



## Board Approves Recommendations of the Task Force on Associate Rights

**A**t its September 13-14, 2010 meeting, the Board received the report of the Task Force on Associate Rights. The Task Force was established in response to issues identified through the 2008 Quinquennial Membership Survey and charged with evaluating how best to ensure fair representation of Associates within the CAS, with consideration to voting rights and opportunities for involvement.

Two of the recommendations made by the Task Force and approved by the Board will require changes to the CAS Constitution and Bylaws. In order to be adopted, these proposed changes require an affirmative vote of 10% of the Fellows or two-thirds of the Fellows voting, whichever is greater.

Specifically, the Board charged the Executive

Council with preparing proposed changes to the CAS Constitution and Bylaws that would:

- Give Associates the right to vote either upon attainment of Fellowship or five years after they are recognized as Associates, whichever occurs first.
- Allow all voting members to be eligible to be elected members of the Board.

In addition, the Board took action on recommendations related to membership on committees and the right to hold officer positions. In particular:

- The Board approved the motion to expand the Nominating Committee from seven to nine members, allowing either Associates or Fellows to fill the

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### DATES TO REMEMBER

#### EXAM REGISTRATION DEADLINES

Exam 1/P (January window)  
**December 21, 2010**

Exam 2/FM (February window)  
**December 29, 2010**

Exam 4/C (February window)  
**January 6, 2011**

Exam 1/P (March window)  
**February 3, 2011**

Exams 3L, 5, 7, and 9  
**March 24, 2011**

Exam 3F/MFE  
**March 31, 2011**

#### REFUND DEADLINES

Exams 3L, 5, 7, 9  
**May 2, 2011**

### CAS SEMINARS AND MEETINGS

ERM SYMPOSIUM  
March 14-16, 2011  
Swissotel Chicago  
Chicago, Illinois

RATEMAKING & PRODUCT  
MANAGEMENT SEMINAR  
March 20-22, 2011  
Marriott New Orleans  
New Orleans, Louisiana

CAS SPRING MEETING  
May 15-18, 2011  
The Breakers  
Palm Beach, Florida

### From the Examination Committee

## Details Released on Half Exams for Exam 5

**A**s announced in the transition rules for the 2011 education structure, in addition to the full version of new Exam 5, this exam will be offered as half exams on Section A (Basic Techniques for Ratemaking) and Section B (Estimating Claim Liabilities) during a two-year transition period. The half exams are only available for candidates who have credit for either Exam 5 or 6 in the 2010 education structure.

Each half exam for Exam 5 will be two hours

in length. They will have the same questions that the full version will have for the specific section but will be packaged separately so that the candidate will only be given the questions for the specified half exam.

During the transition period, the weight of Exam 5 Sections A and B will be close to 50-50.

The half exams will begin at the same time as the full exams. It is anticipated that, in most test sites, the half exams will be administered in a separate room. **f**

# Research and Publication in the Actuarial World: An Interview with Glenn Meyers

By Dan Tevet, ACAS, Candidate Liaison Committee

**W**hen it comes to research and publication in the property and casualty actuarial world, Dr. Glenn Meyers, FCAS, is undoubtedly one of the biggest names. Throughout his 30+ years in the actuarial profession, Dr. Meyers has published over 30 papers on a diverse array of topics, several of which have received awards.

In the interview below, Dr. Meyers shares his experiences with actuarial research and publication.

**FF: What was the subject of your doctorate, and what made you decide to become an actuary after obtaining it?**

**Meyers:** I did my research in the area of functional analysis. My thesis was about summability theory, which is the study of topological properties of sequence spaces generated by infinite matrices. I became an actuary because the academic market was flooded with new Ph.D.s, and I could not get what I considered to be an acceptable academic job.

**FF: When you entered the actuarial world, was your primary interest research and publication, or did that interest develop over time?**

**Meyers:** As a recent Ph.D., the desire to do research and publish was there initially but it got suppressed for a while by my work environment and the desire to pass the actuarial exams. It later reignited when I changed companies and the projects I worked on suggested good research topics. I started writing papers and presented my first paper to the CAS at the same meeting at which I became an ACAS.

**FF: What were the main challenges/obstacles you encountered when you went about writing your first paper, “An Analysis of Retrospective Rating,” and what did you learn from that experience?**

**Meyers:** The paper came directly from a work project, motivated largely from talking with underwriters. In writing that paper, I learned the value of talking to others about the subject before writing. After I talked with several people about the project, writing the paper was fairly easy.

