

C. Grades and Accreditation

Defective Questions

Occasionally, through error or because of varying interpretations, a question on an examination is found to be ambiguous or defective. If a candidate believes a question is ambiguous or defective, he or she should bring this to the attention of the Examination Committee in writing within two weeks after the examination date. The candidate must mail or fax this letter to Preliminary Actuarial Examinations/SOA for Exams 1/P, 2/FM, 3F/MFE, and 4/C, or to the CAS Office for Exams 3L and 5-9. The letter should include detailed reasons why the question is believed to be ambiguous or defective. In addition, statistics are calculated on each test item to determine how well the candidates answered the question. The statistics can indicate that a question may be faulty and the question will be reviewed even without a candidate writing.

The CAS Examination Committee or Preliminary Actuarial Examinations/SOA will investigate all questions brought to their attention in this manner. Correspondence that does not reach these organizations within two weeks after the date of the examination will not be considered in the grading process.

Any multiple-choice question found to be defective is carefully examined to determine the most reasonable way to correct the situation. In some cases, the question is discarded, leaving scores and rankings as they would have been if the defective question had not been asked. In other cases, more than one answer for a multiple-choice question is given credit for being correct.

CAS Examination Processing

Computer-based tests are administered and scored according to computer-based testing methodologies. Although the multiple-choice exams that are administered exclusively by paper-and-pencil have a process that is similar to the description below, this section and the next, "Grading of Examinations: A Timeline," provide details about CAS-specific Exams 5-9.

Examination papers are sent to the CAS Office upon completion of the examination. The CAS Office prepares the examinations for the grading process. Approximately one week after all examinations have been completed, the examination and a preliminary list of multiple-choice answers will be posted in the "Admissions/Exams" section of the CAS Web Site. This is intended to assist candidates and the Examination Committee in determining whether they believe a question is ambiguous or defective.

Grading of Examinations: A Timeline

Week 1

After the examinations are administered, proctors return the packages to the CAS Office. Staff members log in each exam. Signatures are verified and the candidate numbers are checked against the proctor's report. As each envelope is opened the candidate's number must be checked against the number on the short answer card (both the written number and the coded number) and on all the essay sheets. The short answer cards are prepared for scanning and the essay sheets for all the candidates must be sorted so that individual questions can be copied for the graders.

Week 2

Essay question responses are sent to a vendor to be reproduced. Short answer cards are scanned twice and output is compared to ensure accuracy. Random checks are made of each series of cards to make sure the scanner is working properly. When the essays return from the vendor, copies of candidate responses are sent to the individual graders. Any comments on ambiguous or defective questions are forwarded to the graders, exam part chair, and the general officer of the exam series for review.

Weeks 3 and 4

Committee members review candidate comments about possibly defective questions and decide how they will be handled in the grading process. Discussions on the best course of action are often a very time-consuming part of the grading process.

Copies of responses to each essay question on the exam are sent to two graders. Some graders are given more than one question to grade. There can be 500 to more than 1,000 answer sheets for each grader to evaluate for a single question. A suggested answer key exists for each question, but alternative solutions may be correct, and the grader must be open to different approaches to a problem. About two dozen responses are graded and then the results are compared. The grading partners will establish a consistent grading scale and then evaluate the solution key. Consistency and accuracy are the most important factors in grading the responses. After looking at hundreds of papers, it is possible that a grader could slightly shift focus (either harder or easier). To minimize the chance of this happening the graders will begin grading at different points on the candidate list, then when the two grades are compared any significant differences will be checked. Each grader prepares a computer file with each candidate's number and the score for each question.

Week 5

The part chair holds the grading session with the graders. The first step is running the data through a standard grading program, verifying the data, and noting any significant discrepancies. For each candidate and each question the scores of each grading partner must be within a prescribed tolerance. If the scores do not fall within this tolerance the partners must discuss the candidate's answer sheet and come up with a decision on what the point value should be. When all the questions have been reconciled to the required tolerance, the scores are totaled and a tentative pass score is selected based on the pass mark panel's recommendation, various statistics, and guidelines.

