

The Certified AMS Teacher (CAT) Program

These procedures govern all aspects of the Certified AMS Teacher (CAT) Program.

1. The Certified AMS Teacher (CAT) Program

In an effort to recognize and support educators actively engaged in raising Earth science literacy, the AMS initiated a proposal for the creation of a teacher certification program with the support of educators affiliated with the AMS. AMS Council agreed to adopt the procedures of a Certified AMS Teacher Program (CAT) with an inauguration date of 2019. CAT specifically connects K-12 educators to AMS, which strengthens their connection to the atmospheric science community and its resources. It also strengthens the ties between teacher participation in AMS Education Program courses in weather, ocean, and climate science and the other activities of the Society.

2. Board on Pre-College Education

This Board, which sits under the Education and Human Resources Commission, is responsible for evaluating applications and making recommendations to the Commissioner for review and final decision about certification. The Board consists of up to sixteen members who do not hold elective office in the Society and who contribute their time and interest to the program. An attempt is made to ensure that no member is professionally employed by the same organization as another member during service on the Board. Members are appointed by the Commissioner in consultation with the Board Chair and the Commissioner of Professional Affairs, with membership approved by AMS Council. To ensure the fairness of the examination procedures, the Board has adopted the policy that its members will avoid conflicts of interest in the evaluation process.

3. Procedures for Certification

Eligibility Criteria and Application Process:

All active, in-service K-12 teachers and informal educators (persons professionally engaged in the education of youth outside of K-12 classrooms) are eligible to become Certified AMS Teachers (CATs) through the AMS, if they complete an online CAT application form and meet the following eligibility requirements:

1. Have completed two of the AMS Education Program's Professional Development Courses (graduate-level classes that include weekly quizzes and assessments, a lesson plan final project, and/or required peer training)

- Candidates who have completed their last two AMS Education Program courses within five years are only required to complete an application. AMS will verify completion of the coursework. No other materials are required.
- Candidates who have completed their last two AMS Education Program courses more than five years ago must also include a recent lesson plan demonstrating their application of atmospheric or related science content.

Or

2. Have a degree in atmospheric or related science.

- Candidates who have completed a degree in atmospheric or related science are not required to complete AMS Education Program courses, but they must include an accredited college/university transcript reflecting completion of a degree and a recent lesson plan demonstrating their application of atmospheric or related science content. Examples of related sciences include, but are not limited to, geography, hydrology, oceanography, environmental science, and geosciences.

Review Process:

Applications and required materials (if applicable) will be reviewed and approved by a panel of five of the sixteen members of the Board on Pre-College Education, constituted independently for each applicant.

Each panel member shall certify that he or she is aware of no conflict of interest in reviewing the applicant. The applicant will be notified of the names and affiliations of the Board members selected for the panel and will be given an opportunity to object to any of the panel members, stating in writing the reasons for any objection. The Board Chair may either accept the objection from the applicant or refer the question to the Commissioner for a decision, including cases in which the Board Chair has a conflict of interest or otherwise deems it necessary to recuse him or herself from the process. All applicants will be notified that unless an objection is received within 15 days, AMS will assume that the selected panel members are satisfactory to the applicant and will proceed to the next step.

When required, the panel will review college/university transcripts to confirm that degree requirements have been met. The panel will also constitute the reviewing panel for the lesson/unit plan (when required).

Lesson/Unit Plan Grading Process:

The lesson/unit plan will be [evaluated](#) in part against a 5E lesson/unit model adapted from the Next Generation Science Standards lesson plan rubric. The CAT lesson rubric uses key indicators of successful components from each section of the 5E framework and utilizes these Next Generation Science Standards “look-fors” in quality lesson plan elements from the 5E model. Lesson plans will also be evaluated on objectives and rationale to determine how the lesson will achieve student learning goals.

The evaluation panel will review the submission based on these seven components:

- 1) Objectives
- 2) Engagement
- 3) Exploration
- 4) Explanation
- 5) Elaboration
- 6) Rationale
- 7) Evaluation

Grades will be awarded in each of the seven categories on a scale of 0-10, as follows:

- | | |
|------|--------------------------|
| 0-2 | Unsatisfactory |
| 3-5 | Approaching expectations |
| 6-7 | Meets expectations |
| 8-10 | Exceeds expectations |

Each reviewer will submit an overall grade for the lesson plan. The grades given by all reviewers will be averaged. A candidate must score an overall average of 42 (and an average of at least a 4 in each category) in order to succeed on the evaluation. Panel members’ scores shall be compiled and reviewed by the Board Chair, who will make a recommendation to the Commissioner of Education and Human Resources for review and final decision. If the Board Chair has a conflict of interest or otherwise deems it necessary to recuse him or herself from the process, the panel’s evaluation will be submitted directly to the Commissioner for review and final decision. If the Commissioner deems it necessary to recuse him or herself from the process because of a conflict of interest or otherwise, then the Secretary-Treasurer shall notify the applicant of the panel’s evaluation.

