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)
Investments	n/a	n/a	n/a	8%	10%
Life Insurance	32%	20%	19%	17%	21%
General Insurance	34%	28%	32%	32%	31%
Investment Management & Finance	6%	8%	7%	6%	4%
Global Retirement Income Systems	4%	3%	4%	3%	3%
Enterprise Risk Management	n/a	19%	20%	18%	15%
Health	n/a	4%[5]	4%	3	2%
Commercial Actuarial Practice	23%	17%	15%	14%	15%
Total	100%	**100%**	**100%**	**100%**	**100%**

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

11. Examination Centres

Candidates sat the exams in 7 centres in Australia and 10 centres overseas.

Table 8: Candidates by Exam Centre

	2A			2B			3A			3B			5B			6A			C10		
Location	**Sat**	**Pass**	**%**	**Sat**	**Pass**	**%**	**Sat**	**Pass**	**%**	**Sat**	**Pass**	**%**	**Sat**	**Pass**	**%**	**Sat**	**Pass**	**%**	**Sat**	**Pass**	**%**
AUSTRALIA	48	12	25	53	20	38	59	14	24	47	12	26	21	5	24	14	9	64	69	44	64
Brisbane							5	1	20	2	0	0	1	0	0	1	1	100			
Canberra	1	0	0	1	1	100							1	1	100						
Perth										1	0	0							1	0	0
Melbourne	9	2	22	12	6	50	7	2	29	6	2	33	5	1	20	7	4	57	11	5	45
Sydney	38	10	26	40	13	33	47	11	23	36	9	25	14	3	21	4	3	75	57	39	68
Adelaide										1	0	0									
Darwin										1	1	100									
Hobart																2	1	50			
OVERSEAS	14	4	29	6	2	33	7	3	43	14	4	29	3	2	67	1	0	0	17	8	47
Japan																			1	1	100
South Korea	1	0	0																		
China	3	0	0																1	1	100
USA													1	1	100						
Hong Kong	2	0	0	1	0	0	1	0	0	3	1	33	2	1	50				1	0	0
Malaysia	1	1	100	1	0	0	4	2	50												
New Zealand	4	2	50	2	1	50				5	1	20							3	1	33
Singapore	3	1	33	2	1	50	1	0	0										7	4	57
Vietnam										1	0	0									
UK							1	1	100	5	2	40				1	0	0	4	1	25
TOTAL	62	**16**	**26**	59	**22**	**37**	66	**17**	**26**	61	**16**	**26**	24	**7**	**29**	15	**9**	**60**	86	**52**	**60**

Examination Papers and Assignments

1. Examination Structure

The structure of the Global Retirement Income Systems examination was a single three-hour exam paper weighted at 90%.

The following components were included for Life Insurance, General Insurance and Investment Management and Finance examinations under the new assessment 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 and Investment Management and Finance, as part of the new assessment structure, 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 9: Comparison of Pass Rates by Centre

	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)
Sydney	37%	34%	39%	38%	33%	37%
Melbourne	39%	31%	40%	51%	48%	38%
Other Australian	33%	57%	42%	48%	27%	20%
Overseas	37%	35%	51%	39%	30%	23%
Other Australian & Overseas combined	36%	38%	49%	42%	29%	22%
Total	**37%**	**35%**	**41%**	**40%**	**37%**	**34%**

I have examined the pass rates by specialist subject and examination centre. This analysis revealed a number of interesting features, including:

- Pass rates were fairly similar this semester across all location categories, with the variation from the overall pass rate being no greater than 4% in location category.
- Pass rates increased in the location categories of Sydney (by 3%), Melbourne (by 8%), Overseas (by 2%)
- The overall pass rate for 'Other Australian' exam centres decreased by 24% this semester.

3. Pass Marks

Table 10: Raw Pass Marks by Part III Subject

	Subject	2014 (1)	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)	2011 (1)
2A	Life Insurance	109.6	123.7	113.1	113.2	104.5	93.0	89.0
2B	Life Insurance	125	114.7	111.1	116	105.0	105.0	109.0
3A	General Insurance	119.1	105.1	117.7	111.4	109	105.0	109.8
3B	General Insurance	120	104.1	114.5	105	115.0	100.1	101.7
5A	Investment Management and Finance	n/a	106.5	n/a	107.1	N/A	111.9	n/a
5B	Investment Management and Finance	94	n/a	95.0	n/a	112.1	n/a	99.6
6A	Global Retirement Income Systems	110	n/a	116.8	n/a	104.4	n/a	106.5
6B	Global Retirement Income Systems	n/a	108.7	n/a	106.9	N/A	106.6	n/a

BoE Members for Semester 2 2014

1. Board of Examiners The recommended constitution for the Board of Examiners for next semester (semester 2 2014) is as follows:

1.1. Chair

Gary Musgrave

1.2. 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
Course 6B: GRIS	Stephen Woods
Course 10: Commercial Actuarial Practice	Bruce Thomson

1.3. Assistant Examiners

Course 2A: Life Insurance	Andy Siu, Alissa Holz
Course 2B: Life Insurance	Matthew Simon, Emily Galer
Course 3A: General Insurance	Yvonne Wong, Nadeem Korim
Course 3B: General Insurance	Jacob Sharff
Course 6B: GRIS	Jim Repanis
Course 10: Commercial Actuarial Practice	Matthew Ralph

2. Examination Dates

The dates for the examinations in Semester 2 2014 are as follows:

Table 11: Examination Dates

Module	Subject	Exam Date
1 (7A – ST9)	Enterprise Risk Management	24 September 2014
1 (STI)	Health & Care (IFoA)	30 September 2014
1 (F101)	Health Principles(ASSA)	TBC
2 (2A)	Life Insurance	14 October 2014
2 (3A)	General Insurance	16 October 2014
2 (5A)	Investment Management & Finance	20 October 2014
3 (2B)	Life Insurance	15 October 2014
3 (3B)	General Insurance	17 October 2014
3 (6B)	Global Retirement Income Systems	21 October 2014
4 (10)	Commercial Actuarial Practice	22 October 2014

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 2014. It is recommended that the 2014 Semester 1 examination papers be released on 19 June or as close to this time as possible.

