

Course C10 Commercial Actuarial Practice

Course Outline

This outline, together with the accompanying documents Course Program and CAP Syllabus, provides the essential information about the Commercial Actuarial Practice course.

Course Description

Module 4, 'Commercial Actuarial Practice', was introduced as a new component in the Institute's Part III actuarial education program from Semester 2 of 2005. This module is compulsory for all new Part III students from 2005.

The overall objectives of Commercial Actuarial Practice are to provide students with the skills and knowledge to be able to:

- ▶ apply actuarial skills across a range of traditional practice areas and in unfamiliar (i.e. non-traditional) areas by contextualising actuarial solutions or approaches in the wider commercial environment of the business as a whole
- ▶ apply ethical concepts, corporate governance requirements and actuarial professional standards when contextualising actuarial solutions or approaches.
- ▶ successfully communicate the actuarial solutions or approaches to a range of audiences.

Commercial Actuarial Practice consists of:

- ▶ a four day residential course that includes pre-course work.
- ▶ two assessment pieces: a post-course assignment report prepared in the 14 days following the completion of the residential course, and the case study exam to be completed in the usual exam session

The nature of Module 4 requires a different approach to teaching from that currently in place for other Part III subjects. The learning objectives and the emphasis on judgement in commercial situations warrant a learning environment where discussion can take place, rather than reliance on self-study methods alone. The Module will therefore comprise written material but will also include a four day residential course that allows students to examine case studies in detail.

This approach will allow students to use judgement in applying the knowledge and skills they have gained in the first three modules to simulated commercial problems. Case studies in both traditional and non-traditional practice areas will be covered during the course. Students will be provided with reading material in advance of the course.

The traditional practice areas to be covered are:

- ▶ General Insurance
- ▶ Life Insurance, including funds management
- ▶ Global Retirement Systems
- ▶ Investment and Finance
- ▶ Enterprise Risk Management.

The non-traditional applications are:

- ▶ Banking
- ▶ Health Financing
- ▶ Environment, Social and Governance (ESG)
- ▶ Data Analytics

Contextualisation

One of the key words in the course description and the syllabus is "contextualisation". While this concept will be covered extensively during the course this section provides a short overview of the essential content of the word as used in the CAP course.

All the work we do as actuaries takes place in a particular context. The usual description of the elements of the typical actuarial context includes financial, long term, stochastic issues set in material uncertainty. This description is sufficient for us to produce a proper technical answer to the question we are dealing with.

However, the production of a proper technical answer is the starting point of giving high quality actuarial advice not the finish. The technical answer is a necessary but not a sufficient condition for such advice.

The work we do after producing the technical answer is to make that answer relevant to the business issue to which our advice is directed.

All business decisions are about optimising between competing issues in the context of uncertainty. The executives making decisions, where actuarial advice is an important input, want to know the implications of the potential decisions on the future business results. They know that there is no, single, correct answer and they want advice from their actuaries as to the spectrum in which an acceptable answer might lie and the risks involved if the uncertainties involved produce an actual outcome which is far from the mean of the range of expected outcomes.

Always our work should be focussed on answering the business question not the actuarial question. Note that this does not mean that we should align our assumptions and modelling to produce the answer which the client wants. It does mean avoiding the, sometimes typical, actuarial arrogance which asserts that we know the answer!