This triggers the second round of reconciliation. Any candidates who have scores within a certain number of points from the tentative pass score will have all of their answers reconciled completely. This gives an exact score for any candidate near the passing score. The scores for any candidates who are close to passing will be checked manually as well. The committee members will then look at the statistics one more time and make a final recommendation for the passing score.

Weeks 6 and 7

After the grading session, the part chair will create and submit a report to the general officer of the exam series and the Examination Committee chairperson. In the report, the part chair recommends a passing score, gives a detailed analysis of the exam, and notes any unusual questions or situations that required special handling. The chairperson and general officer hold a teleconference with the vice president–admissions to discuss all of the exams from the series and to finalize the passing scores.

Week 8

After the passing score has been approved by the vice president–admissions, the data is verified and released to the CAS Office to update each candidate's record, post a list of passing candidate numbers on the CAS Web Site, and print and mail the grade reports.

Determination of the Pass Mark

The goal of the examination systems of the CAS is to pass all candidates who have demonstrated adequate knowledge of the syllabus and to fail those candidates who have not. The objective of the examinations is to evaluate candidate performance using criteria for demonstrating adequate knowledge that remain constant throughout the lifetime of the exam series. Pre-set pass marks (e.g., a candidate will pass if he or she answers x percent of the questions correctly) are counter to this philosophy. The examinations are meant to measure the candidate's level of achievement of the required learning objectives and their required level of capability of accomplishing specified learning outcomes.

Multiple-Choice Questions

As part of the input to the pass mark determination process for the multiple-choice exams that are not offered by computer-based testing, a modified Angoff passing score study is performed where a panel of experts in the subject material is convened to review the examination. This is a common testing and measurement technique. Each expert is asked to review each question in the examination, and assess the difficulty of that question. More specifically, they are asked to estimate the likelihood that a candidate with minimum adequate knowledge competency would answer the question correctly. The sum of these probabilities, averaged across the panel of experts, gives a preliminary estimate of the pass mark.

The estimated pass mark resulting from the modified Angoff passing score study is compared to and balanced with the actual performance statistics on the exam in finalizing the pass mark. The effects of any particularly difficult questions are also factored into the determination of the final pass mark.

Computer-based tests are administered and scored according to computer-based testing methodologies.

Written-Answer Questions

For CAS examinations consisting in whole or in part of written-answer questions, the assessment process is somewhat different. Before the exam is administered, a pass mark panel reviews the exam and assesses it based on how the panelists think a minimally qualified candidate will perform based on a predetermined definition of the minimally qualified candidate. This process follows the same basic technique used for multiple choice exams as described above. Based on this assessment, an expected pass mark is set.

Following the administration of each exam, responses to each written-answer question are graded simultaneously by two graders who must reconcile their techniques and grades. When all responses have been scored, the part committee chooses a preliminary pass mark based on the results of the pass mark panel augmented by actual performance of the current candidates versus historical performance of previous candidate cohorts. Candidate papers with scores close to the preliminary pass mark are re-graded to ensure correct and consistent scoring.

The part committee then determines the tentative pass mark by again balancing actual performance statistics against minimum adequate knowledge while taking into account other factors such as time pressure situations that may have occurred on some questions. Because the level of difficulty for each examination may vary from year to year, each part committee collects extensive data to ascertain the level of difficulty of its examination. The part committee compares the performance of the present year's candidates to the performance of candidates from prior years. Appropriate recognition is given to any peculiarities that may appear in connection with the answers to any question on an examination despite all the care taken in setting the examination questions.

With the use of content-based pass marks, fluctuation in the pass rate from session to session is expected. Although the percentage of candidates passing will vary from year to year, those candidates demonstrating the required level of competence with the material will pass.

