

California Community Colleges

# Distance Education Guidelines

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Second Edition*



**Educational Services Division  
Academic Affairs and Instructional Resources Unit  
Chancellor's Office, California Community Colleges**

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This document may also be viewed on the World Wide Web at the following address:

[http://www.ccccoco.edu/divisions/esed/aa\\_ir/disted/attachments/DEGuidelinesMar2004.doc](http://www.ccccoco.edu/divisions/esed/aa_ir/disted/attachments/DEGuidelinesMar2004.doc)

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## California Community Colleges Distance Education Regulations and Guidelines

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### Overview

The Board of Governors (BOG) approved the following Distance Education (DE) regulations in March 2002. In July 2002, the regulations were filed with the Secretary of State. The regulations are based on the recommendations made by the Chancellor's Office (CO) and the systemwide advisory group, Distance Education Technical Advisory Committee (DETAC). These regulations continue to allow California Community Colleges to explore and develop educational initiatives using advanced communication and computing technologies to address student access issues related to geographical, cultural, disability or facility barriers.

These regulatory changes will assist in mainstreaming DE and fully integrate DE into the community college system. The modifications are contained in the following document that clarifies and defines DE, curriculum issues, attendance accounting computations, and distinguishes DE as separate from independent study. All DE courses, sections and sessions designed to use any mediated technologies are still subject to the same local and state approval standards and procedures that are currently applicable to all other forms of instructional delivery.

In determining whether a course is to be considered as DE, the basic criterion established in the guidelines for Section 55205 needs to be applied (i.e., A distance education course/section or session is defined as the use of technology utilized **51 percent** or more of the time to deliver instruction during the course term and where the student and instructor are separated by distance.) DE courses may then be considered a **virtual equivalent** to a classroom-based course. For example, if the instructor for an Internet course delivers web-based instruction requiring students to complete three (3) hours of instruction during a five-day period, it is the virtual equivalent to the same instructor requiring students to attend a class session three (3) hours within a five-day period. Please note that all courses, be it a distance education course or a brick and mortar class experience must meet the criteria in Section 58003.1 when calculating the FTES. In both situations, the students will need to engage in an additional two (2) hours per week of educational activity for each one (1) hour of "classroom" time in order to meet the Carnegie Unit requirements for academic credit.

While the guidelines accompanying each regulations are not legally binding, it is important to note that district and college observance of the guidelines will play an important part in the community college system's continued review and evaluation of

distance education activities and any subsequent revisions of DE regulations. Districts, which follow the guidelines, are assured that the Chancellor's Office will be likely to find that they are in compliance with all regulatory requirements. The guidelines can and will be revised by the Chancellor as deemed necessary, upon the advice from DETAC according to the Board of Governors' *Standing Order* 409.

## **Regulations and Guidelines on Distance Education**

### **55205. Definitions and Application.**

Distance education means instruction in which the instructor and student are separated by distance and interact through the assistance of communication technology. All distance education is subject to the general requirements of this chapter as well as the specific requirements of this article. In addition, instruction provided as distance education is subject to the requirements that may be imposed by the Americans with Disabilities Act (42 U.S.C. §12100 et seq.) and section 508 of the Rehabilitation Act of 1973, as amended, (29 U.S.C. §794d).

**Note:** Authority cited: Sections 70901 and 66700, Education Code.  
Reference: Sections 70901 and 70902, Education Code.

### **Guideline for Section 55205**

Board of Governors approval of DE in the system is to allow the exploration and development of educational initiatives using advanced communication and computing technologies to address student access issues related to geographical, cultural, disability or facility barriers. Detailed directions for making DE courses accessible for persons with disability are provided at the end of these guidelines.

A DE course/section or session is defined as the use of technology utilized **51 percent** or more of the time to deliver instruction during the course term and where the student and instructor are separated by distance. The delivery of instruction in the DE modality can include the use of one or a number of technologies. As an example, an instructor can use the Internet, email video and class lecture to deliver instruction (hybrid course). However, if the use of the combined mediated technology is 50 percent or less, or the student and instructor are not separated by distance, the course/section/session is considered a classroom-based traditional course/section/ session.

### **55207. Course Quality Standards.**

The same standards of course quality shall be applied to distance education as are applied to traditional classroom courses, in regard to the course quality judgments made pursuant to the requirements of section 55002 of this part, and in regard to any local course quality determination or review process.

**Note:** Authority cited: Sections 70901 and 66700, Education Code.  
Reference: Sections 70901 and 70902, Education Code.

**55209. Course Quality Determinations.**

Determinations and judgments about the quality of distance education under the course quality standards referred to in section 55207 shall be made with the full involvement of faculty in accordance with the provisions of subchapter 2 (commencing with section 53200) of chapter 2 of division 4 of this part.

**Note:** Authority cited: Sections 70901 and 66700, Education Code.  
Reference: Sections 70901 and 70902, Education Code.

**Guideline for Sections 55207 and 55209**

These two sections emphasize the extent to which course quality depends upon the full involvement of faculty in DE design and application.

**55211. Instructor Contact.**

In addition to the requirements of section 55002 and any locally established requirements applicable to all courses, district-governing boards shall ensure that:

(a) All approved courses offered as distance education include regular effective contact between instructor and students, through group or individual meetings, orientation and review sessions, supplemental seminar or study sessions, field trips, library workshops, telephone contact, correspondence, voice mail, e-mail, or other activities.

(b) All distance education courses are delivered consistent with guidelines issued by the Chancellor pursuant to section 409 of the Procedures and Standing Orders of the Board of Governors. Regular effective contact is an academic and professional matter pursuant to title 5, section 53200.

**Note:** Authority cited: Sections 70901 and 66700, Education Code.  
Reference: Sections 70901 and 70902, Education Code.

**Guideline for Section 55211**

This section defines what contact must be maintained between instructor and student: Subsection (a) stresses the responsibility of the instructor in a DE course to initiate regular contact with enrolled students to verify their participation and performance status. The use of the term “regular effective contact” in this context suggests that students should have frequent opportunities to ask questions and receive answers from the instructor of record.

Subsection (b) honors the principle that for DE courses, there are a number of acceptable interactions between instructor and student, not all of which may require in-person contact. Thus, districts will need to define “effective contact,” including how often, and in what manner instructor-student interaction is achieved. It is important that districts document how regular effective contact is achieved. Since regular effective

contact was declared an academic and professional matter, this documentation must include demonstration of collegial consultation with the academic senate, for example through its delegation to the local curriculum committee. A natural place for this to occur is during the separate course approval process (see section 55213). Documentation should consist of the inclusion of information in applicable outlines of record on the type and frequency of interaction appropriate to each DE course/section or session. As indicated in the *Guideline to Section 55219*, districts need to describe the type and quantity of student-faculty interaction in their annual reports to their local governing boards and the State Chancellor's Office.

### **55213. Separate Course Approval.**

Each proposed or existing course, if delivered by distance education, shall be separately reviewed and approved according to the district's certified course approval procedures.

**Note:** Authority cited: Sections 70901 and 66700, Education Code.  
Reference: Sections 70901 and 70902, Education Code.

### **Guideline for Sections 55213**

In 1994, this requirement (which originally appeared in section 55378) was established to ensure that all existing DE courses and all traditional courses being converted to a DE modality (telecourse, internet, etc.) be reviewed and approved by the local curriculum committees, prior to scheduling the course for student enrollment.

In making use of the existing local curriculum approval process, there must be documentation of "regular effective contact" as described in 55211. For this reason, a course/section or session should be separately reviewed the first time it is offered in a technology mediated mode, and subsequently reviewed again when the technology changes sufficiently to alter the answers to how regular effective contact is achieved.

For example: An existing English 1A class received curriculum approval in 1995. In 2001 it was proposed that one section of this existing English 1A course be offered as distance education, using commercially available software. This proposal needs separate review by the existing curriculum approval process and this review must document how regular effective contact will be achieved.

In 2002 it was proposed that additional sections of the same English 1A course be offered as distance education by several different instructors, still, using the originally approved commercially available software. This does not need separate review.