Learning Objectives

The overall learning objectives of Commercial Actuarial Practice are to provide students with the skills and knowledge to be able to apply actuarial skills across a range of traditional practice areas and in unfamiliar (i.e. non-traditional) areas by contextualising actuarial solutions in the wider commercial environment of the business as a whole, and applying the actuarial control cycle. And, in particular to

Understand the overall aspects of the business which impact on the formulation of actuarial methodology and be able to incorporate those aspects into the approach and/or solutions. Specific aspects of the business include:

- ▶ Availability and optimum use of capital
- ▶ Medium term (3 to 5 years) financial projections
- ▶ Asset / liability matching management
- ▶ Impact of strategic objectives on shorter term decisions
- ▶ Profit optimisation of price / volume / capital
- ▶ Holistic risk management
- ▶ Measure and communicate the risks attending alternative solutions
- ▶ Recognise the cost of additional levels of detail in actuarial solutions and their relative value.
- ▶ Apply sound investment practice to asset / liability matching

Communicate, in written form, the actuarial solutions to a range of audiences:

- ▶ simplify complex ideas
- ▶ pitch ideas at the audience
- ▶ focus on the key facts, issues and risks rather than explain all the details.

Apply general ethical concepts, corporate governance requirements and actuarial professional standards when contextualising actuarial solutions.

Assumed Knowledge

In traditional practice areas, it is assumed that students have a level of understanding and competence in their chosen traditional practice area which is at the level required for a pass in Module 1 or both Modules 2 and 3 in that practice area, as appropriate.

The understanding and competence required for each non-traditional practice area is at the general level but with sufficient clarity to contextualise the actuarial solutions at a high level, rather than at the detailed level required of traditional practice areas. That is, it is not expected that students would be able to pass equivalent Modules 2 or 3 in the non-traditional practice areas, were they to be offered.

Students are assumed to be competent in the use of Microsoft Excel, Word and PowerPoint. The MGSM computing facilities use the 2010 versions of all Microsoft software. The Sydney and Melbourne Case Study Exam venue use the 2007 versions of all Microsoft software.

While there are no specified pre-requisites, it is the Institute's strong recommendation that students pay particular attention to the assumed knowledge detailed above.

The Case Study Learning Environment

As noted in the Course Description, the nature of this course requires a different learning environment to the other Part III modules.

The course is based on a set of nine case studies, one in each of the five traditional practice areas and one in each of four the non-traditional areas. Students will attend a total of seven sessions during the residential course.

Students must choose to attend:

- ▶ **one** of these 3 – General Insurance, Life Insurance or Global Retirement Incomes Systems (GRIS),
- ▶ **one** of these 2 – Enterprise Risk Management (ERM) or Investment,
- ▶ **two** of these 3 – Banking, Data Analytics or Health Financing.

If a student chooses the traditional case Life Insurance, they will need to choose Investment as their second syndicate as material in the sessions complement and support each other.

Each case study covers several of the items in the detailed syllabus. All items in that syllabus are covered at least once. The case study style of instruction works effectively when each student contributes to the learning of their fellow students, and receives in turn. The purpose of the course staff is to guide the syndicate work and the plenary discussion sessions. They will ensure that the relevant issues are brought out and considered. Despite the inevitable false paths followed by syndicates the course staff will guide the discussions so that the right paths become clear to all when the case study has been concluded.

The program for each case study will vary for each case and will be indicated by the presenter at the start of the session.

The plenary discussion of the solution to each case study will be substantially oral with appropriate visual aids at the discretion of each syndicate and according to the presenter's instructions. In some cases syndicates may be asked to prepare specific parts of a written report e.g. the executive summary.

Each case will include significant feedback from the presenter as to the key issues which should have been brought out.

Residential Course

The course is a 4 day program that will commence on Tuesday, 22 August 2017 and conclude on Friday, 25 August 2017 it will be conducted at the Macquarie Graduate School of Management, 99 Talavera Rd North Ryde, Sydney. The nature of the program is such that residence is very strongly recommended. Accommodation can be booked directly with Travelodge Macquarie North Ryde 81 Talavera Rd North Ryde, Sydney please call reservations on 02 8874 5200 for best available rate.

Students are required to bring a laptop or tablet to the Residential Course, so they can access the course materials that will be made available online through the student Learning Management System (LMS) prior to the course.

Residential Course Program

The residential course program will be made available to students a week before the course via the LMS.