A recommended pass mark is reached by consultation among the part chairperson, the general officer overseeing that examination, and the Examination Committee chairperson. Any significant deviations from the a priori pass mark set by the pass mark panel are explored at this time. The recommended pass mark and explanations for deviations from the a priori pass mark and any abnormal passing percentages are submitted to the vice president-admissions who approves the final pass mark. Upon approval by the vice president-admissions, the final exam statistics are forwarded to the Executive Council.

After the pass mark is finalized, each candidate is assigned a score. Scores of 0 to 5 are assigned to candidates who do not pass. On this scale, each interval is 10 percent of the pass mark. For example, a grade of 5 means failing with a mark of at least 90 percent, but less than 100 percent, of the pass mark. A grade of 0 means that the candidate's score is less than 50 percent of the pass mark. Candidates at or above the passing mark receive a grade of Pass.

The CAS releases the pass scores for Exams 3L and 5-9 after the appeals process for the exam session has been completed. It is posted in the “Admissions/Exams” section of the CAS Web Site. The purpose of releasing the pass scores is to help candidates prepare for future exam sittings. The 75th and 95th percentile scores are also released for each exam. These two key statistics indicate the performance level achieved by the better prepared candidates on the exam. Raw scores are not provided to candidates.

Examination Results

Examination results are available approximately eight weeks after the examination date. After exam results are received at the CAS Office, a list of passing candidate ID numbers will be posted in the “Admissions/Exams” section of the CAS Web Site between 3:00 and 3:30 p.m. Eastern time. Individual statements of examination results generally are mailed to candidates on the day that they are posted on the CAS Web Site.

For Exams 3L and 5-9, passing candidates are informed that they passed the exam, but they are not given a numeric score. Candidates with scores of 0 to 5 are informed of the score. Several weeks later, a list of the names of all passing candidates is posted on the CAS Web Site. Requests for reprints of individual grade reports will be accepted starting two weeks after the date that results were released.

To preserve candidate confidentiality, in the event of a lost or misplaced candidate ID number, the candidate ID number will be mailed to the candidate upon request. Under no circumstance will a candidate number be given over the telephone or by e-mail.

Computer-Based Testing

For some of the examinations administered by computer-based testing, an unofficial pass/fail result will be displayed on the computer screen at the conclusion of the examination and, in most CBT centers, a printed copy of the unofficial pass/fail result will be available from the proctor in the administrative area outside the testing room. For all CBT exams, the official decile scores will be available approximately eight weeks after the exam administration.

Analyses for Exams 3L and 5-9

Candidates for Exams 3L and 5-9 who did not pass will automatically be sent an analysis of their examination with the grade notification. The analysis of an examination is computer-generated. Actual points received for multiple-choice questions will be displayed. For essay questions, ranges will be given for the actual score. This information is intended to provide the educational guidance that most candidates desire. Copies of the exam analyses will not be provided after the appeals deadline.

Appeals for Exams 3L and 5-9

Multiple-Choice Questions

If a candidate believes that a multiple-choice question is ambiguous or defective, he or she should bring this to the attention of the Examination Committee in writing within two weeks after the examination date. In order to aid the candidate, preliminary answer keys for multiple-choice questions will be available the week following the examinations. The candidate may submit comments to the CAS Office by mail, fax, or e-mail. The correspondence should include detailed reasons why the question is believed to be ambiguous or defective. (In addition to candidate comments, statistics are calculated on each problem to see how well the candidates answered the question. The statistics can indicate that a question may be faulty and the question will be reviewed even without a candidate writing.) The CAS Examination Committee will investigate all questions brought to its attention in writing. To be considered in the grading process, correspondence must reach the CAS Office by the following deadlines: **May 21, 2010**, for May Exams; and **November 11, 2010**, for the October Exams. The decision of the Examination Committee chairperson is final.