In 2003 it was proposed that a section of this English 1A course be offered as distance education using different online software developed by a faculty member or alternate vendor that changes delivery. This proposal needs separate curriculum review to document how regular effective contact will be achieved with the new technology.

**55215. Faculty Selection.**

Instructors of sections delivered via distance education technology shall be selected by the same procedures used to determine all instructional assignments. Instructors shall possess the minimum qualifications for the discipline into which the course's subject matter most appropriately falls, in accordance with article 2 of chapter 4 of division 4 of this part (commencing with section 53410), and with the list of disciplinary definitions and requirements adopted by the Board of Governors to implement that article, as such list may be amended from time to time.

**Note:** Authority cited: Sections 70901 and 66700, Education Code.

Reference: Sections 70901 and 70902, Education Code.

**Guidelines for 55215**

This section emphasizes that faculty delivering distance education courses/sections should have the same minimum qualifications and should be selected by the same process as those faculty teaching all other assignments. It is worth noting that many forms of DE delivery require technical knowledge on the part of faculty. In addition, DE faculty can benefit from training in how to effectively teach in a DE environment and in how to update their DE course to enhance student learning.

**55217. Number of Students**

The number of students assigned to any one course section offered by distance education shall be determined by and be consistent with other district procedures related to faculty assignment. Procedures for determining the number of students assigned to a course section offered by distance education may include a review by the curriculum committee established pursuant to section 55002(a)(1).

Nothing in this section shall be construed to impinge upon or detract from any negotiations or negotiated agreements between exclusive representatives and district governing boards.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.

Reference: Sections 70901 and 70902, Education Code.

**55219. Ongoing Responsibility of Districts.**

Any district conducting courses under section 55316.5 shall:

(a) Maintain records and report data through the Chancellor's Office Management Information System on the number of students and faculty participating in new courses or sections of established courses,

(b) Provide to the local governing board, no later than August 31st of each year, a report on all distance education activity,



(c) Provide other information consistent with reporting guidelines developed by the Chancellor pursuant to section 409 of the Procedures and Standing Orders of the Board of Governors.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.  
Reference: Sections 70901 and 70902, Education Code.

### **Guideline for Section 55219**

Districts offering DE courses/sections and sessions or beginning new ones are required to regularly report all management information system (MIS) elements to the Chancellor's Office Management Information System Division. To fulfill this MIS reporting requirement, districts will need to assure that data, now regularly reported within data element XFO1 on each session's method of instruction, to reliably differentiate DE from non-DE activities. The data element XF01 Session-Instruction-Method has been revised to better reflect the types of DE instructional methods currently taking place.

Section 55219 also requires districts to report annually all DE activity to their local governing board and respond to any CO request for data on DE. To the extent possible local reports should compare and contrast DE to traditional instructional delivery. The annual report to the local governing board should, to the extent possible, address the following questions:

#### **Purpose**

- What was the intent in offering the course by DE? How was learning enhanced by the use of technology?

#### **Student Access**

- What is the evidence, if any; that the new methodology increased the number of students served, or extended services to students with disabilities?
- What student services were provided to support student success for DE?
- In what ways were the goals of the district's Student Equity Plan furthered?

#### **Faculty**

- How were faculty selected to teach each DE section and what relevant professional development activities and support services were provided to them?
- What was their perception of the experience, as expressed by instructors and student services professionals? Which new approaches were judged effective? Which were judged non-effective?

**Quality**

- How did student satisfaction compare with that in courses offered in a traditional mode?
- How did student achievement compare with that in courses offered in a traditional mode?
- Did students with prior independent study experience do better in DE than those without prior experience?
- How did the type and quantity of student-faculty interaction in each course compare with that in courses offered in the traditional mode?
- What types of instructional support and student services were provided to students and students with disabilities?
- How appropriate and effective was the courseware for each course?
- Was equipment satisfactory for each course?
- Which technological mix was used most effectively?
- What differences, if any, were there in the level of student achievement in transferable versus nontransferable DE courses? How does this compare with any differences between transferable and nontransferable traditional courses?

**Other Costs**

- How did start-up costs for DE compare with other modes of instruction?
- How did continuing costs for DE compare with other modes of instruction?
- In what ways, if any, does faculty and staff load differ for DE sections?

**Recommendations**

- What suggestions can be made for the improvement of DE?

The Chancellor's Office will continue to provide a survey electronically with instructions and information regarding timelines, formats, and the reporting instrument annually for the Title 5 Distance Education (DE) Institutional, Student and Faculty Satisfaction surveys Community Colleges (CCC). The results of the annual surveys will be available on the Chancellor's Office (CO) website. The survey consists of questions relevant to distance education courses/programs offered at CCC campuses.

Based on input from the Technical Advisory Committee referenced in the Board of Governors *Standing Order* 409, the Chancellor may require districts to provide additional information.

**55316.5. Additional Courses.**

Notwithstanding any other provision of law, after June 1, 1994, the following additional types of courses may be offered, as independent study if conducted by distance education consistent with the requirements of article 3 of subchapter 1 (commencing with section 55002) of this chapter and the guidelines developed by the Chancellor:

- (a) Nontransferable courses designed to meet the requirements of sections 55805.5, 55806, and 55002(a) or (b)
- (b) Noncredit courses.

**Note:** Authority cited: Sections 66700, and 70901, Education Code.  
Reference: Sections 70901, and 70902, Education Code.

**Guideline for Section 55316.5 Additional Courses**

Even though DE courses/sections and sessions are being moved and added to article 3 of subchapter 1 of chapter 6 of division 6 of the California Code of Regulations, Section 55316.5 was not substantively changed. This section allows non credit – independent study courses to be offered in the distance education modality. At the present time, however, other types of noncredit independent study courses are not allowed for reimbursement of FTES. A noncredit course is defined as a course, which at a minimum, is recommended by the college and/or district curriculum committee and approved by the district governing board as a course meeting the needs of enrolled students (see section 55002(c)). A non-transfer course is defined as a course not transferable to UC or CSU towards completion of a baccalaureate degree.

**58003.1. Full-time Equivalent Student; Computation.**

(a) Pursuant to the provisions of section 58051, the units of full-time equivalent student for apportionment purposes shall be computed for courses, including those delivered by distance education under article 3 (commencing with section 55205) of subchapter 1 of chapter 6, based on the type of course, the way the course is scheduled, and the length of the course.

(b) The governing board of each community college district shall, for each of its colleges or its district, select and establish a single primary term length for credit courses that are scheduled regularly with respect to the number of days of the week and the number of hours the course meets each week, inclusive of holidays. The units of full-time equivalent student of credit courses scheduled conterminously with the term, exclusive of independent study and work-experience education courses, shall be computed by multiplying the student contact hours of active enrollment as of Monday of the week nearest to one-fifth of the length of the term, unless other weeks are specified by the Chancellor to

incorporate past practice, by the term length multiplier, and divided by 525. The term length multiplier for attendance accounting purposes shall be determined in accordance with regulations of the Board of Governors, provided that the maximum multiplier for semester length terms shall be 17.5 and the maximum multiplier for quarter length terms shall be 11.67.

(c) For credit courses scheduled to meet for five or more days and scheduled regularly with respect to the number of hours during each scheduled day, but not scheduled continuously with the college's primary term established pursuant to subsection (b), or scheduled during the summer or other intersession, the units of full-time equivalent student, exclusive of independent study and work-experience education courses, shall be computed by multiplying the daily student contact hours of active enrollment as of the census day nearest to one fifth of the length of the course by the number of days the course is scheduled to meet, and divided by 525.

(d) For credit courses scheduled to meet for fewer than five days, and all credit courses scheduled irregularly with respect to the number of days of the week and the number of hours the course meets on the scheduled days, the units of full-time equivalent student, exclusive of independent study and work-experience education courses shall be computed by dividing actual student contact hours of attendance by 525.

(e) For all open entry-open exit credit courses and for all noncredit courses otherwise eligible for state aid, the units of full-time equivalent student shall be computed by dividing actual student contact hours of attendance by 525.