That paper was very popular for a while. It made the exam syllabus and, in fact, I had to answer a question about it on my final Fellowship exam. I found that publishing my first paper led to a domino effect of successive research activities that continues to this day.

Over the years I have found that writing papers and giving presentations forces me to think thoroughly and clearly about my topic. It is like the statement that I often hear: you

learn a subject very well when you teach it.

**FF: You have written papers on a wide spectrum of topics. In general, how do you choose what topic to study at any given time? For example, what made you decide to write on stochastic reserving last year and on Solvency II this year?**

**Meyers:** For the most part, my papers are motivated by the research projects that I have worked on. Let me start mid-stream to address your specific example. I had written a series of papers on what we now call enterprise risk management. This led to my being recruited for a working party sponsored by the International Actuarial Association (IAA). The charge of this working party was to produce a document on risk-based capital for the International Association of Insurance Supervisors, which had direct ties to Solvency II. The working party soon became an official subcommittee of the IAA, and I served on the IAA Solvency Subcommittee until last year.

One of the difficulties with risk-based capital is the empirical analyses involved in quantifying the risk. Tying Solvency II with the furor generated by the Standard and Poor's statement that “Actuaries are signing off on reserves that turn out to be wildly inaccurate,” I took on the task of applying stochastic reserving to quantifying reserve risk in Solvency II.

**FF: What statistical tools and/or software packages do you find most useful for your analyses?**

**Meyers:** Excel, SAS, and R.

**FF: Are there any particular books or papers that you would identify as critical reading for an actuary interested in contributing to the actuarial literature?**

**Meyers:** This changes over time. My current favorites are: (1) *Loss Models* by S. Klugman, H. Panjer, and G. Willmot; (2) *Regression Modeling with Applications to Actuarial Science and Financial Applications* by E.W. Frees; (3) *Stochastic Claims Reserving Methods in Insurance* by M. Wüthrich and M. Mertzt; and (4) *Introduction to Applied Bayesian Statistics and Estimation for Social Scientists* by S. Lynch.



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# Board Approves Recommendations

from page 1


positions currently filled by at-large Fellows. At least one of the six at-large members must be an Associate. This change is effective immediately.

- The Board approved the recommendation of the Executive Council that only Fellows and the Executive Director may be officers of the CAS, thereby expressing that Associates should not be eligible to serve on the Executive Council.

In making its recommendations, the Task Force on Associate Rights and the Executive Council considered a number of issues that guided their decision that the rights of Associates should be expanded. These include:

- Current and historical sizes of the Associate population, including the number of Associates who have stopped taking exams and are not expected to achieve Fellowship (i.e., Career Associates);
- History of significant contributions by Associates to the CAS and the actuarial profession;

- Lack of representation within the CAS for Associates, while they pay full dues; and
- Need to assure that participation in CAS governance does not jeopardize the highest professional standards in the eyes of the external public.

The changes requiring revisions to the CAS Constitution and Bylaws were presented to the Fellows for approval in 2006, however, the changes were not approved as they failed to achieve the required majority. The Task Force on Associates Rights believes that this vote was clouded at the time by concerns by the membership over the possible elimination of the ACAS designation, which was being contemplated by the Board as it considered moving to one class of membership. The CAS Board has since confirmed its commitment to the ACAS designation. Given the time since the last vote and the elimination of the uncertainty about the continued existence of the ACAS designation, the Task Force recommended, and the Board of Directors agreed, that it is appropriate for the CAS to revisit this issue. 

## Research and Publication in the Actuarial World

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**FF: Over the years, how much of an overlap has there been between the work that you do and the papers that you write?**

**Meyers:** I like to think that most of my papers are motivated by work-related problems either at ISO or through participation on professional committees. There is a lot of work that I do that does not make it into a paper. The main reasons for this are: (1) protection of intellectual property; (2) being a small part of a large project; and (3) time.

**FF: Throughout your career, what, if any, changes have you observed in the type of papers being published in actuarial journals (like *Variance* and the *Proceedings*)? For example, has the level of mathematical rigor increased or decreased over time?**


**Meyers:** Many of the actuarial papers I read early in my career were very provincial, in the sense that they did not draw on authors and material from outside the Casualty Actuarial Society. Quite often they were seasoned with quotes from famous philosophers. None of this was necessarily bad. There were many very good papers written

in this tradition. Today, the newer actuarial journals, such as *Variance*, are more rigorous, inclusive, and outward-looking. I consider this a change for the better.

