

CAS Exam Committee Presents:

CAS EXAMINATION PROCESS 2011 TRANSITION

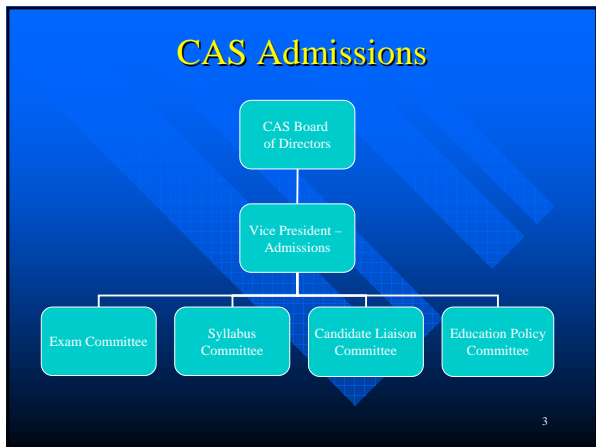
Daniel Roth
Rajesh Sahasrabudde
Geoff Werner
William Wilder

2010 CAS Annual Meeting
Washington, DC

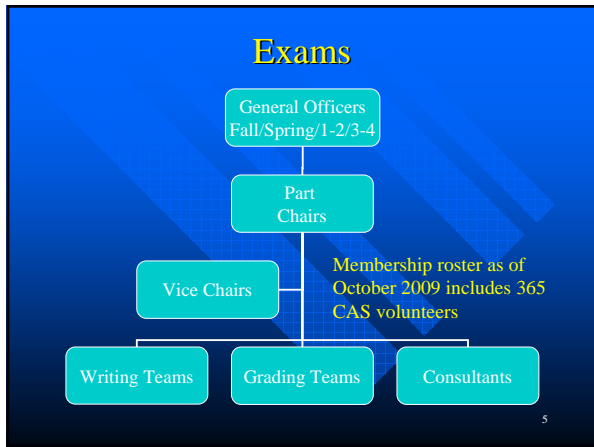
Agenda

- CAS Admissions Overview
- 2011 Syllabus
- 2011 Exams
- Looking to the Future: 2013-2015

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- ## General Responsibilities
- CAS Board of Directors
Provides guidance, Direction, Policy
 - VP – Admissions
Budget management, Short- and long-term goals, Pass mark approval
 - Exam Committee Chair
Committee operations, Communications, Final arbiter on appeals
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General Responsibilities

- **General Officer**
Senior member responsible for group of exams or committee process
- **Part Chair**
Senior member responsible for construction and grading of one exam part
- **Vice Chair**
Senior member responsible for assisting the Part Chair, generally manages grading program

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General Responsibilities

- **Consultant**
Seasoned member responsible for final review of exam draft
- **Writer**
Member responsible for constructing individual questions
- **Grader**
Member responsible for scoring individual test papers

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Syllabus Committee Mission and Organization

- **Mission**
 - The Syllabus Committee determines the **scope and content of the syllabus** (learning objectives and knowledge statements) and **course of readings** for the CAS Examinations.
 - The committee also **directs the preparation of educational material** for the CAS *Syllabus of Basic Education*.
- **Syllabus Committee**
 - Chairperson - Serves three one-year terms
 - Vice Chairperson - Traditionally appointed in the final year of Chairperson's term and succeeds Chairperson the following term.
 - Senior Part Specialist - responsible for development and execution of the *Review Plan* for a specific exam
 - Part Specialists - assist the Senior Part Specialist
- **Syllabus Committee Collaborators**
 - Vice President - Admissions (Liaison): *Conduit to/from Leadership*
 - Executive Council, *delegated authority by Board of Directors*
 - Examination Committee (Liaison)
 - CAS Staff Liaison
 - Candidate Liaison Committee
 - Editorial Committee
 - Preliminary Education Committee
 - **Education Policy**

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Syllabus Committee Review and Production Cycle