(f) For independent study and work-experience education courses:

(1) For credit courses, for purposes of computing full-time equivalent student only, one weekly student contact hour shall be counted for each unit of credit for which a student is enrolled in one of those courses. The full-time equivalent student of those courses shall be computed by multiplying the units of credit for which students are enrolled as of the census day prescribed in subsection (b) or (c), as appropriate for the primary term or intersession and duration for which the course is scheduled, by the term length multiplier as provided for in subsection (b), and dividing by 525.

(2) For noncredit course sections conducted as distance education pursuant to section 55316.5, for purposes of computing full-time equivalent student only, weekly student contact hours shall be derived by counting the hours of instruction or programming received by the students, plus instructor contact as defined in programming received by the students, plus instructor contact as defined in section 55211, plus outside-of-class work expected as noted in the course outline of record and approved by the curriculum committee, and dividing the total number of hours thus derived by 54. Hours of instruction or programming received shall be independently verified by the instructor using a method or procedure approved by the district according to policies adopted by the local governing board as required by section 58030. Full-time equivalent student for such noncredit distance instruction course sections shall be computed by multiplying: (A) the average of the number of students actively enrolled in the section as of each census date (those dates nearest to one-fifth and three-fifths

of the length of the course section) by, (B) the weekly student contact hours as derived above in this section, by (C) the primary term length multiplier of 17.5, and (D) dividing by 525.

(g) Notwithstanding subsections (b) and (c) of this section, the units of full-time equivalent student for any credit course other than independent study and work-experience education courses may, at the option of the district, be computed by dividing the actual student contact hours of attendance by 525. When a district chooses to exercise the option of computing attendance for any course section by the actual student contact hours method, such method must be used consistently for all attendance accounting for that section.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.  
Reference: Section 70901, Education Code.

### **Guideline for Section 58003.1**

Distance Education courses/sections and sessions have been mainstreamed. To effectuate this change, Section 58003.1 was revised to reflect the ability for colleges to compute DE Full Time Equivalent Student (FTES) using the same attendance accounting procedures available to a classroom – based course/section or session (traditional delivery). Additionally, Section 55370, which previously stated, “all distance education is independent study” was deleted. Section 58056 was also revised to exempt DE courses from the “immediate supervision and control” requirements prescribed by that section. Additional discussion relative to “immediate supervision and control” is provided in a separate *Guideline for Section 58056*. It should be noted that prior to the revision of section 58003.1, section 55370, which as noted above has been deleted, did permit “fully interactive” DE courses to use attendance procedures other than IS/WEE. ***The revision to section 58003.1 makes it even clearer that DE courses can apply any attendance procedure that they are eligible to use based on the specific criteria applicable to each procedure.***

In spite of the changes noted above, please be aware that other essential requirements and criteria applicable to the various attendance accounting procedures continue to apply. For example, Title 5 sections 58003.1(b) and (c) relative to counting the student contact hours of active enrollment in the census based attendance procedures have not been amended--and as indicated above, they speak of “regularly scheduled” days and hours. Also, Title 5 section 58023 requires that the class (contact) hour unit for classes be not less than 50 consecutive minutes. Title 5 sections 58000 and 58030 also continue to require detailed tabulations of all course enrollment and attendance and appropriate support records. The Actual Hours of Attendance procedure (Positive Attendance) provided by Title 5 Section 58003.1(d) can be used if the course is irregularly scheduled and all applicable requirements are met. If the DE courses cannot meet all of the criteria applicable to the attendance procedures provided by section 58003(b), (c), or (d) they must be accounted for on an independent study basis (number of units). A complete explanation of these and other essential attendance accounting

and reporting requirements are provided in the *Student Attendance Accounting Manual* (Chapters 1 and 3.)

**Credit DE courses** can calculate FTES in one of four ways:

- **Weekly Student Contact Hour Procedure (Weekly Census):** Credit DE courses that are regularly scheduled with respect to the number of days of the week and the number of hours the course meets on each scheduled day and scheduled coterminously with the primary term can compute FTES under Section 58003.1(b). An example of a regularly scheduled Credit DE course might be a telecourse that is broadcast at the same time(s) every week of the primary term.
- **Daily Student Contact Hours Procedure (Daily Census):** Credit DE courses scheduled to meet for five or more days and scheduled regularly with respect to the number of hours during each scheduled day, but not scheduled coterminously with the primary term can compute FTES under Section 58003.1(c).

*[Note: The Student Attendance Accounting Manual (Chapter 3) provides specific guidance for the “To Be Arranged” (TBA) scheduling option as applicable to Weekly or Daily Census procedure courses. Under this scheduling option, students adhere to individual schedules for meeting with the instructor as opposed to a single scheduled time for all students. However, each individual schedule continues to be based on regular weekly or daily contact hours depending on the applicable census based attendance procedure. In the case of DE courses, the regular contact could be met through online chat rooms, e-mail discussions, or other communication technology that allows for actual interaction between the student and the instructor. Please review the Student Attendance Accounting Manual (Chapter 3) for additional guidance on the TBA scheduling option.]*

- **Actual Hours of Attendance Procedure (Positive Attendance):** Credit DE courses scheduled for fewer than five days or that are scheduled irregularly with respect to the number of days of the week and the number of hours the course meets on the scheduled days can use the Positive Attendance procedure under Section 58003.1(d). If a college/district wishes to use this attendance procedure for the computation of FTES, the college/district must keep track of the actual student contact hours for the course. It is possible for some Internet-based DE courses to apply to the Positive Attendance procedure.
- **Independent Study:** If a DE course is not structured so that it will qualify to use either the weekly or daily census procedure, and the college/district does not wish to keep track of actual student contact hours of attendance for the purposes of computing FTES, the college/district may choose to conduct the course as DE independent study under Section 58003.1(f).

Please note there is the possibility of a significant difference in the amount of FTES generated between an independent study **lab** course and a traditional delivery **lab** course. Although an independent study **lab** course is not likely to be offered or coded as such, it is important to be aware of this possible difference. The reason is that the independent study procedure uses the **number of units of credit** as the basis for determining the student contact hours [§58003.1(f)(1)], while the Weekly Census, Daily Census, and Positive Attendance procedures use either the student contact hours of active enrollment or the actual **number of student contact hours of attendance** [§58003.1 (b, c, or d)]. For example, in a traditional one-unit weekly census **lab** course a student would attend class for three hours a week for 17.5 weeks (52.5 contact hours per student). If this same **lab** course was conducted as a DE independent study course, the weekly contact hours would be based on the number of units and would therefore only generate 17.5 contact hours per student (1 unit of credit x 17.5 weeks = 17.5 hours per student).

If a separate course section identifier code is used for the course the appropriate attendance procedure for the computation of FTES must be determined by considering the applicable criteria for Weekly Census, Daily Census, Positive Attendance, or Independent Study, sections 58003.1 (b), (c), (d) or (f). Weekly and Daily Census computations are similar and, therefore, have been combined for the purposes of illustration.

The following are examples of the FTES computation for a course using the Weekly/Daily Census, Positive Attendance, and Independent Study attendance accounting procedures. Other than in lab courses as illustrated above, at this time there is not a difference in FTES generated between a traditional course or a course delivered via distance education:

### **Example 1**

#### **Computation of per student FTES for a three unit course**

##### **A. Weekly/Daily Census**

3 hours of weekly student contact x 17.5 weeks in semester = 52.5 hours  
52.5/525 hours = .10 FTES

##### **B. Positive Attendance**

52.5 actual student contact hours of attendance/525 = .10 FTES

##### **C. Independent Study**

3 unit of credit x 17.5 weeks in semester = 52.5 hours  
52.5/525 hours = .10

**Example 2****Computation of FTES in a three-unit course with 20 enrolled students****A. Weekly/Daily Census**

Each student would generate three hours of weekly student contact as of the census. The computation of FTES in a traditional one-unit term-length (17.5 weeks) course is:

$$3 \text{ hours} \times 20 \text{ students} \times 17.5 \text{ weeks} = 1,050 \text{ hours}$$

$$1,050 / 525 \text{ hours} = 2 \text{ FTES}$$

**B. Positive Attendance**

In this example, each student can generate a maximum of 52.5 contact hours of attendance if the student is not “absent” for any of the instruction. In this example, all students were in attendance for all the hours of instruction.

$$52.5 \text{ total actual hours of attendance per student} \times 20 \text{ students} = 1,050 \text{ hours}$$

$$1,050 / 525 = 2 \text{ FTES}$$

**C. Independent Study**

The calculation is based on the number of units of credit in which the student is enrolled as of the census. The computation of FTES in a three-unit independent study term length (17.5 weeks) course is:

$$3 \text{ units} \times 20 \text{ students} \times 17.5 \text{ weeks} = 1050 \text{ hours}$$

$$1050 / 525 \text{ hours} = 2 \text{ FTES}$$

In any of the above situations, the students will need to engage in an additional two (2) hours per week of educational activity for each one (1) hour of “classroom” time in order to meet the Carnegie Unit requirements for academic credit.