No appeals based on ambiguous or defective questions will be considered after these deadlines. After grades are released, the only appeal permitted on multiple-choice questions will be to request an administrative check of the candidate's short answer card to verify that the card reader scanned the card correctly and that the output file reflected this data. This request must be made within three weeks after the release of grades.

Essay Questions

Once candidates have received the analyses of their exams, they may appeal their grade. Only candidates with valid appeals will be considered. Sample answers to essay questions will be available on July 30, 2010, for May Examinations, and January 31, 2011, for October Examinations. The sample essay answers are actual responses that have received credit and are illustrative of successful answers, although they may not be considered perfect answers.

If the candidate believes that the sample essay answer is incorrect or there is an alternative correct solution, the candidate must provide specific information on why his or her solution is correct. With specific information, the Examination Committee can research the answer properly and reply to the candidate. An example of an invalid appeal would be the following: "I am appealing my score of 5 on Exam 9, please recheck my examination." Another example of an invalid appeal would be: "On question number 2, I believe I should get full credit because I answered the following . . ."

Appeals must reach the CAS Office not later than **August 31, 2010**, for May 2010 Examinations and **March 1, 2011**, for October 2010 Examinations. Should an exam's sample answers be posted later than the date stated in the "Conduct of Exams" section above, the appeal deadline for that specific exam will be extended to 30 days after the posting date of that exam's sample answers. When a valid appeal is received, it is reviewed by the part chairperson and a recommendation is made to the Examination Committee chairperson. The Examination Committee chairperson will respond based on the recommendation of the part chairperson. The decision of the Examination Committee chairperson is final.

Confidentiality of Examination Records

The fact that a candidate has passed a particular examination is considered public knowledge. Any further information as to examinations taken by candidates and scores received by candidates is available only to the candidates themselves, to Examination Committee officials if required for committee purposes, and to the CAS Office, unless the candidate requests in writing that such information be provided to someone else. However, if any action is taken against a candidate as a result of his or her conduct (as described in the section on Examination Discipline), the Casualty Actuarial Society, at its sole discretion, may disclose such information to any other bona fide actuarial organization that has a legitimate interest in such results and/or actions. The candidate authorizes and consents to the Society using and disclosing (including, but not limited to, disclosing to the third-party contractors and service-providers of the Society) personally identifiable information about the candidate as necessary and appropriate for the purposes of registering the candidate for the exam, conducting the exam, determining the results of the exam, and communicating with the candidate regarding the results of the exam.

Transition Programs

The CAS generally reviews and makes revisions to the study material on an annual basis. Occasionally, a major topic will be added to or deleted from the syllabus. A major topic is defined as a series of learning objectives comprising a segment of an examination. When a major topic is added, the Syllabus Committee will determine if a transition program is appropriate. A transition program is generally appropriate when candidates are in a position to lose credit for a segment of an examination.

A transition program usually will provide candidates with at least two opportunities to complete the requirements for that examination. The completion of the requirements will result in the achievement of credit for that entire examination. The failure to fulfill the requirements for that complete examination could result in the expiration of credit for that deleted topic at the end of the transition period. The CAS

Board of Directors must approve any transition program.

2011 Education Structure

The CAS will implement a revised education structure in 2011. (Details are available in the “Admissions/Exam” section of the CAS Web Site.) In March 2008, the CAS Board of Directors released the following transition rules for the education structure that will be implemented in 2011:

Current Exam	Credit in Education Structure to be Implemented in 2011
Exam 5	Half Exam on Basic Ratemaking* and Module 1
Exam 6	Half Exam on Basic Reserving* and Exam on Advanced Reserving, Reinsurance, and ERM
Exam 7	Exam on Regulation and Financial Reporting and Module 2
Exam 8	Exam on Investments and Rate of Return
Exam 9	Exam on Advanced Ratemaking

Note: To receive credit for the new exam on Basic Ratemaking and Reserving, the candidate must have credit for both old Exams 5 and 6. At the time of transition, if a candidate has credit for only one of the required exams (either Exam 5 or Exam 6), the candidate will be allowed to take just the part of the exam for which he or she is missing credit (i.e., either the basic ratemaking section or the basic reserving section of the new exam) in order to obtain credit for the new exam. It is anticipated that this option will be available for two sittings after the official conversion to the new education structure.