Gary Musgrave
Chair, Board of Examiners
17 June 2014

EXAMINER REPORTS
Course 2A Life Insurance
Chief Examiner's Report Semester 1 2014

1. Summary

1.1. Course Overview

The aim of the 2A 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 pricing, the general environment and risk management practices of life offices and associated funds management companies.

The course was updated for new capital requirement standards but most of the examination was based on course material which did not change.

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

64 candidates enrolled this semester. Of these, 1 withdrew and 1 did not present, leaving 62 sitting the exam.

It is proposed that 16 candidates be awarded a pass, which implies a pass rate of 26%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
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 26% pass rate for this exam is lower than the 42% pass rate for the previous exam (Semester 2 2013) and lower than the historical average. Candidates seemed to have acceptable course knowledge, as evidenced by broadly competent performance in the MCQs, but many lacked the ability to use that knowledge in a way that is relevant to the more complex questions asked of them in the long answer component.

The long answer component had a question dealing with the treatment of surplus arising from participating business which was particularly poorly handled.

2. Assessment

2.1. Overall Performance

Performance in the Forum and MCQs was acceptable. Performance on both LAQs was disappointing, particularly with respect to LAQ2. Regarding the option pricing in LAQ1, far too many students were comfortable with an approach that only charged an option premium to policyholders who exercised the option. Regarding the proposal to transfer surplus from a participating block of business to prop up unit-linked performance in LAQ2, students were rarely definitive in stating that this could only be contemplated with shareholder's share of surplus. Further, almost no student made practicable suggestions as to how this surplus might be applied to the unit linked book. It is of great concern to the Examiners that these fundamental issues appear not to be well understood by the majority of candidates.

As previously noted, LAQ1 part (a) was adjusted in light of a revised approach to the marking guide. Without this adjustment, the raw pass rate would have been only 13%.

2.2. Exam Question by Question Analysis

Question 1 **Total Marks: 70**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	40.0	57.1%	9	15%
Pass	35.0	50.0%	11	18%
Slightly Below Standard	31.5	45.0%	5	8%
Below Standard	25.0	35.7%	17	27%
Weak	16.0	22.9%	14	23%
Showed Little Knowledge	1.0	1.4%	6	10%
Did Not Attempt	0.0	0.0%	0	0%

Maximum Mark	51.0
Average Mark	28.5
Standard Deviation	10.4
Co-efficient of Variation	0.36

Candidates performed reasonably well on this question, with a pass rate of 33%.

The markers provided the following comments (unedited):

- Generally we thought the papers were very poorly answered and this is reflected in the low marks allocated to each part of the question. The discussion was quite poor and only a few candidates managed to understand and focus on the particular product in question and identify the particular issues with the product.

- Part a) involved a spreadsheet premium calculation with a specified profit criteria. This should have been straight forward and easy to score to marks. Candidates who scored above 7 marks demonstrated understanding. The marking guide was quite harsh and worked on a point deduction basis rather than a point rewarding basis so some candidates ended up with zero due to having too many errors, despite having some of the calculations correct. It was also difficult to distinguish between major and minor errors in some cases and the marking guide could have been clearer on this. It was surprising how many of the candidates did not properly understand and calculate a correct decrement table. [Note that this led to the adjustment described previously].

- Part b) involved a discussion on the shareholder return on capital. Most candidates did not understand the question and rattled off a text book answer on transfer patterns and capital requirements, without referring to the level premium term product and its features. Very few candidates made comparisons to other products as per the model solution (although this was not specifically asked in the question). [This question was designed to stretch candidates, and clearly very few excelled here]

- Part c) was about the main risks of policy cancellation. Most candidates were able to make the point about early duration lapses and the failure to recover initial expenses. However, very few candidates were able to identify the impact of low lapses at later durations.

- Part d) was a memo to the marketing manager about an option to extend the policy after 15 years with no underwriting. Most candidates raised the anti-selection issue but the mitigation and implications of the risks were not well discussed. A lot of candidates did not follow the outline of the question which made it very difficult to award marks when the question was very specific in what was required.

Question 2 **Total Marks:** **50**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	27.5	55.0%	4	6%
Pass	23.5	47.0%	8	13%
Slightly Below Standard	21.2	42.3%	6	10%
Below Standard	15.0	30.0%	21	34%
Weak	8.0	16.0%	16	26%
Showed Little Knowledge	1.0	2.0%	7	11%
Did Not Attempt	0.0	0.0%	0	0%
Maximum Mark	28.5			
Average Mark	17.3			
Standard Deviation	6.7			
Co-efficient of Variation	0.39			

Candidates performed poorly on this question, with a pass rate of 19%.

The markers provided the following comments (unedited):

In general we felt this question was not answered very well. The average marks were well below the pass mark. For those who attempted it, the calculation component of the question was answered well in general. In contrast, the written component of the question was not answered as well. It is noted that many students used words like 'might' or 'may' when being asked for an opinion in parts a and b. Students should be advised to avoid vagueness in their responses.

Part a)

The majority of the students did not mention the fact that the surplus from the Par fund belongs to both the shareholders and policyholders, with a minimum of 80% belonging to policyholders. Many students missed the 'easy' marks in this part – for example commenting on separation of statutory funds for the two products, commenting on unit linked policyholder's bearing investment risk including upside risk.

Most students have not considered a large number of options available as alternatives to the proposal. Half the marks available for this part were to discussing alternatives.

Note: mention of alternatives as review investment performance cause – is fund manager choice contributing to the poor performance? We have awarded marks for this alternative if it is well explained.

Some students seem to think it would be something that could be done (even the 20%) but don't discuss how you would do this in practice or what the implications would be.

Part b)

Most students were able to discuss the risks to some degree but many did not consider both the death and income protection fully or fully explain why the benefit design posed risk. Most students were able to identify the issues with the group insurance scheme at the younger ages, but not for older ages. The discussion of the issues could have been done in more detail.

Some students made some interesting statements around only allowing the cover to be for time actually at work. Many discussed risk more generally eg: concentration risk, operational risk, catastrophe risk etc rather than risk specific to the question being asked. Note: If they mentioned 3 year rate guarantee as a risk i.e. mispricing risk – we have awarded 0.5 marks.

Part c)

Some students may not have allocated the correct amount of time to answering this question when attempting this part of the question, leading to poor results.

The format of answers varied significantly. Some students approached this very well and clearly set out their response. Others set out poorly and it was difficult to see.