**Noncredit DE Courses**

As prescribed by title 5 section 58003.1(f)(2), noncredit DE courses continue to have only one attendance accounting procedure available to them. This procedure requires two census points (one-fifth and three-fifths point in the length of each course) in which



student contact hours and active enrollment are determined. The average of the contact hours generated at these two points are divided by 525 to compute FTES. Detailed guidance applicable to this procedure is provided in the Student Attendance Accounting Manual (Chapter 3).

### **58003.3. Alien Students.**

Notwithstanding section 68062 of the Education Code, for the purposes of crediting community college attendance for apportionments from the State School Fund, a community college district may claim the attendance of students living in California who have been lawfully admitted to the United States in accordance with all applicable laws of the United States and enrolled in noncredit courses.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.  
Reference: Section 70901, Education Code.

### **58007. Noncredit Classes.**

Contact hours of enrollment in noncredit courses shall be based upon the count of students present at each course meeting. Full-time equivalent students in noncredit courses shall be computed by dividing the sum of contact hours of enrollment by 525.

Noncredit distance education courses may be conducted as independent study pursuant to section 55316.5, and the computation of full-time equivalent students for such courses is prescribed in section 58003.1(f)(2).

Nonresidents may be claimed for purposes of calculating full-time equivalent students only if they are living in California during the period of attendance and are otherwise eligible for such purposes as provided in this chapter.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.  
Reference: Section 70901, Education Code.

### **Guideline for Section 58007**

This section cross-references the new noncredit computation procedure described in Section 58003.1(f)(2) above. It also adds a new requirement that nonresidents may only be claimed for apportionment in noncredit courses if they are living in California. All other requirements for claiming apportionment for nonresidents continue to apply.

**58009. Application of Independent Study or Work-Experience Attendance Procedure.**

(a) One weekly student contact hour shall be counted for each unit of credit for which the student is enrolled as of the census day prescribed in section 58003.1(b) or (c).

(b) For credit courses full-time equivalent students in independent study or work-experience education courses in primary terms is computed by multiplying the weekly student contact hours authorized pursuant to subsection (a) of this section, generated as of the census date prescribed in section 58003.1(b) by the term length multiplier as provided for in section 58003.1, and dividing by 525.

(c) For noncredit courses conducted as distance education, full-time equivalent students is computed on a census basis as prescribed in section 58003.1(f)(2).

(d) Full-time equivalent student in independent study or work-experience education courses conducted during a summer or other intercession is computed by multiplying the weekly student contact hours, authorized pursuant to subsection (a) of this section, generated in each course, by a course length multiplier that produces the same total weekly student contact hours for the same student effort as would be generated in such courses conducted in the primary terms, and dividing by 525.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.

Reference: Section 70901, Education Code.

**Guideline for Section 58009**

This section established a sunset to the new noncredit computation procedure described in section 58003.1(f)(2) above. Thus, no noncredit DE will be eligible for state apportionment after July 1, 2002, unless a later-adopted regulation deletes or extends this date.

**58051. Method for Computing Full-Time Equivalent Student (FTES).**

(a)(1) Except as otherwise provided, in computing the full-time equivalent student of a community college district, there shall be included only the attendance of students while they are engaged in educational activities required of students and while they are under the immediate supervision and control of an academic employee of the district authorized to render service in the capacity and during the period in which he or she served.

(2) A community college district may also include the attendance of students enrolled in approved courses or programs of independent study, including courses, or programs formerly conducted as coordinated instruction systems, who are under the supervision, control, and evaluation, but not necessarily in the immediate presence, of an academic employee of the district who is authorized to render such service. Such attendance may only be included for college level credit courses and programs which are accepted for completion of an appropriate

educational sequence leading to an associate degree, and which generally are recognized upon transfer by institutions of the University of California or the California State University.

The community college district shall determine the nature, manner, and place of conducting any independent study courses or program in accordance with rules and regulations adopted by the Board of Governors of the California Community Colleges to implement the purposes of this subsection. The rules and regulations shall require community college districts to ensure that the components of each individual study course or program for each student shall be set out in a written record or program, including the number of units and hours of study required, the arrangements for consultation with the instructor, the work product to be evaluated, and the college facility required. The rules and regulations shall also provide for input from, and participation by, faculty, who are selected by academic senates or faculty councils, and students, in the development and evaluation of approved educational courses and programs.

(3) A community college district may also include the attendance of students enrolled in approved distance education in accordance with the provisions of article 3 (commencing with section 55205) of subchapter 1 of chapter 6

(b) For the purpose of work-experience education programs in the community colleges meeting the standards of the California State Plan for Vocational Education, "immediate supervision" of off-campus work training stations means student participation in on-the-job training as outlined under a training agreement, coordinated by the community college district under a state-approved plan, wherein the employer and academic school personnel share the responsibility for on-the-job supervision. The student/instructor ratio in the work-experience program shall not exceed 125 students per full-time equivalent academic coordinator.

(c) For purposes of computing the full-time equivalent student of a community college district, attendance shall also include student attendance and participation in in-service training courses in the areas of police, fire, corrections, and other criminal justice system occupations that conform to all apportionment attendance and course of study requirements otherwise imposed by law, if the courses are fully open to the enrollment and participation of the public. However, prerequisites for the courses shall not be established or construed so as to prevent academically qualified persons who are not employed by agencies in the criminal justice system from enrolling in and attending the courses.

(d) Notwithstanding Subsection (c) and any regulation related there-to, a community college may give preferences in enrollment to persons who are employed by, or serving in a voluntary capacity with, a fire protection or fire prevention agency in any course of in-service fire training at the community college in cooperation with any fire protection or fire prevention agency or association. Preferences shall only be given when such persons could not otherwise complete the course within a reasonable time and when no other training program is reasonably available. At least 15 percent of the enrollment in in-service fire training courses shall consist of persons who are neither volunteers of, nor employed by, a fire protection or fire prevention agency or association, if

the persons are available to attend a course. Full-time equivalent student for the courses shall be reported state for aid.

(e) Subsection (d) shall apply only to the following :

(1) Community colleges which , in cooperation with any fire protection or fire prevention agency or association, have been, as of January 1, 1980, the primary source of in-service fire training for any fire protection or fire prevention agency or association.

(2) Community colleges which, in cooperation with any fire protection or fire prevention agency or association, establish in-service fire training for any fire protection or fire prevention agency or association which did not have in-service fire training, prior to January 1, 1980.

(f) In the event that in-service training courses are restricted to employees of police, fire, corrections, and other criminal justice agencies, attendance for the restricted courses shall not be reported for purposes of attendance for state apportionments. A community college district which restricts enrollment in in-service training courses may contract with any public agency to provide compensation for the cost of conducting such courses.

(g) Positive records of student admissions and full time-time equivalent student in all in -service training courses in the area of police, fire, corrections and other criminal justice system occupations, as described in Subsection (c), shall be maintained by each district and shall be separately reported annually to the Chancellor's Office.

**Note:** Authority cited: Sections 66700 and 70901, Education Code.  
Reference: Section 70901, Education Code.

### **Guideline for Section 58051**

Subsection (a)(3) has been added to existing language to cross-reference the districts' new authority to offer nontransferable DE as defined in Section 55316.5(a) and (b).