4. Fees

The application is free for AMS members.

Non-members who have completed the AMS Education Program courses pay a \$55 application fee and will receive a complimentary one-year K-12 AMS membership. Applicants may opt out of membership if they wish.

Non-members who have not completed the AMS Education Program courses and are applying as an educator with a degree in Earth or a related science pay a \$150 application fee and will receive a complimentary one-year K-12 AMS membership. Applicants may opt out of membership if they wish.

These fees are subject to change.

5. Notification

1) Successful applicants will be notified by letter from the Society and will receive a certificate and certification pin.

2) Unsuccessful applicants will be notified by letter from the Society. The letter will contain a statement from the Commissioner of Education and Human Resources explaining the reasons for the unapproved application. Unsuccessful applicants may reapply after a period of three months from the date of the negative notification. After a second unsuccessful application, there will be a one-year waiting period before a third application can be submitted.

Reapplication fees:

AMS members - free

Non-members who have completed the AMS Education Program courses - \$20

Non-members who have not completed the AMS Education Program courses and are applying as an educator with a degree in Earth or a related science - \$50

These fees are subject to change.

Unsuccessful candidates may [appeal](#) the negative decision provided by the Commissioner to the Executive Committee of the Society within 90 days of the date of notification.

6. Procedures for recognition of continuing professional development

One of the purposes of the CAT program is to provide an incentive for continued professional growth and competency. Professional development is a requirement to

maintain CAT certification. The procedures for submitting professional development activities to satisfy the requirements under the CAT program are provided below.

The *Program to Recognize Continuing Professional Development by a CAT* is based on the development and maintenance of a “Professional Portfolio” by each individual CAT. A Professional Portfolio consists of a list of activities and accomplishments related to an individual’s professional career. Each activity is assigned a Professional Development Score (PDS). To maintain active status, a CAT has to amass a total of 28 PDS points in a portfolio of continuing professional development during a five-year period, which must be submitted no later than the end of the fifth calendar year after the year in which the CAT received his or her certification or the year of the most recent submission of his or her portfolio.

The [list of recognized professional activities](#) and their PDS values is provided online. A CAT can review or update their portfolio by [logging onto the CAT Web page](#) on the AMS website using the username and password created in the CAT’s AMS online profile. This website will allow CATs to update their portfolio by filling in the appropriate cells on a preformatted form. Each CAT should keep personal records that will provide tangible evidence of accomplishments in case their records are selected for audit. Each activity listed must have occurred within five years of certification or recertification. The portfolio database will be maintained at AMS Headquarters. When CATs wish to have their portfolio evaluated to fulfill the five-year professional development requirement, they initiate the submission of the current portfolio through the AMS website. Each portfolio will be confidential. Only the filing CAT, the Chair of the Board on Pre-College Education or designee, and appropriate AMS Headquarters staff will have access to an individual portfolio (except in the case where a CAT seeks an appeal).

The portfolio website will, for each CAT logging into their portfolio, include a running total of the number of PDS points accumulated since the CAT’s certification was granted or the most recent submission of the portfolio. After a successful submission — that is, one with a portfolio containing at least 28 PDS points accumulated in the past five years — a new, clear portfolio will be initialized, and the date for the five-year professional development period will be reset.

Audits

No fewer than 5% of the portfolios submitted each year will be randomly selected to be audited as a means of evaluating the program. The audits are conducted the year after the portfolio is submitted. For example, no fewer than 5% of portfolios submitted in 2020 would be randomly selected for audit in 2019. Note, therefore, that submitting a portfolio more frequently than every five years will increase the chance of being audited.

Outside of the random selection procedures, an audit of a CAT's portfolio may be requested by any member of the Society. The request must be made in writing with justification to the Commissioner of Education and Human Resources. The Commissioner may dismiss the request with notice and a statement of reasons to the individual making the request. If the Commissioner approves the request, such an audit would not count against the 5% cap.