A number of students made minor errors which could have been avoided by reading the question properly – e.g.:

- Many did not calculate age correctly (despite the question being very clear on this)
- Many applied the claims expense to the IP component of the benefits as well as to death. I think this may have confused students who may be used to working with IP and expecting there to be significant claims related expenses on that component.

Some students were confused about how to calculate the total premium – a couple tried to use a solver function.

COURSE 2B LIFE INSURANCE
Chief Examiner's Report Semester 1 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

64 candidates enrolled this semester. Of these, 1 withdrew, 2 did not present at any component of the exam and 1 presented at the MCQ component only, leaving 60 sitting all components of the exam.

It is proposed that 22 candidates be awarded a pass, which implies a pass rate of 37%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
Semester 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 37% pass rate for this exam is slightly lower than the 39% pass rate for the previous exam (Semester 2 2013) but above the historical average. Candidates seemed to have good course knowledge but not the ability to use that knowledge in a way that is relevant to the question.

2. Assessment

2.1. Overall Performance

The quality of the submissions to the Forum was generally very high but is still surprising to see some students who do not meet minimum standards.

For the MCQ component, results indicated that there were 3 questions (worth a total of 8 marks) with correct answers from 8% of candidates or less. These 3 questions were not considered in assessing the marks as they could not be regarded as a reliable discriminator.

This proved to be a very challenging set of multiple-choice questions, with a number of candidates experiencing issues with time. There were a large number of questions requiring multiple responses which increased the difficulty. The pass mark was lowered to 50% of the available marks (36 out of 72) from the default of 60% to reflect this.

The LAQs contained a fair amount of spreadsheet work that probably impacted on the time taken to complete the questions. While this was not raised by the scrutineer, it was considered at exam sign-off time but due to the time pressures to get the questions signed off, all of the spreadsheet components were left in. Most students performed well on the spreadsheet components, but struggled where more complex judgement was required.

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)	47.5	79.2%	6	10%
Pass (B)	40.5	67.5%	16	25%
Slightly Below Standard (C)	36.5	60.8%	5	8%
Below Standard (D)	26.0	43.3%	23	37%
Weak (E)	16.0	26.7%	6	10%
Showed Little Knowledge (F)	1.0	1.7%	3	5%
Did Not Attempt (X)	0.0	0.0%	4	6%
Maximum Mark	56.0			
Average Mark	32.8			
Standard Deviation	12.8			
Co-efficient of Variation	0.39			

Question 1 tested the candidate's knowledge on IBNR calculations (Parts a, biii, biv), data preparation (Parts bi, bii) and wider valuation methodologies in the context of loss making products (Part c). Overall, the question was not well answered and many students appeared to run out of time.

Part a

The calculation solution was generally well managed by many students although several got confused when applying the loss ratios and poorer candidates often didn't recognise that a negative reserve was not appropriate. Most candidates struggled to explain when the methodology would be appropriate.

Part bi

This question was well answered by most but some students over complicated their answer and didn't realise that a simple list of data checks was all that was requested.

Part bii

This was the best answered question and better students scored near maximum marks. Many students lost marks by incorrectly excluding accepted claims with notification dates in the future from their analysis rather than changing the notification dates to a more sensible date. Some students found errors but then didn't appropriately make changes in the spreadsheet and lost significant marks for this.

Part biii

This question was poorly answered by most students with few applying their knowledge to the calculations in the spreadsheet or critically considering where material assumptions had been made. Some students lost marks by noting assumptions made but not taking the extra step to consider their appropriateness.

Part biv

Most students presented a reasonable numerical answer to this question if they had followed through on question bii and reviewed the data appropriately. Several lost marks by presenting their answer to both calculation approaches in the spreadsheet and not coming to a final recommendation.

Part c

This question was not complicated but most students scored poorly and gave a "bookwork" answer without applying their knowledge to the question. The par response was the best answered. Most students failed to recognise that an additional reserve was required for future losses (as the IBNR only covers past losses) because the premiums were expected to be insufficient during the guarantee period.

Question 2 **Total Marks: 60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	46.0	76.7%	3	5%
Pass (B)	40.5	67.5%	17	27%
Slightly Below Standard (C)	36.5	60.8%	7	11%
Below Standard (D)	27.5	45.8%	23	37%
Weak (E)	16.0	26.7%	8	13%
Showed Little Knowledge (F)	1.0	1.7%	0	0%
Did Not Attempt (X)	0.0	0.0%	5	8%

Maximum Mark	50.0
Average Mark	32.7
Standard Deviation	11.7
Co-efficient of Variation	0.36

This question tested the candidates' knowledge of MoS and the ability to compare it with an alternative accounting system (Part a), discussion around the implications of reinsuring within the same insurance group (Part b), the determination of an Embedded Value (Part

c), and determining suitable stress scenarios and calculation of the impact on the Embedded Value (Part d).

On the whole, this was not a difficult question, but it was not handled well by candidates with a pass rate of 32%.

Part a

Part a contained a description of US GAAP accounting and then asked candidate to compare the similarities and differences with MoS on the balance sheet. Common problems in was not relating to how the differences would impact the balance sheet.

Part b

Part b asked candidates to explain to the Group CFO the implications of reinsuring within the Group and the mitigations for each of these. This part was the most difficult - many candidates either struggled to identify sufficient issues but generally most did not cover the section on mitigation well.

Part c

Part c provided candidates with a spreadsheet to calculate an Embedded Value for Individual and Group business. This part should have been better but candidates may have been hampered by time. Candidates were given only 12 minutes to complete this section based on the number of marks. Upon reflection this may have been insufficient time for the thinking and then programming of formulae. There were some poor spreadsheeting skills displayed by some candidates. A number of candidates also did not complete all the columns in the template - given the headings were provided this should have been a good hint.

Nearly all candidates failed to display the judgment expected of a newly qualified actuary - absurd answers were produced but only a handful of candidates recognized this. Few candidates did something appropriate for the Group business.

Part d

Part d involved coming up with three sensitivities and recalculating the Embedded Value and explaining these to the Group CFO. A number of candidates being pressed for time did not run the actual sensitivities but suggested what they would test. There was a wide range - but given the candidates were asked about mitigating management actions should have selected assumptions that management could influence. A number of candidates included the capital assumption – which is not sensible.