#### **58056. Immediate Supervision and Control.**

(a) Subdivision (a)(1) of section 58051 requires, as a condition for claiming attendance for apportionment purposes, the immediate supervision and control of an academic employee authorized to render service in a capacity and during the period in which he or she served. Immediate supervision and control requires the presence of the authorized employee. More specifically, immediate supervision or presence is characterized by all of the following:

(1) The authorized employee is able, in terms of physical proximity and range of communication, to provide immediate instructional supervision and control; and

(2) The authorized employee is in a position to provide the supervision and control necessary for the protection of the health and safety of students; and

(3) The authorized employee is not to have any other assigned duty during the instructional activity for which attendance is being claimed. The criteria

specified above are to be applied in recognition of the fact that the need for immediate supervision will vary according to the course being offered, as well as with the design or mode of instruction of such course or program.

(b) Under the following limited circumstances, attendance of students enrolled in a course or program which does not meet the requirements of subdivision (a) shall qualify for apportionment purposes if:

(1) The course or program is approved and being conducted as distance education in accordance with article 3 (commencing with section 55205) of subchapter 1 of chapter 6; or

(2) The course or program is approved and being conducted as independent study in accordance with subchapter 4 (commencing with section 55300) of chapter 6; or

(3) The course or program is approved and being conducted as work experience education in accordance with subchapter 3 (commencing with section 55250) of chapter 6 of this part; or

(4) The course or program is approved and is being conducted as health sciences education in accordance with section 58055(a).

(c) Attendance generated solely under an instructional assistant or aide does not qualify for apportionment. In addition, instructional aides shall not be used to increase the number of students in relation to the number of classroom instructors in the district. However, attendance may qualify for apportionment under the following limited circumstances:

(1) The assistant or aide functions under the exclusive direction of the authorized employee assigned to that educational activity, and not independently; and

(2) The assistant or aide performs only those duties specifically authorized by law, including, but not limited to, sections 88240-88249 of the Education Code; and,

(3) The authorized employee is able, in terms of physical proximity and range of communication, to provide necessary supervision and control of students, so that by working in conjunction with the assistant or aide, the requirements of subsection (a) of this section are met.

**Note:** Authority cited: Sections 66700, 70901 and 84500, Education Code.

Reference: Section 70901, and 84500

### **Guidelines for Section 58056 for Immediate Supervision and Control**

This section addresses the requirement that students must be under the supervision of an instructor attending an on-campus course. In the 1994 decision to open DE to all areas of instruction during an evaluation period, DE regulations were restricted to being offered as independent study. Section 58056 has now been amended to exempt DE courses from the immediate supervision and control requirement. This is critical in order to mainstream DE into the traditional mode of instruction.

The following sections of title 5 were not amended but are included in the guidelines for specific requirements allowed in the law for reimbursement of FTES for Independent Study and Tutoring. Currently the provisions do not allow for reimbursement of FTES for the offering of tutoring in a virtual environment. (See Legal Opinion E 01-36)

**55340. Eligibility for State Funds.**

In order for attendance in a course of independent study to be eligible for state apportionment pursuant to the provisions of this Chapter, the course must be reported as required by this Chapter, and meet all other requirements of statute and regulation relative to eligibility for state apportionment.

**Note:** Authority cited: Sections 66700, and 70901, Education Code.  
Reference: Sections 70901, 70902, and 78310, Education Code.

**58168. Tutoring.**

Tutoring, when provided by the college, shall be considered a method of instruction that involves a student tutor who has been successful in a particular subject or discipline, or who has demonstrated a particular skill, and who has received specific training in tutoring methods and who assists one or more students in need of special supplemental instruction in the subject or skill. Student attendance in tutoring is eligible for apportionment only in a noncredit course offered under the provisions of Education Code section 84711(a)(2).

**Note:** Authority cited: Sections 66700 and 70901, Education Code.  
Reference: Section 70901, Education Code.

**58170. Apportionment for Tutoring.**

Apportionment may be claimed for individual student tutoring only if all the following conditions are met:

(a) The individual student tutoring is conducted in a designated learning center.

(b) The designated learning center is supervised by a person who meets the minimum qualifications prescribed by Section 53415.

(c) All tutors successfully complete a course in tutoring methods and the use of appropriate written and mediated instructional materials and which includes supervised practice tutoring. This requirement may be waived by the chief instructional or student services officer on the basis of advanced degrees or equivalent training. All tutors shall be approved by a faculty member from the discipline or disciplines in which the student will tutor.

(d) All students receiving individual tutoring are enrolled in a noncredit course carrying Taxonomy of Programs number 4930.09, which is entitled "Supervised Tutoring."

(e) Students are assigned to the Supervised Tutoring course by a counselor or an instructor on the basis of an identified learning need.

(f) An attendance accounting method is established which accurately and rigorously monitors positive attendance.

(g) Student tutors may be remunerated but may not be granted academic credit for tutoring beyond that stipulated in (c) above.

(h) The district shall not claim state apportionment for tutoring services for which it is being paid from state categorical funds.

**Note:** Authority cited: Sections 70901 and 84500, Education Code.

Reference: Sections 70901, 84500 and 87356, Education Code.

## **Access for the Disabled -- Basic Requirements for Providing Access**

The Americans with Disabilities Act of 1990 (42 U.S.C. 12100 et seq.), section 508 of the Rehabilitation Act of 1973 (29 U.S.C. Sec. 794d), and California Government Code section 11135 all require that accessibility for persons with disabilities be provided in the development, procurement, maintenance, or use of electronic or information technology by a community college district using any source of state funds. (See Legal Opinions M 01-17 and M 03-09) title 5, section 55205 explicitly makes these requirements applicable to all distance education offerings. The following are general principles that should be followed in ensuring that distance education courses are accessible to students with disabilities. They embody the general concepts of the law but do not provide a detailed legal analysis of the ADA requirements. Persons utilizing this document who are unfamiliar with the ADA and section 508 may wish to consult the campus ADA Coordinator or DSP&S Coordinator for further interpretation. In the remainder of this document, specific guidelines will be provided for resolving access issues with respect to particular delivery modes commonly used in DE.

1. One of the primary concepts of DE is to offer students “Learning anytime, anywhere.” Therefore, all DE resources must be designed to afford students with disabilities maximum opportunity to access distance education resources “anytime, anywhere” without the need for outside assistance (i.e. sign language interpreters, aides, etc.).
2. Distance education resources must generally be designed to provide “built-in” accommodation (i.e. closed captioning, descriptive narration) and/or interface design/content layout, which is accessible to “industry standard” assistive computer technology in common use by persons with disabilities.
3. Whenever possible, information should be provided in the alternative format preferred by the student (i.e. sign language interpreter, closed captioning, descriptive narration, Braille, audio tape, large print, electronic text). When choosing between possible alternative formats or methods of delivery, consideration should be given to the fact that methods which are adequate for short, simple or less important communications may not be equally effective or appropriate for longer, more complex, or more critical material (Example: Use of a telephone relay service may be an acceptable method for a faculty member to respond to a brief question from a deaf student during his/her office hours, but

probably would not be appropriate as a means of permitting that same student to participate in a class discussions in a course conducted by teleconference.) Issues concerning accommodation should be resolved through appropriate campus procedures as defined under title 5, section 56027.