**FF: Is there any particular subject that you would identify as the hot topic of research right now?**

**Meyers:** Predictive modeling in insurance pricing and building insurer internal models for solvency assessment are today's hot topics. The hot methodologies include the analysis of large data sets and Bayesian statistics using Markov Chain Monte Carlo (MCMC) methods.

**FF: What, in your opinion, are the biggest challenges currently facing the casualty actuarial profession?**

**Meyers:** I will target my response to future fellows. One of my favorite quotes by an actuary came from the late LeRoy Simon. "It is easier to become an actuary than it is to be an actuary." Continuing education, post-Fellowship, is your biggest challenge. The material I learned while studying for my exams nearly 30 years ago is almost as irrelevant to my work today as is my Ph.D. thesis. 

# The Evolution of CAS Examination Questions

With the implementation of the new CAS basic education system for 2011, the CAS is now focusing on continued refinements to various aspects within the new system. As described during the recent 2010 CAS Annual Meeting session, “CAS Examination Process,” the Admissions Committees are continually looking at the future of CAS examinations and ways to improve the testing process. Areas that are being explored and considered for future enhancements include the timing of exams (offering ACAS exams more than once per year), computer-based testing of upper-level exams, and increased use of exam questions that test at higher levels of comprehension. It is this last area that will be the focus of this article.

CAS examinations have always asked questions that test at a variety of levels, from straightforward recall of knowledge to complex synthesis of ideas and defense of conclusions. During its September 2010 meeting, the CAS Board of Directors discussed whether the current mix of questions on CAS examinations was adequately preparing members. More specifically, the Board considered whether the requirements for Fellowship should include greater assessment of complex reasoning, and how to incorporate that into the basic education system.

In order to develop a baseline for where the CAS examinations stand currently with regards to the mix of questions, the CAS engaged educational consultants to review the most recent versions of CAS Exams 5 through 9 and to categorize each exam item in relation to Bloom’s Taxonomy, which is a classification of levels of learning. There are six levels in the taxonomy, moving from the lowest order processes to the highest.

The table below summarizes the results of the study:

	Percent of Items Covered at Level	
Bloom’s Level	Exams 5-7	Exams 8-9
Knowledge	9%	3%
Comprehension	29%	17%
Application	32%	49%
Analysis	21%	19%
Synthesis	2%	1%
Evaluation	7%	10%

(See the article, “What is Bloom’s Taxonomy?”, for more details on the levels of learning. An example of a recent CAS exam question representing each level in the taxonomy is also included in the article.)

The distribution of required skills is very similar between Associateship and Fellowship examinations. Both have nearly identical 70/30 splits between the first three and last three Bloom levels. About 90% of Associateship and Fellowship items are in the first four categories – all with a level of understanding below Synthesis.


This ratio will be changing on future exams, especially on Fellowship Exams 7-9, as the CAS Basic Education system evolves to meet a recent Board resolution. During its November 2010 meeting, the Board approved a resolution stating that the Board supports the

following general vision of the level of understanding required for membership in the CAS:

- All CAS members should be competent in the application of casualty actuarial techniques.
- CAS Fellows should not only be able to apply such techniques, but be able to synthesize such methodology and exercise complex judgment to bring those tools to bear in developing practical solutions to business problems not necessarily encountered before. Inherent in this ability is that Fellows be able to clearly communicate this understanding and complex judgment including inherent assumptions made and limitations in the approach taken to another party.

The Board charged the Executive Council with studying the operational issues involved with implementing this vision and, in fact, the CAS Admissions Committees had already begun the process of moving CAS examinations in this direction.

It is expected that the Admissions Committees will continue to review the learning objectives (and the resulting exam questions) for the Associateship and Fellowship examinations to reflect the expectation that candidates demonstrate more capabilities at higher levels in the taxonomy than has been the case in the past.


To learn more about the CAS examination process, listen to the recording of the CAS Annual Meeting session, which is available for free through the University of CAS at <http://www.softconference.com/cas/>. 

## Social Media

The CAS is on Facebook, Twitter, and LinkedIn! Stay informed by following CAS on Facebook and Twitter for exclusive updates on CAS activities. The CAS Facebook and Twitter page will feature many different topics including conference updates, online discussions, and industry updates. Join and connect with peers and colleagues and discuss issues important to you.

If you cannot access Facebook, Twitter and LinkedIn from your office, please consider signing up to follow us from your personal account at home.