Current Education Structure

For the current education structure, the CAS Board of Directors approved the following transition rule for the revision to Exam 3 that was implemented in January 2008:

Credit in 2007	Credit In Education Structure Implemented In 2008
Exam 3	Exams 3F and 3L

The CAS Board of Directors approved the following transition rules for the revised preliminary education structure that was implemented in January 2005:

Credit in 2004	Credit In Education Structure Implemented In 2005
Exam 1	Exam 1
Exam 2	Exam 2, VEE-Economics, VEE-Corporate Finance
Exam 3	Exam 3 [now Exams 3F and 3L]
Exam 4	Exam 4, VEE-Applied Statistical Methods

The following rules apply for candidates with **unused** credit from exams administered prior to 2000:

Pre-2000 Credit	Credit In New System Implemented In 2005
Exam 3A	VEE-Applied Statistical Methods
Exam 4A	Exam 2
Exam 4B	Exam 4
Exam 5A	VEE-Economics
Exam 5B	VEE-Corporate Finance

CAS Course on Professionalism

The CAS Course on Professionalism is designed to present candidates with real situations that contain ethical and professional issues for the actuary. Volunteer members of the CAS facilitate small group discussions of actual case studies. Although grades are not given for the course, candidates must actively participate in order to receive credit. Successful completion of this course is required before a candidate can become a member of the Casualty Actuarial Society.

Candidates are urged to register for this course as soon as they are eligible. To be eligible for the CAS Course on Professionalism, a candidate must (a) have credit for any five actuarial exams and all three VEE

requirements in the current education structure or (b) have credit for any six actuarial exams in the current education structure—regardless of VEE status. (The two segments of Exam 3—3F and 3L—together count as one exam only. Transitional VEE Exams do not count as actuarial exams.)

Dates for the course will be posted in the “Admissions/Exams” section of the CAS Web Site. Registered candidates will receive a study book of required readings before the start of the course. Each course is limited to 60 participants; early registration is recommended. Facility information and course times will be provided upon registration.

CAS Membership Requirements

Associateship

Candidates for Associateship in the Casualty Actuarial Society must fulfill the examination requirements by successful completion of, or credit for, Exams 1-7; have credit by Validation by Educational Experience (VEE) for the required topics of economics, corporate finance, and applied statistical methods; and successful completion of, or credit for, the CAS Course on Professionalism. Exam 7 is nation specific, and passage of any one of the CAS-approved nation-specific exams fulfills the completion requirements.

After completing the prescribed requirements, all prospective Associate members must make formal application to the Casualty Actuarial Society. The CAS Office will e-mail application materials to these candidates, including instructions for obtaining letters of reference from two CAS members. Obtaining the two letters of reference is the prospective Associate’s responsibility. If no member of the CAS is familiar with the prospective Associate and his or her work history, references from members of the American Academy of Actuaries, the Canadian Institute of Actuaries, the Society of Actuaries, or senior executives where the candidate is employed may be substituted. For further information on alternative acceptable references, please contact the CAS Office. An application for membership will not be processed without these references.

Candidates must have completed *all* educational requirements prior to submitting an application for CAS membership.

After all requirements are met and application is made, each candidate is voted on by the CAS Executive Council. Upon approval of the CAS Executive Council, the candidate will be admitted as an Associate of the Casualty Actuarial Society (ACAS). Candidates approved by the Executive Council will be notified by letter from the CAS president. Members may indicate their designation as an Associate of the Casualty Actuarial Society by using the initials “A.C.A.S.” after their names only after they have received official notification of acceptance as an Associate from the CAS.