4. Adoption of access solutions which include assigning assistants (i.e. sign language interpreters, readers) to work with an individual student to provide access to distance education resources should only be considered as a last resort when all efforts to enhance the native accessibility of the course material have failed.
5. Access to DE courses, resources and materials include the audio, video and text components of courses or communication delivered via satellite, Instructional Television Fixed Services (ITFS), cable, compressed video, Local Area Network/Wide Area Network (LAN/WAN networks), Internet, telephone or any other form of electronic transmission. Access to resources and materials include the audio, video, multimedia and text components of Web sites, electronic chat rooms, e-mail, instructional software, CD-ROM, DVD, laser disc, video tape, audio tape, electronic text and print materials. Where access to Web sites not controlled by the college is required or realistically necessary to completion of a course, the college must take steps to ensure that such sites are accessible or provide the same material by other accessible means.
6. Distance education courses, resources and materials must be designed and delivered in such a way that the level of communication and course taking experience is the same for students with or without disabilities.
7. Any DE courses, resources or materials purchased or leased from a third-party provider or created or substantially modified "in-house" after August 1999 must be accessible to students with disabilities unless doing so would fundamentally alter the nature of the instructional activity or result in undue financial and administrative burdens on the district.
8. In August 1999, the Chancellor's Office began requiring that the curriculum for each DE course and its associated materials and resources be reviewed and revised, as necessary, when the course undergoes curriculum review pursuant to title 5, sections 55002 and 55213, every six years as part of the accreditation process. In the event that a student with a disability enrolls in an existing DE course before this review is completed, the college will be responsible for acting in a timely manner and making any requested modifications to the curriculum, materials or resources used in the course, unless doing so would fundamentally alter the nature of the instructional activity or result in undue financial and administrative burden on the district.
9. In the event that a discrimination complaint is filed alleging that a college has selected software and/or hardware that is not accessible for persons with disabilities, the Chancellor's Office and the U.S. Department of Education, Office



for Civil Rights will not generally accept a claim of undue burden based on the subsequent substantial expense of providing access, when such costs could have been significantly reduced by considering the issue of accessibility at the time of initial selection.

10. In all cases, even where the college can demonstrate that a requested accommodation would involve a fundamental alteration in the nature of the instructional activity or would impose an undue financial and administrative burden, it must nevertheless provide an alternative accommodation which is equally effective for the student if such an accommodation is available.
11. Ensuring that distance education courses, materials and resources are accessible to students with disabilities is a shared college responsibility. All college administrators, faculty and staff who are involved in the use of this instructional mode share this obligation. The Chancellor's Office will make every effort to provide technical support and training for faculty and staff involved in the creation of accessible distance education courses, resources and materials through: campus representative(s) to the California Virtual University (CVU) Regional Distance Education Center, staff from the local Regional Distance Education Center(s), campus High Tech Center staff and High Tech Center Training Unit staff.

# ***Distance Education Glossary***

Also included in the Guidelines is a glossary of terms used in the system to identify terms that are used in the delivery of distance education.

## **Accessibility**

In Web pages, it refers to the ability of a Web page to be viewed by everyone, especially people with disabilities who use various assistive technologies. Accessible Web pages take into account the special needs of visitors with auditory, visual, mobility, and cognitive impairments and give those users an equivalent browsing experience to that of non-disabled visitors.

## **Accommodation**

Academic accommodations vary depending upon the documented needs of the individual student and are based on the demonstration that an accommodation is reasonable and necessary to improve the direct impact of a substantial limitation on a major life function.

## **Americans with Disabilities Act (ADA)**

Enacted July 26, 1990, the ADA prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation. It also mandates the establishment of TDD/telephone relay services. The Department of Justice enforces the ADA's requirements in three areas:

Title I Employment practices by units of state and local government

Title II Programs, services, and activities of state and local government

Title III Public accommodations and commercial facilities

## **Alternate Format**

Translation of information into a variety of accessible formats including Braille, large print, ASCII text, audio cassette, captioning, electronic text and more.

## **Alternative Keyboard Layout**

Allows people who experience difficulty with conventional keyboard designs to use computers. The products available range from key guards that prevent two keys from being pressed simultaneously, to alternative keyboards with differing layouts, sizes, etc. for people who have specific needs, to alternative input systems which require other means/methods of getting information into a computer.

## **Alternative Mouse System**

Alternative pointing devices are used to replace the mouse. Includes trackballs and other pointing devices.

**Alternative Text (ALT Text)**

Descriptive text included in IMG tags that appears when the mouse is held over the image. The text should provide a concise alternative description of the image or image map that will make sense when heard through a screen reader. *Include ALT text in your code like this: *

**Assistive Technology**

As defined by the Assistive Technology Act of 1998, the term refers to “any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities.” *Assistive technologies include: screen readers and magnifiers, closed captioning, alternative keyboards, and other special software and equipment that makes information devices more accessible. Also referred to as "Adaptive Technology."*

**Auditory Impairment**

Conditions where people are completely deaf or hard of hearing. They require visual representations (captions or transcripts) of information contained in audio files.

**Analog**

A signal that is received in the same form in which it is transmitted, while the amplitude and frequency may vary.

**Antenna**

The device that sends out and/or receives signals from the satellite. Also referred to as a satellite dish.

**Amplitude**

The amount of variety in a signal. Commonly thought of as the height of a wave. American Standard Code for Information Interexchange (ASCII) – a computer language used to convert letters, numbers, and control codes into a digital code understood by most computers.

**Asynchronous**

Communication in which interaction between parties does not take place simultaneously.

**Asynchronous Transmission Mode (ATM)**

A method of sending data in irregular time intervals using a code such as ASCII. ATM allows most modern computers to communicate with one another easily.

**Audio Bridge**

A device used in audio conferencing that connects multiple telephone lines. Audio conferencing voice only connection of more than two sites using standard telephone lines.

**Backbone**

A primary communication path connecting multiple users.

**Bandwidth**

The amount of spectrum a communication channel (analog or digital) uses, measured in hertz (Hz).

**Band**

A range of frequencies between defined upper and lower limits.

**Binary**

A computer language developed with only two letters in its alphabet.

**Bird**

The nickname for a satellite.

**Bit**

Abbreviation for a single binary digit.

**Bobby**

Software package available for use online or through download that evaluates Web pages for accessibility mainly to visually impaired users. Sites that pass are entitled to display the "Bobby Approved" icon. However, that icon does not mean that those sites also comply with all of Section 508's accessibility requirements. Download Bobby at the <http://bobby.watchfire.com/bobby/html/en/index.jsp>

**Braille**

A system of touch reading and writing for the blind, which employs embossed dots evenly arranged in quadrangular letter spaces or cells.

**Braille Display**

Assistive technology that raises or lowers dot patterns based on input from an electronic device such as a screen reader or text browser.

**Byte**

A single computer word, generally eight bits.

**Broadband**

A term used to refer to high-speed communication networks that are designed to handle bandwidth-intensive applications.

**Broadcasting**

To transmit the same information to multiple receivers simultaneously over a satellite system, radio/TV station, data communications network or e-mail system.

**Browser**

Software that allows you to find and see information on the Internet.

**C-Band**

Refers to the frequency in the 3.4 GHz to 7GHz range. Portions of this band are dedicated to satellite communications. Satellite downlinks are 3.7 to 4.2 GHz.

**Cache**

A place to store something temporarily. Web pages you request are stored in your browser's cache directory on your hard disk. When you return to a page you've recently viewed, the browser gets it from the cache rather than the original server, saving you time and the network additional traffic. You can usually vary the size of your cache, depending on your practical browser.

**Cache Server**

A server relatively close to Internet users and typically within a business enterprise that saves (caches) Web pages and possibly FTP and other files that all users have requested. The cache server rather than the Internet can satisfy successive requests for these pages or files. A cache server not only gets information more quickly but also reduces Internet traffic.

**Caption**

A text transcript of the audio portion of a video file that synchronizes the text to the action contained in the video.

**Captioning Types**

See Distance Education: Access Guidelines for Students with Disabilities, Appendix III (Off-line captioning, Realtime Captioning, Closed captions, Open captions, Closed caption decoder, Roll-up and Pop-On captions, and Captioning Service Providers)  
<http://www.htctu.fhda.edu/dlguidelines/final%20dl%20guidelines.htm>

**Cognitive Impairments**

It includes individuals with general processing difficulties (developmental disabilities, brain injury, etc.), people with very specific types of deficits (short term memory, inability to remember proper names, etc.), learning disabilities, language delays, and more.

**Central Processing Unit (CPU)**

The component of a computer in which data processing takes place.

**Channel**

The smallest subdivision of a circuit, usually with a path in only one direction.