Candidates also did not think about what they were doing. Nearly every candidate who mentioned the claims assumption, spoke about tightening both underwriting and claims management practices as a management action. They did not take into account the question related to VIF and not VNB and hence, tightening underwriting was akin to shutting the stable door after the horse had bolted. Again this just indicated that candidates are using a shotgun approach to an answer without displaying the judgment to present what is relevant.

COURSE 3A GENERAL INSURANCE
Chief Examiner's Report Semester 1 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

72 candidates enrolled this semester. Of these, 3 withdrew and 3 did not present, leaving 66 sitting the exam.

It is proposed that 17 candidates be awarded a pass, which implies a pass rate of 26 %. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
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 26% pass rate for this exam is higher than the 18% pass rate for the previous exam (Semester 2 2014) but is still lower than the historical average. Unlike the previous exam, Candidates did not appear to have run out of time. Candidates seemed to struggle more on the Multiple Choice Questions than in the previous exam.

The course was updated across all sections of the subject but most of the examination was based on course material which did not change. Due to the change in the structure of the exam, it was easier to include some areas of the course which had not been examined for many years (eg an annuity method of valuing claims). Students appeared no less comfortable with these parts of the subject than any others.

2. Assessment

2.1. Overall Performance

The overall performance across the exam was significantly better than in the prior semester. This is partially attributed to the students having a greater understanding of the exam structure and showing better exam technique as well as the feedback provided from the students sitting the previous exam which influenced how the exam was set. The average mark from students on the MCQ was significantly lower this semester.

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	45.0	75.0%	7	10%
Pass	40.0	66.7%	15	21%
Slightly Below Standard	34.0	56.7%	20	28%
Below Standard	28.0	46.7%	14	19%
Weak	21.5	35.8%	9	13%
Showed Little Knowledge	1.0	1.7%	1	1%
Did Not Attempt	0.0	0.0%	6	8%

Maximum Mark	49.0
Average Mark	33.1
Standard Deviation	12.2
Co-efficient of Variation	0.37

This question was in relation to a specialised general insurer writing only CTP business in a fictional country. The key themes for this question were to demonstrate a brief understanding of the unique features of CTP business, be able to undertake a projection of claim numbers, and operate a PPCF model. Lastly, students were asked to undertake a simple annuity projection for severely injured annuitants. Overall, it was felt that the

question was straightforward and the data provided didn't contain any odd features. In spite of the standard nature of the question, only 36% of students were able to achieve a passing grade on this question.

Part a) asked students to outline the typical data checks that would be performed prior to conducting a valuation of outstanding claims. This was a fairly standard bookwork question. Students were able to correctly note that the data must be reconciled both to the ledger and against historical data extracts. However, many students failed to mention that the data was to be tested to see if recent payment volumes were reasonable relative to past experience. The average mark for this part was 1.4/2.

Part b) asked students to highlight the features of CTP that make it a relatively complex valuation class. Again, this was a standard bookwork question and most students were able to name at least two features. The average mark for this part was 1.9/2.

Part c) asked students to estimate the ultimate number of claim reports. Exposure data and a claims triangle were provided. Students were expected to have noted that the question preamble noted that the residents of RaphLuci tended to be inconsistent in the amount of time they took to report claims and that there was a significant decrease in the number of claim reports in the most recent accident year. Most students were able to undertake a chain ladder projection of claim numbers, However, only the better students identified the lower number of claims reported to date in 2013 resulting in the need to adopt an a-priori approach (such as the BF method) to estimate the ultimate claim reports. The average mark for this part was 4/7.

Part d) asked students to estimate future claims finalisations, use the PPCF model to estimate outstanding claims cost and to provide a view if there was any superimposed inflation pressures within the portfolio. Many students were able to undertake a sensible projection of future claims finalisations, however, the examiners noted that many students continue to use simple averages in their assumption analysis rather than weighted averages. Most students were able to undertake reasonable projections of future claims cost using the PPCF model which was expected by examiners given the standard nature of the question and the valuation method. Again we note many students did not use weighted average in their analysis of historical PPCF factors. The last part of this question wasn't answered particularly well with many students analysing superimposed inflation across development periods rather than across accident years for a particular development period. Overall, the average mark was 4.9/9 for the three parts of this question.

Part e) asked students to demonstrate an understanding of the PPCF model in operational time and the instances when it would/would not be useful as a claims reserving model. Many students were able to provide a description of the method and note the assumption of invariant claim size ordering. Few students noted that this method wasn't suitable for tail claims. The average mark for this part was 1.7/3.

Part f) asked students to estimate the outstanding claims value for seriously injured claimants. These claimants were receiving a combination of periodic benefits and some large one off payments. Students were asked to use an annuity approach to estimate the claims cost. In spite of the significant coverage of survival probabilities throughout their part 1 studies, many students were not able to correctly apply and use the life table data provided. In particular students tended to use the expectation of a life rather than estimating survival probabilities using L(x) data. The average mark for this part was 2.6/5.

Part g) asked students what additional information they would request to estimate the reserves for seriously injured claimants. Most students were able to note at least one important piece of additional information they would request, however, many students did not seek to question whether there would be any additional large one off medical expenses. The average mark for this part was 1.5/2.

Question 2 **Total Marks 60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	44.0	73.3%	0	0%
Pass	34.0	56.7%	18	25%
Slightly Below Standard	30.6	51.0%	5	7%
Below Standard	24.0	40.0%	17	24%
Weak	16.0	26.7%	21	29%
Showed Little Knowledge	1.0	1.7%	5	7%
Did Not Attempt	0.0	0.0%	6	8%

Maximum Mark	43.0
Average Mark	24.4
Standard Deviation	10.8
Co-efficient of Variation	0.44

This question was in relation to a general insurance company specialising in Workers' Compensation, Public and Product Liability and Domestic property insurance. The key themes for this question were to calculate key performance indicators of the financials of the company, including impact of reinsurance and calculation of risk margins. Overall, the question was poorly attempted with only half of the students being able to achieve 40% of the marks.

Part a) required candidates to derive the net combined operating ratio and return on capital. Most candidates were able to work through deriving the net earned premium and net incurred claims cost. Very few considered that the DAC needed to be earned as well. Several candidates did not know the definition of a 'combined operating ratio', and attempted to include investment income and derive profit related figures. No students derived the correct capital figure for the return on capital ratio. There was a lot of confusion about what capital is, and what components form the total capital of the company. The average mark for this part of the question was 2.9/6.