Fellowship

In addition to fulfilling all the requirements of Associateship, successful completion of, or credit for, all nine examinations is required to fulfill the examination requirements for Fellowship and to be designated as a Fellow of the Casualty Actuarial Society (FCAS). Candidates who are admitted to the CAS as Fellows rather than Associates may indicate their designation as a Fellow of the Casualty Actuarial Society by using the initials “F.C.A.S.” after their names only after they have received official notification of acceptance as a Fellow from the CAS. Associates who complete their Fellowship requirements may use the “F.C.A.S.” designation immediately following official notification of successful completion of all the Fellowship requirements as prescribed by the Board of Directors.

Waiver of Examinations

Waiver of individual examination requirements will be granted by the CAS Board of Directors in instances where an applicant has passed or received credit for examinations sponsored by another recognized actuarial organization that cover equivalent material in both subject and depth. The granting of waivers by the Board will be based on the recommendation of the vice president-admissions. The vice

president-admissions' recommendation will be guided by the policy established by the CAS Education Policy Committee.

The CAS generally will not grant waiver of all or any portion of its examination requirements for work experience, contribution to actuarial literature, academic courses of study, or examinations of non-actuarial organizations. Individuals who claim competence in the areas covered by the examinations should not have difficulty demonstrating their competence by participating in the examination process.

SOA Exam MLC

The CAS will grant a waiver of CAS Exam 3L to those who have passed SOA Exam MLC on life contingencies.

Faculty of Actuaries, Institute of Actuaries (U.K.), Institute of Actuaries of Australia, and Institute of Actuaries of India

The CAS recognizes some of the examinations sponsored by the Faculty of Actuaries (Scotland) and the Institute of Actuaries (United Kingdom), Institute of Actuaries of Australia, and the Institute of Actuaries of India. Credit will be granted for examinations passed or waived in accordance with examination equivalencies between the CAS syllabus and the syllabi of each of the three aforementioned actuarial organizations. The CAS will not grant credit for examinations waived on account of academic records achieved in North American universities, nor for credit granted to candidates not qualifying directly in obtaining membership through the normal qualification/examination process. Credit will not be given to Fellows of the Faculty or Institutes who have attained their designation through mutual recognition rather than through the standard Faculty or Institutes credentialing process. Fellows by mutual recognition should pursue examination waivers based on their original credentials.

The following waiver policy has been approved by the CAS:

Subject of the Faculty of Actuaries, Institute of Actuaries (U.K.), Institute of Actuaries of Australia, and Institute of Actuaries of India*	Waiver Granted for CAS Exam/Educational Experience
CT1	Exam 2/FM
CT2	VEE-Corporate Finance
CT3	Exam 1/P
CT4 and CT5	Exam 3L
CT8	Exam 3F/MFE
CT6	Exam 4/C and VEE-Applied Statistical Methods
CT7	VEE-Economics

* Waivers will not be granted for Faculty/Institute exam credit earned through coursework except for those universities on the Faculty/Institute list as of May 7, 2000 and universities that have been subsequently approved by the CAS.

Candidates requesting a waiver of an examination requirement should present their request to the vice president-admissions with appropriate evidence that demonstrates the passing of (or score on) the actuarial examination equivalent for which a waiver is requested. The vice president-admissions will review all such requests and recommend action to the CAS Board of Directors.

Please address all waiver requests to: Vice President-Admissions, Casualty Actuarial Society, 4350 N. Fairfax Drive, Suite 250, Arlington, Virginia 22203, USA.

Waivers are considered on a case-by-case basis for examination equivalents of actuarial organizations not named above. Candidates must present their requests to the vice president-admissions and include with their applications documented evidence that demonstrates the asserted equivalence, as well as the appropriate educational policy material of their local actuarial organizations. If such material is not included, the vice president-admissions will request it from the candidates. The vice president-admissions will forward the request to the Education Policy Committee for a determination of whether sufficient equivalence exists to permit granting any examination waiver.