**Coder/DeCoder (CODEC)**

A device used to convert analog signals to digital signals for transmission and reconverts signals upon reception at the remote site while allowing for the signal to be compressed for less expensive transmission.

**Communication Technology**

A system for sending and receiving voice, video and data electronic information.

**Compression**

Reducing the amount of bandwidth needed to transmit video or audio by digitizing an analog signal, thus increasing the ability able to load multiple services on a satellite transponder

**Compressed Video**

When video signals are downsized to allow travel along a smaller carrier.

**Computer-Assisted Instruction (CAI)**

Teaching process in which a computer is utilized to enhance the learning environment by assisting students in gaining mastery over a specific skill.

**Course Session**

Used in Management Information System reporting to indicate the separate records on a section of a course that distinguishes when a part of the section is scheduled at a different time, on different days, in a different facility, or with several instruction methods.

**Courseware**

Educational software and materials (such as programs) for a distance education course.

**Cyberspace**

The nebulous “place” where humans interact over computer networks. Coined by William Gibson in Neuromancer.

**DBS**

Direct Broadcast Satellite. A service that uses satellites to broadcast multiple channels of television programming directly to small dish antennas.

**Decoder**

A device used to unscramble encrypted or “scrambled” television signals.

**Desktop Videoconferencing**

Videoconferencing on a personal computer.

**Dial-up Teleconference**

Using public telephone lines for communications links among various locations.

**Digital**

A quantification scheme that allows the conversion of analog information into bits of data. Digitization allows for signal compression and for maintaining signal integrity.

**Digital Video Interactive(DVI)**

A format for recording digital video onto compact disc allowing for compression and full motion video.

**Descriptive Narration**

Aids blind and visually impaired viewers with descriptive narration of key visual elements of video programming, including descriptive information on scenery, action, expressions/movements and costumes/props – everything that will give the viewer a better “picture” of what is happening.

**Distance Education**

Instruction in which the instructor and student are separated by distance and interact through the assistance of communication technology.

**Distance Education Course**

The delivery of instruction and separation of the student and instructor that utilizes one or a combination of technologies 51 percent or more of the time is considered a Distance Education course/section/session.

**Distance Learning**

The desired outcome of distance education.

**Downlink**

The transmission of radio frequency signals from a satellite to an earth station.

**Download**

Using the network to transfer files from one computer to another.

**Earth Station**

A ground-based antenna and associated equipment used to receive and/or transmit telecommunications signals via satellite.

**Echo Cancellation**

The process of eliminating the acoustic echo in a videoconferencing room.

**Electronic Mail (E-mail)**

Sending messages from one computer user to another.

**Facsimile (FAX)**

System used to transmit textual or graphical images over standard telephone lines.

**FCC**

Federal Communications Commission. The U.S. federal regulatory agency responsible for the regulation of interstate and international communications by radio, television, wire, satellite, and cable.

**Feeds**

Device mounted at the focal point of the antenna that gathers signals reflected from the dish. Also a television signal source.

**Fiber Optic Cable**

Glass fiber that is used for laser transmission of video, audio, and/or data.

**Fifty-one (51%) Rule**

A course/section or session is defined as DE if technology is used 51 percent or more of the time required to deliver instruction during the course term and where the student and instructor are separated by distance.

**File Transfer Protocol (FTP)**

A protocol that allows you to move files from a distant computer to a local computer using a network like the Internet.

**Footprint**

The coverage area of the earth's surface within which the signals of a specific satellite can be received.

**Frequency**

The rate at which a signal (e.g. electrical current) alternates. The standard unit of frequency is the hertz, abbreviated Hz. If a signal completes one cycle per second, then the frequency is 1 Hz; 60 cycles per second equals 60 Hz.

**Hz** Hertz. The name of the basic measure of frequency with which an electromagnetic wave completes a full cycle from its positive to its negative pole and back again. Each unit is equal to one cycle per second.

**KHz** Kilohertz. Refers to a unit of frequency equal to 1,000 Hertz.

**MHz** Megahertz. Refers to a frequency equal to one million Hertz.

**GHz** Gigahertz. Refers to a frequency equal to one billion Hertz.

**Frequently Asked Questions (FAQ)**

A collection of information on the basics of any given subject, often used on the WWW.

**Fully Interactive**

A variety of distance education in which the technology employed provides an immediate opportunity for exchange between participants.



**Full Motion Video**

Signal which allows transmission of complete action taking place at the origination site.

**Fully Interactive Video**

(Two-way interactive video) Two sites interact with audio and video as if they were co-located.

**Geosynchronous Orbit**

An orbit 22,300 miles above the Earth's equator where satellites circle at the same rate as the earth's rotation.

**GMT**

Greenwich Mean Time. The time zone that includes Greenwich, England is bisected by zero degrees longitude. This is the time notation that is used for booking international satellite time.

**Headend**

Location where cable television systems collect and distribute satellite programming.

**Home Page**

A document with an address (URL) on the world wide web maintained by a person or organization which contains pointers to other pieces of information.

**Host**

A network computer that can receive information from other computers.

**Hybrid Course**

A course utilizing more than one mode of instructional delivery. Instruction may be delivered by such modes as, for example, the internet, email, video, and the classroom.

**Hybrid Satellite**

A satellite that carries two or more different communications payloads (i.e. C-band and Ku-band).

**Hypertext Mark-up Language (HTML)**

The code used to create a home page and is used to access documents over the WWW.

**Hypertext Transfer Protocol (HTTP)**

The protocol used to signify an Internet site is a WWW site, i.e. HTTP is a WWW address.

**Hypertext**

A document which has been marked up to allow a user to select words or pictures within the document, click on them, and connect to further information.

**Inclined Orbit**

A condition that occurs when a satellite is no longer station-kept in the north-south plain. A satellite operator might do so to extend the life of a satellite because fuel will only be used to perform station-keeping in the east-west plain. The inclination happens gradually over time, and once it becomes excessive, the satellite is de-orbited.

**Independent Study**

A broad category of courses for which state reimbursement is based upon number of units of credit rather than amount of student attendance. For apportionment purposes, distance education is one variety of independent study.

**Interaction**

A back-and-forth dialog, using communication technology, between the user and the system.

**Instructional Television Fixed Service (ITFS)**

Microwave-based, high-frequency television used in educational program delivery.

**Interactive Media**

Frequency assignment that allows for a two-way interaction or exchange of information.

**ISDN**

Integrated services digital network. A standard for the integrated transmission of voice, video, and data developed by the Consultative Committee on International Telephony and Telegraphy (CCITT).

**JPEG**

Joint pictures expert group. A subgroup of ISO, which has established international standards for the digital compression of still pictures.

**Ka-Band**

Primarily used in satellites operating at 30GHz uplink and 20 GHz downlink and is intended in support of future applications such as mobile voice. A portion of the RF spectrum located between 18 GHz and 31 GHz.

**Ku-Band**

Refers to the frequency in the 12 GHz to 14 GHz range used in support of such applications as broadcast TV, DBS, and direct-to-home television.

**Large Print**

Large print text is oversized print intended for use by the visually impaired.

**LNB**

Low noise blockdownconverter. An electronic part of a satellite earth station that is used to amplify the signal collected by the reflector and the feedhorn.

**ListServ**

An e-mail program that allows multiple computer users to connect onto a single system, creating an on-line discussion.

**Local Area Network (LAN)**

Two or more local computers that are physically connected.

**MAGPie**

Media Access Generator. Tool that allows Web authors to add captions to three multimedia formats: Apple's QuickTime, the World Wide Web Consortium's Synchronized Multi-media Integration Language (SMIL) and Microsoft's Synchronized Accessible Media Interchange (SAMI) format. MAGPie can also integrate audio descriptions into SMIL presentations.

**MCPC**

Multi-channel per carrier. A signal comprised of multiple digital streams that are multiplexed into a single stream, which is then transmitted on single carrier. This is typically used to combine multiple CDV signal into one.

**Microwave**

Electromagnetic waves that travel in a straight line and are used to and from satellites and for short distances (i.e., up to 30 miles).