- Typical Review Cycle
 - Late October 2010 – Early December 2010: Meeting to discuss *Review Plans* submitted by Senior Part Specialists; Voting on Fall 2011 Exams Changes
 - Spring 2011 – Updates on *Review Plans*; Approval of items available for voting
 - June 2011 – Voting meeting to finalize 2012 Syllabus -> Sent to EC for Approval
 - July 2011 – September 2011 – *CAS Syllabus of Basic Education* is “finalized”
 - October 2011 – *CAS Syllabus of Basic Education* provided to Web Department
 - November 2011 – *CAS Syllabus of Basic Education* posted to CAS website
 - December 2011 – Notification of changes for Fall 2012 Exams
- Review Cycle is intended to provide continual review and improvement with respect to scope and content of the syllabus and course of readings
 - Edition updates
 - New papers (Domestic and International)
 - New research (e.g. ERM, GLM)
 - Current Events (e.g. IFRS)

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Syllabus Committee Recent Significant Developments and Considerations

- 2011 Syllabus Overhaul

<p><i>Old</i> Five 4-hour exams</p>	<p><i>New</i> Three (was two) 4-hour exams Two (was three) 3-hour exams Two Internet modules (tested at familiarity level)</p>
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 - Addition of Advanced Reserving Material
 - Eliminate Financial Economics Overlap
 - Consistent with the natural linkage of basic ratemaking and basic reserving (New Exam 5)
 - Coordination with CERA Goals (resulted in changes to the length of Exam 7)
 - Computer-Based testing
 - Commissioned Study Materials
 - “Basic Ratemaking” (*Werner, Modlin*)
 - “Estimating Unpaid Claims Using Basic Techniques” (*Friedland*)
 - Multiples texts
 - Other initiatives considered:
 - Capstone Seminar
 - Pre-Fellowship tracks

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2010 – 2011 Transition

4 Hours	Exam 5	Introduction to Property and Casualty Insurance and Ratemaking	→	Risk Management and Insurance Operations Basic Ratemaking Basic Reserving	Module 1	
			→	Exam 5	4 Hours	
4 Hours	Exam 6	Reserving, Insurance Accounting Principles, Reinsurance, and Enterprise Risk Management	→	Advanced Techniques in Unpaid Claim Estimation, Insurance Company Valuation, and Enterprise Risk Management	Exam 7	4 Hours
4 Hours	Exam 7	Nation-Specific Examination	→	Insurance Accounting, Coverage Analysis, Insurance Law, and Insurance Regulation	Module 2	
			→	Nation-Specific Exam: Regulation and Financial Reporting	Exam 6	4 Hours
4 Hours	Exam 8	Investments and Financial Analysis	→	Financial Risk and Rate of Return	Exam 9	3 Hours
4 Hours	Exam 9	Advanced Ratemaking, Rate of Return, and Individual Risk Rating Plans	→	Advanced Ratemaking	Exam 8	3 Hours

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CAS Exam Committee Overview

1. Item writing
2. Exam creation
3. Review of exam
4. Pass Mark Panel
5. Grading
6. Appeals
7. Changes & Recent Trends

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CAS Exam Committee Item Writing

1. New writers participate in one-day training.
2. Part chair develops writing assignments based on learning objectives.
3. Writers construct first drafts of items, model solutions and grading rubrics.
4. Peers and/or part chair and/or vice chair review items, model solutions and grading rubrics for clarity, point value, completion time and syllabus area.
5. Writers construct second drafts of items.

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CAS Exam Committee Exam Creation

1. Team includes part chair, vice chair, and a few senior members.
2. Team selects items targeting a mix of learning objectives, difficulty levels and item formats.
3. Team fills in gaps with new or recycled items.
4. Team adjusts phrasing to conform to stylistic conventions and minimize ambiguity.
5. Team fine tunes solutions and rubrics as needed.
6. Chair assembles draft of full exam and forwards to consultant(s).

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CAS Exam Committee Review of Full Exam

1. First Round:
 - a. Includes G.O. for sitting, part chair, vice chair and consultant.
 - b. Consultant answers every item validates point assignment, time, rubric, etc.
 - c. Further fine-tuning of phrasing and focus on cross-exam consistency.
2. Second Round:
 - a. Includes a different consultant and the exam committee chair.
 - b. A proof reader focuses on grammar and punctuation.
 - c. New consultant selected to complement first where possible and also answers every item.
3. The part chair assembles the final draft and sends to CAS office for publishing proofs.