Part b) required candidates to project the net combined operating ratio for the coming year using assumptions provided. This question required some thought in order to derive projected future numbers. There are historical ratios that make sense and can be applied going forward, whereas some rely on a stable book of business for sound projection. Many students blindly applied ratios based on the preceding financial years without considering closing balance sheet values of the prior year or whether such ratio analysis actually made sense from the point of view of how insurance accounting actually works. The average mark for this part of the question was 1/3.

Part c) provided candidates with a list of claims transactions and they were asked to identify clear and possible errors in the data. This part was answered well by most candidates. There were several issues presented in the data, and two are worth a further mention:

- There is an obvious pattern with the case estimates: they're not moving. It was easier to achieve a full mark for this point where candidates not only noted this, but suggested a potential reason why.
- A nil claim might be set up with no case estimate and at a later date be closed with no payment. One must really understand how the data works and what is included in it in order to treat it sensibly for valuation.

The second part of the question required the construction of a claims payment triangle.

- Where no working was shown very few, if any, marks were awarded. Candidates must show working to enable another actuary (or marker) to follow and review their work.
- Several candidates did not get their delay formulae right. Subtracting one date from another in Excel does not always arrive at the right answer when calculating delay periods where rounding is used.
- If undertaking a valuation as at a given date, then transactions post the valuation date are usually excluded. Where such exclusions are made the better students explicitly stated what they were doing and why they felt it was justified.

The average mark for this part of the question was 4.5/9.

Part d) required candidates to provide a response to Head of Sales stating advantages and disadvantages with intermediaries managing claims and a final recommendation. Several candidates were confused about the role and function of an intermediary. Whilst the Head of Sales was interested in intermediaries to drive growth, the actuary was asked to comment on concerns they might have specifically with intermediaries managing claims. The students who did well on this part of the question focused on the key issues associated with outsourcing this part of an insurer's operations. The question also asks for a final recommendation. A clear recommendation should be given in order to achieve this mark. Several students remained cautious, or pushed the question back by caveating both options as potential solutions, or even suggested "more work was required" as their recommendation. The average mark for this part of the question was 2.2/5.

Part e) required candidates calculate the risk margin percentage for the whole portfolio. Many candidates did not know the formula for the coefficient of variation (CoV), and a few assumed it was variance. It was very difficult to progress an answer to this question if one did not know the simple relationship between the CoV and corresponding standard deviation / mean. Variances may be summed, and the total standard deviation then derived from the total variance. Many students simply ignored this rule and summed standard deviations, or derived risk margins for the individual classes, and then (incorrectly) summed those. Marks were also available where students were able to recommend and justify correlations not provided. Perhaps this was not obvious from the question, and nearly all students did not make an attempt to do so. A small extension was then required to incorporate these additional correlations into the total variance. The average mark for this part of the question was 0.8/3.

Part f) required candidates to define the Premium liabilities requirement for APRA and AASB1023 reporting purposes and discuss where they are used together. Candidates are required not only to know what the standards say, but to demonstrate an understanding of what they mean. Candidates who copied straight from a reference text demonstrated little understanding. Several candidates were loose with their terminology and explanation. Unearned premium, unexpired risk and premiums liabilities are not all the same thing and marks were not awarded where students were complacent and used these terms interchangeably or in the wrong context. The average mark for this part of the question was 1.92/4.

COURSE 3B GENERAL INSURANCE
Chief Examiner's Report Semester 1 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, capital management and financial condition reporting.

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

68 candidates enrolled this semester. Of these, 6 withdrew and 1 did not present, leaving 61 sitting the exam.

It is proposed that 16 candidates be awarded a pass, which implies a pass rate of 26%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

SEMESTER	SAT	PASSED	PASS RATE
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 26% pass rate for this exam is similar to the previous exam (Semester 2 2013) and much lower than the historical average. Candidates who marginally failed seemed to show some knowledge but were weak either on the quantitative aspects or did not demonstrate sound judgment in the context of the questions.

This is the second semester in the new format of LAQ and MCQ exams. Last semester's comment that the LAQs were too long has been taken into account and hence the result

of this semester shows that students did not struggle as much with time constraints on the LAQs.

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 highest mark was135.3, which was significantly higher than last semester's top mark of 119.5 out of 200
- Students struggled with MCQs with the highest mark being only 55/82 and the average of only 41.9/82. This indicates a need to focus on MCQ exam length for future exams.
- Online participation mark average went up from 6.7/10 to 7.5/10 since last semester indicating an increase in engagement which is 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	0%
Pass (B)	34.2	57%	17	27%
Slightly Below Standard (C)	30.8	51.3%	13	21%
Below Standard (D)	24.0	40%	29	47%
Weak (E)	12.0	20%	2	3%
Showed Little Knowledge (F)	0.4	0.6%	0	0%
Did Not Attempt (X)	0	0	1	2%
Maximum Mark	40.2			
Average Mark	30.6			
Standard Deviation	6.1			
Coefficient of Variation	0.20			

The highest mark was 40.2/60, the lowest was 20.5/60, and the average was 30.6/60.

The assessed pass grade (B grade) for multiple choice questions was set at 57% (34.2/60).

Despite the apparent length of the exam the result was disappointing.

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

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	42.0	70.0%	1	2%
Pass	33.8	56.3%	21	34%
Slightly Below Standard	30.3	50.5%	19	31%
Below Standard	24.0	40.0%	15	24%
Weak	16.0	26.7%	4	6%
Showed Little Knowledge	1.0	1.7%	1	2%
Did Not Attempt	0.0	0.0%	1	2%

Maximum Mark	43.3
Average Mark	31.1
Standard Deviation	6.8
Co-efficient of Variation	0.22

The pass rate for LAQ1 was 36% so this question was relatively well answered. Students struggled mostly in part h where a simple reinsurance calculation was required, but students found it difficult to either interpret the question or there was a lack of understanding or experience with aggregate cover. Part e was the second worst part and this required a pricing memo to be written to the Chief Underwriter. The best students wrote in a format appropriate to management and also outlined key issues in a coherent manner that took account of the circumstances.