**Mobility Impairments**

Physical impairments limit movement and fine motor controls like walking, lifting, or using a mouse or keyboard. People with physical impairments often require adaptive or assistive technologies to use computers or navigate through Web sites

**Modem**

A piece of equipment to allow computers to interact with each other via telephone lines by converting digital signals to analog for transmission along analog lines.

**MOSAIC**

An example of browser software that allows WWW use.

**MPEG**

MPEG the Moving Picture Experts Group, develops standards for digital video and digital audio compression. It operates under the auspices of the International

Organization for Standardization. The MPEG standards are evolving, each designed for a different purpose.

**Multi-Media**

Any document which uses multiple forms of communication, such as text, audio, and/or video.

**Multi-Point Control Unit (MCU)**

Computerized switching system which allows point-to-multipoint videoconferencing.

**NAB**

National Association of Broadcasters. A U.S.-based organization that fosters and promotes radio and television broadcasting. PanAmSat has a booth at the NAB trade show held once a year in Las Vegas.

**Netscape**

An example of browser software that allows you to design a home page and to browse links on the WWW.

**Network**

A series of points connected by communication channels in different locations.

**Non-text Equivalent**

Content provided through audio files, sign language, or other visual means to convey information to people with visual or cognitive disabilities.

**On-Line**

Active and prepared for operation. Also suggests access to a computer network.

**Origination Site**

The location from which a teleconference originates.

**Payload**

Supports the primary mission of the satellite, the receipt and transmission of signals, and comprises systems that include receivers, multiplexers, high-powered amplifiers and signal processing.

**Point of Presence (POP)**

Point of connection between an inter-exchange carrier and a local carrier to pass communications into the network.

**Point-to-Point**

Transmission between two locations.

**Point-to-Multipoint**

Transmission between multiple locations using a bridge.

**Polarization**

The orientation of a transmitted/received signal. Signals can have circular or linear polarization.

**PPP**

A software package which allows a user to have a direct connection to the Internet over a telephone line.

**Protocol**

A formal set of standards, rules, or formats for exchanging data that assures uniformity between computers and applications.

**Real Time**

An electronic operation that is performed in the same time frame as its real-world counterpart. For example, real time video transmission.

**Real Time Transcription**

Transcribers attend class and write the spoken word on a steno machine. This process instantly creates English text so that one or more hearing impaired students may not only see what is being said, but non-oral students can utilize the keyboard to ask questions.

**Satellite TV**

Video and audio signals are relayed via a communication device that orbits around the earth.

**SCPC**

Single Channel Per Carrier. A scheme in which only one signal is loaded on a carrier.

**Screen Magnifier**

Software program that magnifies all or part of a computer screen to make the content visible to users with visual impairments.

**Screen Reader**

Software that reads the content of a computer screen aloud. Screen readers can only interpret text content, so all graphic and multimedia must have alternative text descriptions using ALT text, captions, transcripts, or other methods.

**Serial Line Internet Protocol (SLIP)**

Allows a user to connect to the Internet directly over a high speed modem.

**Server**

A computer with a special service function on a network, generally receiving and connecting incoming information traffic.

**Simplex Operation**

Transmissions sent in only one direction of a telecommunications channel.

**Slow Scan Converter**

Transmitter/receiver of still video over narrow band channels. In real time, camera subjects must remain still for highest resolution.

**Space Segment**

A term that describes the portion of the total communications satellite system that is physically located in orbit around the earth.

**Spectrum**

The range of electromagnetic radio frequencies used in transmission of voice, data and television.

**Streaming**

Streaming video is a sequence of “moving images” that are sent in compressed form over the Internet and displayed by the viewer as they arrive. Streaming media is streaming video with sound. With streaming video or streaming media, a Web user does not have to wait to download a large file before seeing the video or hearing the sound. Instead, the media is sent in a continuous stream and is played as it arrives. The user needs a player, a special program that uncompresses and sends video data to the display and audio data to speakers. A player can be either an integral part of a browser or downloaded from the software maker’s Web site.

**Synchronous**

Communication in which interaction between participants is simultaneous.

**Sun Outage**

When the sun passes behind a satellite in relation to the earth, and the sun’s energy momentarily interferes with the satellite signals. Occurs two times each year during spring and fall equinox.

**T-1**

Refers to bit rate of 1.544 million b/s for the United States. The European E-1 transmission bit rate is 2.048 Mb/s.

**T-3 (DS-3)**

A digital channel which communicates at a significantly faster rate than T-1.

**Telecommunications**

The science of information transport using wire, radio, optical, or electromagnetic channels to transmit receive signals for voice or data communications using electrical means.

**Teleconferencing**

Two-way electronic communication between two or more groups in separate locations via audio, video, and/or computer systems.

**Telecourse**

A video-based course which uses a fully integrated package of video instruction combined with instructional support materials (for example, a textbook, a student study guide, and a faculty resource guide). Telecourses are delivered in a variety of ways, including television broadcast.

**Telephone Relay Service**

Telephone Relay Services (TRS) link people using a standard (voice) telephone with people using a device called either a Text Telephone (TTY) or Telecommunications Device for the Deaf (TDD). This device generally consists of a keyboard and display screen. Calls are routed through a communications operator who has both sets of equipment and who acts as the intermediary between callers

**Teleport**

Technical ground facility used for satellite communications. PanAmSat operates six domestic teleports: Atlanta, GA; Napa, CA; Fillmore, CA; Long Beach, CA; Castle Rock, CO; Homestead, FL; and Spring Creek, NY.

**Teleweb**

A course which merges a telecourse (see above) with the internet, providing the addition of online content, instructional/learning activities, resource links, and instructor and student interaction.

**Text Equivalent**

Text content that describes information on the screen that's contained in graphic, Flash, or other multimedia files. Text equivalent is often provided using captions, ALT text, or transcripts. The alternate text must convey the same function or purpose for the user with a disability as the non-text content does for others.

**Text Speech Software**

Text-to-Speech software is used to convert words from a computer document (e.g. word processor document, web page) into audible speech spoken through the computer speaker. This differs from screen reader technology because it doesn't read any system information or alternative text descriptions.

**Text Transcript**

A text description of information contained in audio files.

**TTY**

Most deaf people use a device called a TTY (also known as a TDD), which is a simple keyboard that connects to a telephone, often through an acoustic coupler. When two people communicate via TTY, each sees what the other is typing.

**Tracking**

An earth station feature that allows for tracking inclined satellites.

**Transmission Control Protocol (TCP)**

A protocol which makes sure that packets of data are shipped and received in the intended order.

**Transponder**

A radio frequency path through a satellite with a specific bandwidth, uplink/downlink frequency and beam. Transponders can be sold in whole or can be segmented into smaller pieces of bandwidth.

**Video Teleconferencing**

A teleconference including two-way video.

**Virtual Equivalent**

A mediated technology course that is regularly or irregularly scheduled and meets the criteria for section 58003.1(a)(b)(c) can be considered comparable to a classroom-based course.

**Visual Impairment**

Refers to conditions where people are blind, color blind, or have reduced vision capabilities. Often, these people will use assistive technologies like screen readers or magnifiers to help them use computers and navigate through Web sites.

**Voice Recognition**

Voice or speech recognition is the ability of a machine or program to receive and interpret dictation, or to understand and carry out spoken commands

**Uniform Resource Locator (URL)**

The address of a homepage on the WWW.

**Universal Design**

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

**Usability**

Refers to design features that make a product user friendly for the broadest number of users. For instance, Web sites with usability problems could be hard to navigate, difficult for disabled people to use, or have unclear instructions for use.

**Uplink**

The transmission of radio frequency signals to a satellite from an earth station.



**WAI**

[Web Accessibility Initiative](#), affiliated with the World Wide Web Consortium. Coordinates with organizations around the world to increase the accessibility of the Web through five primary areas of work: technology, guidelines, tools, education and outreach, and research and development. The developer of web content accessibility guidelines. <http://www.w3.org/TR/WCAG10/>

**World Wide Web (WWW)**

A graphical hypertext-based Internet tool that provides access to homepages created by individuals, businesses, and other organizations.