Pre-course Work

In the period between receipt of the materials and the commencement of the residential course students are expected to complete the following:

- ▶ listen to, the orientation session videos
- ▶ read the background notes and at least the core readings relevant to each case in the non-traditional areas and Enterprise Risk Management
- ▶ read the Professional Behaviour & Corporate Governance notes
- ▶ read the communications material described in Section 11
- ▶ decide which choices they will make for the various concurrent sessions
- ▶ Prepare an answer for the four case studies you intend to choose for the concurrent sessions plus ESG. This does not mean that you prepare a full report for each case, but you should do the following:
 - digest the material
 - complete all the quantitative analyses required for the solution
 - commence the preparation of an answer by considering the major issues raised in the case and assemble the key elements of their answer

Each student is required to prepare written notes (two pages is the minimum expected and five pages the maximum) on the four cases you intend attend plus ESG.

As part of this preparation ALL the quantitative analysis needed for a solution to the case must be completed prior to the course. The notes should contain the results of the quantitative analyses performed, but not the detail. The main purpose of the notes is to ensure you are well-prepared for the case study discussions at the course. Please ensure you bring a copy of these preparation notes as they will be submitted during registration at the start of Day 1 of the Residential Course.

Students should bring any other analysis or reference material to the course that may be helpful for discussion in the syndicates to agree group solutions and develop presentations.

The orientation videos will be available online in the LMS late July (a date will be posted in the LMS once confirmed). The videos will give students an overview of the CAP course at the beginning of the semester before they get too far in their pre-course work. Questions arising from the videos can be posted on the forum and they will then be answered,

Students will all have different approaches to their preparation for this residential course. It may be expedient to tackle as the first case the area in which you are specializing. The material should be more familiar and hence the case should be easier to grasp and prepare.

It is suggested that you start by identifying the key issues that are raised by the case. By “key issues,” we mean the main questions that you will need to answer in order to properly address the task. Any preliminary questions given in each case are a starting point. Once you have identified these key issues, you should start developing the main points you would want to make in your answer. This should include all quantitative analyses required. Each case is different in regard to the amount of analysis which is likely to be necessary.

Your notes on each case should typically start with your list of the key issues, and then list just the key points you would make in your answer to each. Keep in mind that the cases typically place you in a business environment, where you need to consider the practical business questions from the point-of-view of the different people involved, as well as the quantitative answers. A compliance-type approach, particularly in the traditional cases, is unlikely to produce an acceptable response.

A time commitment of at least ten hours per case study is likely to be adequate as pre-course preparation. Cases with significant quantitative material will take longer while those without will take less. The time required for reading will depend very much on the extent of each student’s existing understanding of the areas and no definitive guide can be provided. Remember that the case studies are designed to provide a learning opportunity for the contextualizing of actuarial advice, not to turn students into experts in each area covered.

Assessment

There is one assessment for Commercial Actuarial Practice which has two pieces

- ▶ the Post-Course Assignment Report, worth 20%, and
- ▶ the Case Study Exam, worth 80%.

Post-Course Assignment Report

A full written report on a non-traditional case study is required. The report has a word limit of 4,000 words and material penalties will apply for any report which is in excess of 4,400 words. The word limit includes everything in the report, i.e. tables and appendices are counted.

The case study which is the subject of the report will be one of the defined non-traditional areas. The particular case on which a student will complete their report will be assigned at random from the non-traditional areas which you choose to participate in during the course. Each of the areas will be assigned equally to the students. It should be noted that students will have no choice in which case they are assigned. The case will be available at the end of day 4 of the course. The report is to be submitted no later than 5 pm (Sydney time) Thursday, 7 September 2017.

The mark and specific feedback will be provided to each student on Friday, 22 September 2017.

Case Study Exam

The case study is a single question delivered in "case study" format. The style of the case will be similar to that used in the case studies considered during the first four days of the course. The answer is to be a substantial piece of written communication which will be assessed in respect of both its content and the quality of its written communication.