Students did reasonably well in the other sections of the question, especially in part b where they were asked to describe rating factors appropriate to the new insurance product.

Comments on each question:

(a) This question was generally answered well with students thinking widely about factors to consider when setting up this compulsory insurance. A number of the key aspects were identified while a few other important factors were also mentioned by a number of candidates. Consideration of how this scheme would integrate with existing insurance was only mentioned in a few answers.

(b) This question was answered well with many candidates scoring very good marks. The main rating factors were generally identified and well described.

(c) This was generally answered well although some candidates disappointingly argued that oil pollution was short tail.

(d) Generally answered well, although some candidates failed to identify some of the standard exclusions in a general insurance policy.

(e) This question had a variety of answers. Students struggled to identify a number of the key points and the associated explanations. A number of the answers were descriptions of the pricing process without application to the context set out in the question and the implication of the emerging experience.

(f) Disappointingly few candidates placed themselves in the position of writing the FCR. Answers concentrated on the numerical/financial aspects of the reinsurance credit risk with candidates demonstrating a good understanding of the impact of this on reinsurance credit risk.

(g) This part was answered very well with most candidates identifying the more common of the possible exit strategies. Better candidates often provided a better explanation of these options while also identifying some of the other options.

(h) This was answered very poorly with few candidates correctly identifying the company to captive to reinsurer arrangement. Most candidates correctly identified that the company deductible is $5m.

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

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	42.0	70.0%	9	15%
Pass	38.0	63.3%	9	15%
Slightly Below Standard	32.2	53.6%	27	44%
Below Standard	30.5	50.8%	11	18%
Weak	16.0	26.7%	5	8%
Showed Little Knowledge	1.0	1.7%	0	0%
Did Not Attempt	0.0	0.0%	1	2%

Maximum Mark	50.0
Average Mark	35.1
Standard Deviation	6.6
Co-efficient of Variation	0.19

The pass rate for LAQ2 was 29% so this question was not well answered overall. Students scored well in most parts of the question except part b where a significant 5/30 of the marks were. Part b asked students to predict the likelihood of new entrants into the market as a result of relaxed capital requirements. This was not handled well and the common mistake was for students to take a simplistic view that this would attract new entrants. However, an assessment of the context reveals that lower capital requirements are not the only determinant of the success of a new entrant. Better students identified that the profitability itself was paramount and also discussed the challenges of a start-up, as well as the fact that there are 2 large established insurers in the country already.

a) This was answered well. A common pitfall was failing to assess the likelihood, or to discuss the risk from the regulator's perspective.

b) The better candidates recognised the immaterial size of the workers' compensation book. Most candidates mentioned lack of profitability as a major barrier to entry, however didn't discuss consequences of the change in probability of sufficiency sufficiently.

c) This was a question examining the merits of an internal capital model. Very few

candidates mentioned "incorporating correlations" as being one of the benefits of internalising the modelling.

d) & e) Answered well. Business planning aspects from a practical perspective was a commonly missed point.

f) It was surprising to see so few people scored full marks for this calculation question. The most common pitfall is misunderstanding the unearned premium and movement in outstanding claims which are key concepts.

g) A common issue was the lack of explanation of the assumptions underlying the analysis.

h) i) Most candidates had no issue in calculating the traditional premium, but not many candidates scored full marks in the calculation of alternative premium.

Again, the better candidates did well in providing assumptions and workings of loss ratios.

ii) Some candidates didn't read the question properly and answered from the insurer's perspective, rather than from the employer's perspective.

For future reference, the style of questioning in b) where a recommendation or prediction is required, would serve well to test a student's commerciality and actuarial judgment.

COURSE 5B INVESTMENT MANAGEMENT & FINANCE
Chief Examiner's Report Semester 1 2014

1. Summary

1.1. Course Overview

The aim of the 5B Investment Management and Finance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of problems relating to the use of derivative securities and the pricing and modelling frameworks for derivative securities including exotic options. The course also equips candidates with an understanding of interest rate derivatives, capital and risk management. The importance of professionalism is also emphasised in the course.

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

25 candidates enrolled this semester. Of these, 1 withdrew and all others were present at the exam, leaving 24 sitting the exam.

It is proposed that 7 candidates be awarded a pass, which implies a pass rate of 29%. Table 1 shows the historical pass rates for this subject:

Table 1 – Course Experience

Semester	Sat	Passed	Pass Rate
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 29% pass rate for the course is lower than the 57% pass rate for the previous offering of the course (Semester 1 2013) and much lower than the recent historical average. With only 24 students taking the exam, not too much can be read into this reduction in the pass

rate. Students did find the multiple choice questions challenging and this has been allowed for with a lower requirement to pass that section of the exam than the recommended level of 60%. The long answer questions provided a very good indicator of student understanding of fundamental ideas from mathematical finance.

2. Assessment

2.1. Overall Performance

- Overall the performance was not strong. Candidates who failed did not demonstrate a good understanding of the course in the examination. The multiple choice questions were difficult. There was active participation throughout the course on the online forum.

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	33.0	55.0%	5	21%
Pass	27.0	45.0%	3	13%
Slightly Below Standard	24.0	40.0%	1	4%
Below Standard	20.0	33.3%	7	29%
Weak	10.0	16.7%	6	25%
Showed Little Knowledge	0.8	1.3%	2	8%
Did Not Attempt	0.0	0.0%	0	0%

Maximum Mark	40.5
Average Mark	23.2
Standard Deviation	10.0
Co-efficient of Variation	0.43

Candidates performed reasonably on this question with a pass rate of 34%.

Part a):

Candidates were asked to write the payoff from an exotic option in terms of standard option contracts.

Only about 25% of candidates could do this. Others confused the payoff functions of the exotic option or were not clear on the payoffs from standard contracts.

Part b):

Candidates were asked to derive a value of the exotic option using their strategy from part (a).

Candidates who did well in part (a) were able to answer this. Marks were available to those who could not reverse engineer the payoff in part (a) but generally those candidates did not perform well here either.

Part c):

Candidates were asked to calculate the exotic option value using their formulation in part (b).

Only a small proportion did this correctly. Many basic calculation errors were evident in the work of candidates.

Part d):

Candidates were required to understand properties of geometric Brownian motion applied in a new context in this part.