Please visit our Web site at [www.casact.org](http://www.casact.org) and click the social media widgets to find our pages! 



# What is Bloom's Taxonomy?

According to Wikipedia, Bloom's Taxonomy is a classification of learning objectives within education. The taxonomy was first presented in 1956 through the publication *The Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain*, by Benjamin Bloom (editor), M. D. Englehart, E. J. Furst, W. H. Hill, and David Krathwohl. It is considered to be a foundational and essential building block within the education community.

There are six levels in the taxonomy, moving through the lowest order processes to the highest:

- **Knowledge** - Exhibit memory of previously learned materials by recalling facts, terms, basic concepts, and answers.
- **Comprehension** - Demonstrative understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main

ideas.

- **Application** - Using new knowledge. Solve problems to new situations by applying acquired knowledge, facts, techniques, and rules in a different way.
- **Analysis** - Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.
- **Synthesis** - Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
- **Evaluation** - Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.

(See [http://en.wikipedia.org/wiki/Bloom's\\_taxonomy](http://en.wikipedia.org/wiki/Bloom's_taxonomy) for more information.)

Examples of CAS exam questions at each level in the taxonomy follow. The questions were taken from 2010 Exam 8.

## 1) Knowledge: Question 5a

Describe the equity premium puzzle.

## 2) Comprehension: Question 1a

In a perfectly efficient market, one might conclude that randomly chosen stocks is as effective as rationally choosing a stock portfolio. Describe two reasons for active portfolio management.

## 3) Application: Question 2a

- The return of a risk free asset is 5%
- An investment company offers a risky asset, with a Sharpe ratio of 0.2
- An investor wants to hold a portfolio consisting of the risky asset and the risk-free asset

Calculate the expected return of the portfolio if the investor wants the standard deviation of the portfolio to be 15%.

## 4) Analysis: Question 9a

Given the following information:

- Value of a company's assets today is \$19,000,000
- Value of a company's equity to today is \$5,000,000
- Risk-free rate is 3% per annum
- Debt of \$15,000,000 to be repaid in one year
- Instantaneous volatility of equity = 0.5

- Volatility of assets = 0.25

Explain what assumptions Merton makes that allows Merton's model to be used in estimating default probabilities for companies.

## 5) Synthesis: Question 12a

An investor would like to enter into a forward contract whereby in two years the investor exchanges a fixed amount of US Dollars for one million Euros.

Assume the current exchange rate is \$1.50 per Euro and that the continuously compounded risk-free interest rates are 2% in Europe and 1% in the United States. The investor can borrow and invest at the risk-free rate.

Determine an investment strategy which would give the investor the same cash flows as the forward contract.

## 6) Evaluation: Question 13a

When a known future cash outflow in a foreign currency is hedged by a company using a forward contract, there is no foreign exchange risk. When it is hedged using futures contracts, the marking-to-market process does leave a company exposed to some risk.

Explain whether a company is better off using a futures contract or a forward contract in the following situation:

The value of the foreign currency falls rapidly during the life of the contract. **ff**

# CAS Online Courses: Q&A

**Q. When I purchased Online Course 1, I was asked to specify a testing window. I was not really sure when I wanted to take the exam and was concerned that I was locked into a test window. Am I?**

A. The fee for each of the online courses includes one attempt at the exam. Therefore, there are two parts to the process:

1. The Purchase

Just as the CAS syllabus incorporates some changes every year, it is anticipated that there could be new version of the online courses every year or so. The candidate is asked to select the testing window to ensure that the candidate will have access to the correct version of the course that will correspond to the examination. For those purchasing the online course now, this is not a concern as there is only one version of each course. As noted on The Institutes Web Page where candidates will register for the exam itself, "When changes in the curriculum occur, they will be introduced in September for exams offered at the beginning of the next calendar year. CAS candidates who have purchased access to the online curriculum will be notified within the online course of the pending change. CAS candidates will be able to take the exam on the old curriculum for two testing windows following the introduction of new study materials." For example, if the curriculum for Online Course 1 changes in September 2012, candidates who had purchased the prior version would be able to take the exam for the older version in both the January/February 2013 and April/May 2013 test windows. After that time, the exam will only be for the most current version of the course.