As a guide to the extent of the answer expected, a report of around 10 pages of text, single spaced, excluding graphs, tables, etc., plus a one page executive summary would generally be quite adequate. There is no explicit limit.

The student will have up to 8 hours to absorb the question material, perform all the necessary analyses and prepare the written communication of the answer. The "case study" question will be ONE selected by the student from the five defined traditional practice areas.

Any written material will be allowed, PCs equipped with Excel and Word will be provided but no outside communication will be allowed. The required report, as the answer, is to be produced as a Word document. Note that only material which is included in the Word document will be marked. The process for that electronic submission will be given on the day of the Case Study.

Adequate printers will be provided for students to review their work at two designated times. The Case Study will commence at 9:00 am and the student has until no later than 5:00 pm to submit their answer. Appropriate supplies of food and drink will be available during the day of the exam at the Sydney and Melbourne venues.

The Case Study will take place during the usual Institute exam sessions at the end of the semester. The Sydney and Melbourne Case Study Exam venue use the 2010 versions of all Microsoft software.

Course Materials and Readings

The materials supplied for the course are, this Course Outline,

- ▶ the nine case studies, including various attachments and spreadsheets containing supplementary information and data,
- ▶ background notes on each of the four non-traditional areas and on Enterprise Risk Management, and
- ▶ background notes on Professional Behaviour and Corporate Governance

There is no textbook for this course and students must resist the temptation to substitute any of the books or other readings for a textbook. The background notes each contain suggestions about further reading. Some identify readings as "core", others do not. Students need to make their own judgment as to the extent to which these readings are relevant to their understanding of the issues. The whole of Commercial Actuarial Practice is centered on the application of judgment and this applies as much to the selection of reading as to straight actuarial judgment. None of the readings should be approached as though they were the course textbook. In many cases the readings can be skimmed, particularly if the material is already familiar.

One of the required competencies of any professional is the ability to discriminate when choosing sources of information. Students, about to become actuaries, are expected to be able to exercise some discrimination when deciding how much detail in a source is relevant to the particular issue.

In preparing for the case studies the readings selected should be those which are directly relevant to the particular scenario.

Any of the cases or the assessment pieces may include issues relating to professional behaviour and corporate governance. Hence, some reading material has been provided covering those areas. It should be specifically noted that in assessment piece two (the "case study exam") it is assumed that students fully understand any professional standards which apply to their chosen traditional area. Students should bring the relevant standards with them for both the course and the assessment piece.

There are no notes provided in respect to the traditional areas, other than Enterprise Risk Management, as students are assumed to have sufficient background understanding of each of these to enable them to properly consider the cases in those areas.

Actuarial Communications

The issue of actuarial communications will be covered in the orientation session and in two sessions during the course. This will give students the opportunity to include that material in their various presentations and other communications in the discussion of each case.

There is a very wide range of potential material available in the area of written communication. It ranges from style manuals to advice on writing fiction or doctoral theses.

Two papers written specifically for actuaries are "The Eighth habit of highly effective actuaries", Brown A. (2005), Institute of Actuaries of Australia Convention 2005 (available in Appendix) and "Communicating Effectively with Words, Numbers & Pictures", Duklan, K. & Martin, M. (2002)

ecocomm.anu.edu.au/research/papers/papers.asp?disc=ACSTI

The book "The pyramid principle: logic in writing and thinking" by Barbara Minto is the source of the material contained in the sessions on Actuarial Communication. The first half of this book is most relevant and is core reading. If students have any difficulty locating this book in Australia, then it is available through Amazon.com and students should allow adequate time for delivery.

Another source is to view good actuarial reports which have not been written for compliance purposes i.e. reports written in response to legislative requirements are likely to be heavily oriented to those requirements rather than more general communication principles. For most students, some examples of these are likely to be available at work. They are recommended for study.