Instructions for conducting an audit:

1. The Chair of the Board on Pre-College Education may delegate one board member to conduct the audits each year.
2. To initiate the process, the AMS notifies the CAT that they have been selected for audit with an explanation for how the audit will be conducted.
3. No action will be required by the audited CAT upon notification. Any questions regarding the audit by the CAT will be referred to the Chair of the Board of Pre-College Education, who should respond in 10 days.
4. Audits should begin within 10-30 days after the CAT is notified and completed within 90 days.
5. Audits will be conducted with the assumption that the CATs have truthfully and in good faith entered activities they successfully completed over the period of record. Therefore, the Board Chair's (or delegate's) primary audit responsibilities include:
 - a. Ensuring the portfolio contains enough entries to fulfill the 28 point criteria.
 - b. Ensuring there are no duplicate entries.
 - c. Validating the point amount for each entry.
6. Note there is no need for the audit to review every entry in the record. The audit can be completed once the minimum of 28 valid points are accounted for. If there are issues associated with items outside the core needed for 28, they can be pointed out to the CAT for correction but do not need to impact the pass/fail determination.
7. If, in the opinion of the Chair or delegate, no aspect of the portfolio shows cause for concern, the audit will be recorded as a PASS, and the CAT will be notified of such.
8. If an issue or concern is identified in the course of the audit:
 - a. The issue will be communicated by the Board Chair to the CAT whose portfolio is being audited with a detailed explanation and offer to work with the CAT for a resolution.
 - b. The audited CAT will have 30 days to respond with additional information or documentation as appropriate.

- c. If the additional information satisfies the concern, the audit will be recorded as a pass with notification in writing to the CAT by the Board Chair.
 - d. If the Board Chair is uncertain whether the additional information satisfies the concern, the Chair will form an ad hoc committee comprised of three members of the Board to review the portfolio and all associated communications with the candidate along with documentation provided, and provide a pass/fail recommendation with rationale to the full Board for a decision by majority vote.
9. If the Board decides that the audit result is a fail, the Board will recommend to the AMS through the Commissioner of Education and Human Resources that the CAT should be placed in inactive status.
 10. The CAT may appeal the inactive status decision in writing (stating the reasons for the appeal) to the AMS Executive Committee, 45 Beacon St., Boston, MA 02108-3693.

7. Maintaining the list of acceptable continuing professional development activities

The list of recognized professional activities and their PDS values will be reviewed at least annually by the Board for its relevance to the normal activities of a CAT, and revisions will be made as appropriate. Any active CAT can send a request to the Board Chair to have a specific activity considered for inclusion on the list or to modify the PDS point value of an existing activity. Each such request will be vetted by the Board on Pre-College Education, which may seek external review and recommendations as it feels appropriate, and a decision on each suggested change will be made by majority vote of the Board. When a rule change is made, the CAT will be given the benefit of either the old or new rule as long as the activity was carried out prior to the end of the calendar year in which the change was made.

One member of the Board on Pre-College Education will serve as liaison to the Board on Continuing Professional Development under the Commission of Professional Affairs to stay informed of new professional development opportunities and to seek advice if needed.

8. Renewal, inactive status, and reactivation

Certification is for a period of one year and can be renewed annually. There is no annual renewal fee if a CAT continues to be an active AMS member. There is a \$100 annual renewal fee for non-members. Renewals are billed by the AMS in conjunction with annual membership and subscription notices. If an individual fails to renew certification or fails to achieve an acceptable level of continuing professional

development during the five-year period following certification or completion of the most recent continuing professional development period, the certification will be considered inactive. In addition, a CAT who has not been an active K-12 teacher for more than 5 years will be considered inactive. Inactive CATs cannot market/promote themselves as CATs. Those wishing to acknowledge their past active CAT status in resumes may do so, but they must list the years from initial certification to when they lapsed into inactive status.

Reactivation of an inactive certification can be obtained under the following situations:

- 1) If the certification has become inactive due to failure to pay the renewal fee and has been inactive for less than five years, active status can be obtained by paying the renewal fee for the inactive year(s) and the current renewal. If it has been inactive for five years or more, the individual is required to submit a lesson plan for review by the Board Chair in accordance with the above stated criteria and pay the renewal fee.
- 2) If the certification has become inactive because insufficient continuing professional development activities had been completed in the required five-year continuing professional development period, and the certification has been inactive for less than three years, the certification can be reactivated upon completion of sufficient continuing professional development activities in the five-year period preceding the request for reactivation and with the payment of the renewal fee for the inactive year(s) and the current renewal. If it has been inactive for three years or more, the individual is required to complete the professional development requirement and submit a lesson plan for review by the Board Chair in accordance with the above stated criteria.
- 3) If the individual has become inactive due to a failure to hold a teaching position for more than five consecutive years, he/she must submit a lesson plan for review by the Board Chair in accordance with the above stated criteria, pay the renewal fee, and complete the professional development requirement by the end of the next five-year period to remain active.