2. Exam Registration

Candidates must obtain their unique CAS Master ID Number prior to registering for an examination for the online courses (see details below). After progressing through the online course, candidates arrange for their exam by contacting:

The Institutes, Customer Service  
Telephone: (800) 644-2101  
or (610) 644-2100 ext. 6000  
E:mail:CustomerService@  
TheInstitutes.org

**Q. How do I get my CAS Master ID Number?**

A. The CAS Master ID Number is available under "My Information" on the CAS Web Site ([www.casact.org](http://www.casact.org)). Please note that the final character in the number is a capital "I" for "Individual." If a candidate does not have a record with the CAS or does not have a password to access "My Information," please contact the CAS Members Resource Center at [mrc@casact.org](mailto:mrc@casact.org).

**Q: When will grades be given for the new Online Courses 1 and 2?**

A: The exams for the two online courses will be administered by computer-based testing (CBT). When an exam is first offered by CBT, immediate pass/fail results will not be available for the first few administrations. For the first few test windows, grades for Online Courses 1 and 2 will be released approximately eight weeks after the test window closes. After a few administrations, an unofficial grade will be given to the candidate at the conclusion of the exam and the official grade will be sent approximately eight weeks after the close of the test window. The official grade report will be in the same format as those for upper-level exams: passing candidates will be informed that they passed the exam, but they are not given a decile score. Candidates with decile scores of 0 to 5 are informed of the score. (Decile scores are raw scores that have been converted to scores of 0-10 using increments of 10 percent of the pass mark. For example, a score of 5 represents raw scores of at least 90 percent but less than 100 percent of the pass mark.) **ff**



# Exam MFE/3F Moves to CBT in 2011

The Financial Economics exam (called Exam MFE by the SOA and Exam 3F by the CAS) will be offered by computer-based testing (CBT) starting in 2011 with the following two testing windows:

- May 12-18, 2011
- November 10-16, 2011

When an exam is first offered by CBT, immediate pass/fail results are not available for the first few administrations. Grades for Exam MFE/3F will be released approximately eight weeks after the test window closes. Exam MFE/3F will also be offered by paper and pencil in a limited number of localities outside the United States where CBT is not available.

When an exam moves to CBT, the process that ultimately allows instant (although unofficial) results after the first few administrations is that pre-tested exam items (questions) are used. This is accomplished by using a few “seed” items on each exam. The seed items are not graded but are being tested and calibrated for consideration as operative (graded) items in future exams. Because the number of exam items is slightly increased to accommodate the seed items, the exam time is also increased accordingly. Therefore, in 2011 Exam MFE/3F will be changed from 2.5 to 3 hours. Please note that no additional material will be tested, simply the number of questions will be increased.

The same process was used when Exams P/1, FM/2, and C/4 were moved to CBT. **ff**

This article will also be published in the Winter (December 2010/January 2011) issue of *The Future Actuary*.

## Candidate Liaison Committee Mission

The Candidate Liaison Committee communicates with CAS candidates, collectively and individually, who are taking CAS examinations. The committee informs candidates as to appropriate courses of action available to them. Through periodic communication, this committee informs candidates of results of examination administrations, actions taken on complaints received regarding examination questions, and reasons for syllabus and examination changes being implemented. Communication encompasses existing policies and procedures as well as changes being considered. The committee should advise the CAS and its committees of the interests of the candidates regarding matters that come before the CAS and its committees. Candidates may contact the Candidate Liaison Committee at the CAS Office address. The Casualty Actuarial Society is not responsible for statements or opinions expressed in the articles, discussions, or letters printed in *Future Fellows*.

## Resources & Reminders

The CAS Web Site is a valuable resource that includes:

- CAS *Syllabus of Basic Education* and updates
- “Notice of Examinations”
- “Verify Candidate Exam Status” to confirm that joint exams and VEE credits are properly recorded
- “Looking at the Exam Process” series
- Feedback button to the Candidate Liaison Committee
- CAS Regional Affiliates news

If you have not received a confirmation of your registration for Exams 3L, and 5-9 two weeks prior to the registration deadline, please contact the CAS Office.

**REMEMBER YOUR CANDIDATE NUMBER!**

## Future FELLOWS



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## Vendor Links

The CAS provides vendor information on review seminars and study aids as a service to its candidates. The CAS takes no responsibility for the accuracy or quality of the seminars and study aids announced in *Future Fellows*. Please note that candidates are expected to read the material cited in the Syllabus and to use other material as a complement to the primary sources rather than a substitution for them. **f**

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Jim Daniel's Actuarial Seminars  
<http://www.actuarialseminars.com>  
Exams 3L, 4

Midwestern Actuarial Forum  
<http://www.casact.org/affiliates/maf/>  
Exam 3F, 3L

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