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CAS Exam Committee Pass Mark Panel

1. Panel composed of part chair, vice chair GOs for the sitting and for grading, and 4 or 5 experienced committee members.
2. Panel updates the “Minimally Qualified Candidate” document.
3. Reviews each question and assigns it an expected score based on MQC profile
4. Result of this process is an *a priori* pass mark for the exam and is one of the key inputs leading to the final recommendation.

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CAS Exam Committee Grading

1. Each item is assigned to two graders who must reconcile all candidates’ grades to within a tight tolerance.
2. Graders provide *ex post* estimate of MQC score for their item.
3. Preliminary pass mark is chosen based on panel’s *a priori* and grader’s *ex post* estimates.
4. Candidates close to preliminary pass mark are regraded entirely and reconciled fully down to justification.
5. Final recommended pass mark selection may shift slightly based on traditional statistics.
6. Part chair recommends pass mark to VP of admissions who has final decision making authority.

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CAS Exam Committee Appeals

1. A valid appeal must generally propose that a new acceptable solution exists; one that was not given full credit during the grading session.
2. Valid appeals are forwarded to the part chair for review.
3. The part chair consults with the respective grading pair to determine the recommended response.
4. Formal responses are communicated by the full exam committee chair through the CAS office.
5. A successful appeal may result in a re-grade of all candidates if a new solution is determined to be acceptable; this, in turn, can result in additional passing candidates.

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CAS Exam Committee Changes & Recent Trends

- Expanding communication to candidates:
 - Provide history of pass marks, not just pass rates.
 - *Future Fellows* articles, e.g. “The Importance of Adverbs on Exams”, December 2009.
 - Exam committee chair participation in Actuarial Outpost discussions.
 - Posted actual candidate papers (1 pass / 1 fail) from 2008 Exams 6 & 9.
- 2011 changes have some affect on committee staff and procedures:
 - Learning objectives moving across exams or sittings (or to modules); will impact staffing and succession planning.
 - Exam lengths changing; will impact processes and staffing.
 - CERA Designation: Assure new Exam 7 meets requirements.

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CAS Exam Committee Enlist Today!

- More volunteers are needed every year.
- May contribute to CE requirements¹.
- Great way to network and to meet other actuaries.
- Las Vegas!
- Sign up via participation survey or contact CAS.

¹Applicability of material to Continuing Education category and common sense guidelines apply to the recording of credits. See AAA publication for additional information.

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Future

- Examination committee seeks to ensure actuaries are appropriately qualified
- Examination process has been improved significantly over the years
- Constantly seeking input to improve process
 - Students/New committee members
 - Other entities
- Any proposals considered and implemented very carefully



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Timing of Exams

- Upper-level exams are only once per year
- Positive feedback associated with more frequent offering of lower level exams
- Investigating possibility of offering upper-level exams more frequently



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Computer-based Testing (CBT)

- Exam 1 introduced via CBT in 2005
 - Positive feedback from students
 - Efficient process
- In 2011, all joint exams offered via CBT
- CBT Task-force for upper level exams

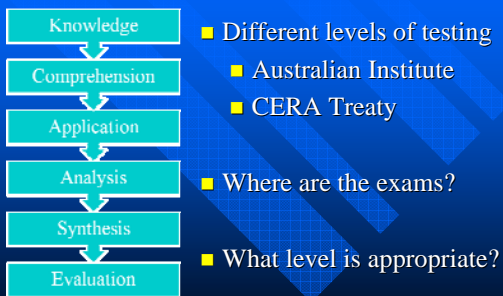


Writing/grading Roles

- Constantly seeking best practices for writing questions
- Currently, item-writers required to grade too
- Considering allowing individuals to focus on writing only
 - Skills sets for grading and writing are different
 - Volunteer requirements are different

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Testing Levels



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Questions?

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