9. Appeal of inactive status

A CAT whose certification has become inactive through any means other than nonpayment of the renewal fee, including as the result of a review of his or her portfolio of continuing professional development, may seek and appeal of the inactive status by written request to the Commissioner of Education and Human Resources within 90 days of notification of placement on the inactive CAT list. The request for appeal should include all supporting documentation needed to review the request. In cases of

extenuating circumstances beyond the control of the CAT (such as a military reservist being called to active duty), the Commissioner of Education and Human Resources may grant an extension of active status for a one-year period. Economic hardship is not grounds for appeal by a CAT who has been moved to inactive status.

A CAT whose appeal of inactive status has been denied by the Commissioner of Education and Human Resources may, within 90 days of notification of the denied appeal, appeal that action in writing to the Executive Committee of the Society.

10. Publication of CAT status

While the individual professional portfolios will be confidential, the AMS website will list all CATs and their current status as “Active,” “Inactive,” or “Retired”. Each status type will be clearly defined.

11. Suspension or revocation

1) AMS reserves the right to suspend or revoke the right to use the CAT Seal, if the CAT, in the conduct of his or her profession, clearly fails to conduct him or herself in a manner that reflects the dignity and honor of the profession or if a CAT fails repeatedly to adhere to the criteria for the certification.

2) Any complaint that may be grounds for suspension or revocation of the CAT Seal under section 1) shall be sent to the Society. The Society may summarily dismiss a frivolous complaint with notice and a statement of reasons to the complainant. Otherwise, the Society shall send a copy of the complaint to the Commissioner of Education and Human Resources, the Chair of the Board on Pre-College Education, and the CAT.

3) The Chair of the Board on Pre-College Education may resolve any complaint by any appropriate informal means, which may include contacting the CAT in question in an effort to resolve by mutual agreement the subject of the complaint.

4) Any complaint not disposed of by informal means shall be determined as follows:

a) With the concurrence of the Commissioner of Education and Human Resources, a copy of the complaint shall be sent to the CAT in question by the Board Chair, together with a copy of the procedure for suspension or revocation of the CAT Seal and the names and brief descriptions of the members of a Fact-Finding Panel.

b) The Board Chair shall select three members of the Board, who will constitute a Fact-Finding Panel to determine the issues raised in the complaint. Each member of the Fact-Finding Panel shall certify to the Chair that they are aware of no conflict of interest

in accepting the appointment to the Fact-Finding Panel. The CAT in question shall have the opportunity within 15 days of the date of notification to object to any member of the Fact-Finding Panel. The CAT shall be required to state in writing the reasons for any objection to a member of the panel. The Chairperson may either accept the objection from the CAT or refer the question to the Commissioner of Education and Human Resources for final decision.

c) The CAT shall cooperate fully with the Fact-Finding Panel and produce any tangible information relevant to the issues raised in the complaint. The CAT may submit to the Fact-Finding Panel any other information he or she deems relevant and a written answer to the complaint.

d) After the submission of the tangible evidence to the Fact-Finding Panel, if any facts remain in dispute, a hearing shall, upon written request of the CAT, be held by the Fact-Finding Panel upon adequate notification to the CAT and at a time and place convenient to the members of the Panel and the CAT. The hearing shall be conducted according to fundamental concepts of due process recognized as fair and followed by administrative agencies in the conduct of adjudicatory hearings, which shall include the right to counsel, presentation of witnesses, right to cross-examination, and the right to record the proceeding by either stenographic or tape-recording means. Strict rules of evidence shall not apply, but the Panel shall accept information or evidence that is customarily relied upon by reasonable people in the conduct of serious affairs.

e) The Fact-Finding Panel shall make written findings of fact and shall determine if the CAT has, in the conduct of his or her profession, clearly failed to conduct himself or herself in a manner that reflects the dignity and honor of the profession, or if the CAT has failed repeatedly to adhere to the criteria for the award of the CAT certification.

If the Fact-Finding Panel determines that the CAT has failed in their conduct or adherence to the criteria as aforesaid, then the Fact-Finding Panel shall include in its written decision its findings on the degree of severity of the matter and a recommendation for the imposition of sanctions, which may include:

- i. a written admonition by the Commissioner of Education and Human Resources, a copy of which shall be retained in the CAT's certification file; or
- ii. a suspension of the CAT's right to use the CAT certification for a period of time; or
- iii. a revocation of the CAT.

f. The written decision of the Fact-Finding Panel shall be sent to the Chair of the Board of Pre-College Education, the Commissioner of Education and Human Resources, and

the CAT. The Chair of the Board on Pre-College Education and the Commissioner, after a review of the decision, shall jointly determine in their judgment the appropriate sanction and administer the same.

5) A CAT against whom action has been taken may, within 30 days of the date of notification of the action, appeal the action in writing to the Executive Committee of the Society.