Only a handful of candidates were able to write something sensible here. This was a challenging part requiring a good understanding of the mechanics of the assumed stock price movement

Part e):

Candidates were required to value an exotic option using a 500-step Cox-Ross-Rubinstein model on a spreadsheet.

About half of the candidates made a reasonable or good attempt at this with the other half unable to demonstrate an understanding of the binomial valuation required here.

Most students were unable to produce a solution that valued the option using the binomial function probabilities in Excel. Some even attempted to derive the 500 step tree in the exam!

Part f):

Candidates were required to adapt their binomial model in part (e) to an option where the payoff depends on a stock price averaged over three trading days.

This was difficult. Only one candidate answered this part well with others unable to apply their understanding to this new context.

Part g):

Candidates were required to understand the payoff from a barrier option and how to obtain an analytic valuation formula for an option which involves a combination of barrier options.

About half of the candidates handled this well with the other half generally not displaying an understanding of barrier options or their valuation.

Part h):

Candidates were required to understand valuation issues related to a derivative payoff dependent on a volume weighted average of the stock price over a three day period.

About half of the candidates answered this well.

Part i):

Candidates were required to explain how to deal with executive share option valuation allowing for executive mortality or disability.

This was well answered by most candidates.

Part j):

Candidates were required to understand American style exercise rights in the context of an executive share option and the use of a utility theory approach for valuation in this context.

This was well answered by most candidates.

Question 2 **Total Marks: 60**

	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	30.0	50.0%	2	8%
Pass	25.0	41.7%	3	13%
Slightly Below Standard	22.0	36.7%	3	13%
Below Standard	19.0	31.6%	4	17%
Weak	10.0	16.7%	11	46%
Showed Little Knowledge	0.8	1.3%	0	0%
Did Not Attempt	0.0	0.0%	1	4%

Maximum Mark	36.4
Average Mark	18.9
Standard Deviation	7.9
Co-efficient of Variation	0.42

Candidates performed poorly on this question, with a pass rate of 21%.

Part a):

Candidates were asked a range of questions on risk measures for capital calculations.

Part a(i) to a(iii) Generally well answered. For a(i), some candidates failed to address the question directly.
Part a(iv) to a(v) Not very well answered. For a(iv), few could address how a merger could reduce risk (the key idea in paragraph 1 of the model answer). For a(v), some candidates failed to answer the question about the problems created by adopting the proposed risk measure.
Part a(vi) Generally reasonable. Some candidates showed little knowledge about how to conduct backtesting for expected shortfall.
Part a(vii) Not very well answered. Candidates struggled with calculating the liability; we thought it was clear in the question that calculations should be in present value terms.

Part b):

Candidates were required to build a financial model for retirement savings in a stochastic stock price return context.

Part b(i) to (iii) Generally reasonable, seems that some candidates simply ran out of time. Many students failed to provide the mean and standard deviation in part b(i)
Part b(iv) Generally poor - few (except the best) got the correlation/ covariance matrix correct, some were clearly incorrect with correlations greater than 1.
Part b(v) to b(viii) Served as a good differentiator for the best students. For part b(viii), part marks are rewarded for partially set up formulas/ indicators of a correct answer.

COURSE 6A GLOBAL RETIREMENT INCOME SYSTEMS Chief Examiner's Report Semester 1 2014

1. Summary

1.1. Course Overview

The aim of the GRIS 6A course is to provide the knowledge, skills and judgement necessary for an actuary to understand the different systems used to provide retirement incomes and recognise the management issues in areas of regulation, governance and risk management. The course is designed to teach actuaries to use the actuarial control cycle to identify issues and develop solutions. The course is not limited to the Australian retirement income field but has cross-border application.

1.2. Assessment

The course assessment consisted of three components:

Forum Participation	10%
Multiple Choice Questions	30%
Long Answer Questions	60%

1.3. Pass Rates

17 candidates enrolled this semester. Of these, 2 did not present at the exam, leaving 15 sitting the exam.

It is proposed that 9 candidates be awarded a pass, which implies a pass rate of 60%. 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%			
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%

This pass rate would be the highest in recent history, if not ever.

The change to the new course structure may have had an impact on this outcome.

2. Assessment

2.1. Overall Performance

The standard of knowledge demonstrated by the borderline candidates reviewed appeared to be superior to previous years and this is reflected in the significantly higher pass rate recommended.

Albeit that there were only 2 long answer questions on which to base this view, it was a particularly pleasing result for the first sitting of this exam format.

To this end the course tutors are to be commended.

2.2. Exam Question by Question Analysis

Question 1	**Total Marks: 48**			
	Marks Required	**% of Total Marks**	**Number of Candidates**	**Proportion of Candidates**
Strong Pass (A)	31	65%		
Pass (B)	21.5	45%	6	40%
Slightly Below Standard (C)	19.4	40%	1	6%
Weak (D)	15.5	32%	7	47%
Showed Little Knowledge (E)	12	25%	1	6%
(F)	1			
Did Not Attempt (X)	0			
Maximum Mark	28			
Average Mark	20.4			
Standard Deviation	4.4			
Coefficient of Variation	0.22			

Candidates performed reasonably well on this question. 6 candidates out of 15 (40%) were awarded a pass. It is noted that the marks were quite bunched overall, so this question would not be considered a good differentiator. Furthermore there were 2 clusters of marks at the B grade and the D grade.

Part (a) asked candidates to define "mortality improvement" and explain the relevance to retirement planning. This bookwork question unsurprisingly was well answered.

Part (b) asked candidates to explain what levels of retirement income could represent an appropriate target. This required simple judgement and was a direct extension of the course readings.

Part (c) asked candidates to explain the impact of the introduction of a policy for a mandatory life annuity. This is a simple question but overall was not answered well. Good candidates (ie those who passed) were able to relate the question back to the earlier questions to provide a complete answer. Other candidates answered the question directly (more or less) but overlooked the peripheral issues such as how this would impact people's mindsets, savings regimes, financial management and retirement expectations.

The consensus of the markers was that part (c) was allocated too many marks given its relative simplicity. This could have allowed for another question part and/or extension to test the better candidates and provide better differentiation across the question. The

markers also commented that where marks are awarded for background (specifically in this case the characteristics of an annuity) this should be explicit in the question.

Question 2	**Total Marks: 48**			
	Marks Required	**% of Total Marks**	**Number of Candidates**	**Proportion of Candidates**
Strong Pass (A)	26	54%	4	27%
Pass (B)	22	46%	2	13%
Slightly Below Standard (C)	18	38%	3	20%
Weak (D)	14	29%	5	33%
Showed Little Knowledge (E)	10	21%	1	6%
(F)	1			
Did Not Attempt (X)	0			
Maximum Mark	30			
Average Mark	20.4			
Standard Deviation	6.4			
Coefficient of Variation	0.31			

Candidates as a whole performed poorly on this question. 4 candidates out of 15 (27%) were awarded a pass by the markers. Although better than Q1, this was not a great differentiator of candidates either.

Part (a) asked candidates to compare types of regulatory framework (prescriptive versus principles-based) and explain the advantages of both. This was a simple extension of the course readings.

Part (b) asked candidates to describe how the frameworks would mitigate and manage investment risk. Again this was a simple extension of the course readings.

Part (c) asked candidates to examine the advantages and disadvantages to the government regulator of introducing an insurance scheme against scheme failure. This part was designed to be the more challenging differentiator, requiring candidates to apply judgement and associate and combine concepts covered separately in the course readings.

The markers did not provide feedback on performance in the question parts.

Based on the examiner review of borderlines, it appeared that candidates whose responses mirrored the format of the model solution were rewarded while those candidates whose responses deviated from this format were penalised. This was most apparent on part (c), which was also the most significant part of the question. This may have reflected a deficiency in the model solution and/or marking guide and/or its application. This issue is covered more extensively in section 1.4.

Having reviewed the cohort of borderline candidates I determined it was appropriate to reduce each of the grade thresholds by 4 marks. This brought Q2 into line with Q1, increased the number of passing candidates from 4 to 6 and improved the grade of several candidates.

COURSE 10 COMMERCIAL ACTUARIAL PRACTICE Examiners' Report Semester 1 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

86 candidates enrolled in the course. Of these, it is proposed that 52 be awarded a pass, representing a very pleasing **pass rate of 60%.** 5 candidates gained an overall pass despite narrowly failing the Exam, but all were carefully reviewed. No-one passed the Exam but failed overall.

Table 1 – Recent Course Experience

Semester	Sat	Passed	Pass Rate %
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 86 candidates were enrolled for the CAP course in Semester 1 of 2014. 1 repeat candidate took the option to attend the GRIS part of the residential course, undoubtedly due to the flexibility to attend selected sessions for a reduced price.

The candidate numbers and results can be summarized as follows:

	Post-Course Assignment only	Case Study Exam only	Both	Total
Originally enrolled	0	1	85	**86**
Withdrawals	0	0	0	**0**
Absent	0	0	0	**0**
Presented	0	1	85	**86**
Passed	0	0	52	**52**
Failed	0	1	33	**34**

The analysis by number of attempts is as follows:

Table 2 – Number of CAP Attempts

Attempt	Candidates	Passed	Pass Rate
1	58	39	67%
2	14	5	36%
3	8	6	75%
4	1	0	-
5	1	0	-
6	1	1	100%
7	1	1	100%
8	2	0	-
All	**86**	**52**	**60%**
2-8	28	13	46%

No surprises here, but a disappointingly-low pass rate at second attempts. Of the 2 failing for the 8th time, 1 was a poor GI effort from the candidate who did not have to do the Assignment. The other was the top Life fail, who we looked at carefully before deciding it had to fail because they would do their employer a disservice. This person seems to be technically competent but not business savvy. We recommend specific counselling be delivered to both these candidates regarding their future attempts at CAP.

The analysis by Topic is as follows:

Table 3 – Analysis by Topic (For CAP only)

Topic	Candidates	Passed	Pass Rate
ERM	13	10	77%
General Insurance	26	15	58%
GRIS	8	5	63%
Investment	12	8	67%
Life Insurance	27	14	52%
All	**86**	**52**	**60%**

The ERM pass rate was boosted by 3 borderline candidates who passed overall due to good Assignment marks. The low Life pass rate is disappointing, but a good improvement on recent semesters.

The analysis by examination centre is as follows:

Table 4 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	57	39	67%
Melbourne	11	5	36%
Perth	1	0	0%
Subtotal Australia	**69**	**44**	**64%**
China	1	1	100%
Hong Kong	1	0	0%
New Zealand	3	1	33%
Singapore	7	4	57%
United Kingdom	4	1	25%
Japan	1	1	100%
Subtotal International	**17**	**8**	**47%**
Total	86	52	60%

As has often been observed, the Australian pass rate is slightly higher than the overseas rate. 9 candidates sat at "temporary exam centres", normally being a single person supervised in their workplace. 5 of these 9 passed, in line with the overall average.

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 "contextualizing" 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% scaled 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

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

3. Post Course Assignment results

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

Final scaled marks ranged from 40% to 80%. 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.

76 of the 85, or 89% of candidates were awarded a "pass" mark of 50% or more, with 2, 3 and 4 failures in the 3 topics. The scaled average of 62% was similar to recent semesters.

3.1 Banking

The Banking case study required candidates to provide certification of the assumptions underlying a loan syndication, under pressure from the Marketing Manager. Most candidates did a sound job of developing and justifying assumptions. Although only a minority specifically rejected the Marketing Manager's comments, very few actually buckled under the pressure being applied.

Although only 3 candidates failed to reach the pass standard, progress beyond that was disappointing, indicating banking was the most difficult of the 3 topics to score well in. Consequently raw scores of 60+ were scaled upwards by 5%, and 64+ were scaled up by 10%.

3.2 Environment

The Environment case study required candidates to advise an industry super fund on the risks of investing in, or divesting from, companies dominated by fossil fuels.

The question was well answered, with half the candidates being awarded raw scores of 70% or more. Consequently, the main scaling adjustment was to reduce all marks over 60 by 13%.

3.3 Health

The Health case study required candidates to advise the Indian government on a coherent strategy for reducing blindness, in particular through forecasting the possible numbers of cataract eye surgeries. While the modelling was done reasonably well, few candidates made allowances for the conflicting and poor quality data

This question produced a wide range of answer quality, with a good spread of marks, and consequently was used as the base pattern toward which the other topics' scaling was aimed. Only minor adjustments were made to the raw Health marks.