California Community Colleges Chancellor's Office
Hours and Units Calculations

I. Standard Formula for Credit Hour Calculations

Standards for credit hour calculations are contained in title 5 §§55002.5, 55002(a)(2)(B), and 55002(b)(2)(B). Courses not classified as cooperative work experience, clock hour, or open entry/ open exit use the following method for calculating units of credit.

Divide the total of all student learning hours (lecture, lab, activity, clinical, TBA, other + outside-of-class hours) by the hours-per-unit divisor, round down to the nearest increment of credit awarded by the college. Expressed as an equation:

$$\frac{\text{[Total Contact Hours + Outside-of-class Hours]}}{\text{Hours-per-unit Divisor}} = \text{Units of Credit}$$

The result of this calculation is then rounded down to the nearest .5 increment or to the nearest fractional unit award used by the district, if smaller than .5. This formula applies to both semester and quarter credit calculations. While this formula can yield a value below the lowest increment of credit awarded by the college, zero-unit courses are not permissible. The following definitions are used in the application of this formula:

- **Total Contact Hours**: The total time per term that a student is under the direct supervision of an instructor or other qualified employee as defined in §§58050 - 58051. This number is the sum of all contact hours for the course in all calculations categories, including lecture, recitation, discussion, seminar, laboratory, clinical, studio, practica, activity, to-be-arranged, etc. Contact hours for courses may include hours assigned to more than one instructional category, e.g. lecture and laboratory, lecture and activity, lecture and clinical.

- **Outside-of-class Hours**: Hours students are expected to engage in course work outside of the classroom. Federal and state regulations for credit hour calculations are based on the total time a student spends on learning, including outside-of-class hours. As a matter of standard practice in higher education, lecture and related course formats require two hours of student work outside of class for every hour in-class. All other academic work, including laboratory, activity, studio, clinical, practica, TBA, etc. must provide an equivalent total number of student learning hours as typically required for lecture, with the ratio of in-class to outside-of-class work prorated appropriately for the instructional category.

Typically, these ratios are expressed as follows:

Instructional Category	In-class Hours	Outside-of-class Hours
Lecture (Lecture, Discussion, Seminar and Related Work)	1	2
Activity (Activity, Lab w/ Homework, Studio, and Similar)	2	1
Laboratory (Traditional Lab, Natural Science Lab, Clinical, and Similar)	3	0

Other categories or ratios for inside- to outside-of-class hours are possible, but should fall within the parameters for one unit of credit as described above. Standard expectations in higher education for credit hour calculations generally align with the in-class to outside-of-class ratios as described in this table. Deviations from these widely accepted standards, while permitted, can negatively affect course transferability and articulation and should be used with caution. Since TBA hours are required to be listed separately on the COR, any outside-of-class hours expected of students in relationship to TBA contact hours must be included in the total student learning hours for the calculation.

- **Hours-per-unit Divisor**: The value, or value range, used by the college to define the number of hours required to award each unit of credit. This value must be minimum of 48 and maximum of 54 hours for colleges on the semester system and a minimum of 33 and maximum of 36 for colleges on the quarter system. This number represents the total student learning hours for which the college awards one unit of credit. Colleges may use any divisor within this range, but should maintain consistency between the divisor and the dividend. For example, if a college uses the 51 = 1 unit calculation to determine the hours of lecture and outside of class work in the dividend, they should use 51 as the divisor. Colleges that indicate the minimum and maximum range of 48 – 54 should show that same range for the dividend in the equation and resulting unit calculation.

Colleges must exercise caution in determining the hours-per-unit divisor for credit hour calculations. Because California finance laws assume that primary terms average 17-weeks on the semester system and 11⅔ weeks on the quarter system (the two semesters or three quarters equal the traditional 35-week academic year), and because student attendance and related apportionment state compliance auditing is based on the student contact hours delineated in the official COR, the Chancellor's Office strongly recommends that colleges use the 18-week semester or 12-week quarter as the basis for the student contact hour calculation used in the COR, even if a college has been approved to use a compressed academic calendar. The 18-week semester or 12-week quarter primary term provides the greatest flexibility in terms of contact hours, and colleges do not risk an audit finding for excessive apportionment claims such as they might experience using a 16-week semester basis for the contact-

hour calculation. Additionally, it is also important to note the flexible calendar program is designed around the 35-week traditional academic calendar, so basing contact hour targets around an 18-week semester assures that instructional hours lost to "flex" activities will not result in the district not providing the minimum number of hours required by Title 5, section 55002.5, to award a unit of credit. Colleges using the 48-hour minimum calculation for determining credit hours risk problems with apportionment calculations and audits. Colleges must be specifically authorized by the Chancellor's Office to use a compressed calendar, which adds further caution to the use of the minimum end of the hour to unit range.

Likewise, the activity or laboratory with homework calculation should be used with caution. In the natural sciences and other disciplines, it is standard practice to base the number of units awarded for laboratory solely on contact hours, even though there may be some expectation of student work or preparation outside of class. Any alteration of this relationship for laboratory courses in the natural sciences and clinical hours in many allied health fields, can jeopardize programmatic accreditation where specific ratios or hours are required for program components or course acceptability in meeting major or general education requirements when transferred to a baccalaureate degree-granting institution. Use of this category should be restricted to only those instructional areas where it is clearly aligned with accepted practices higher education. The term "activity" as used in this context is not intended to limit or define the use of this term locally. Some colleges use this term—and related credit calculations—interchangeably with laboratory.

The Course Outlines of Record for many districts do not specify the outside-of-class hours, relying instead on the assumption of traditional ratios for inside- to outside-of-class hours for lecture, laboratory, or other course formats. In instances where districts only record total contact hours for the course as a whole or in each instructional category on the Course Outline of Record, the course submission must include the expected hours of student work outside of class used to determine total student learning hours for the purposes of credit calculations as described above. The tables on the following pages provide guidance for the expected outside-of-class hours for a wide range of typical credit hour calculations.

II. Fractional Unit Awards and Minimum Thresholds

Title 5 requires colleges to award units of credit in .5 unit increments at a minimum. Calculations for each increment of credit awarded by the college represent the minimum threshold for awarding that increment of credit. Students are awarded the next increment of credit only when they pass the next minimum threshold.

For example, if a course is designed to require 180 total student learning hours (36 lecture, 72 lab, and 72 outside-of-class hours), the calculation of units works as follows:

180 / 54 = 3.33
3 units of credit

In this example, the college would not award 3.5 units until the total student learning hours reached the 189-hour minimum threshold for 3.5 units. However, if a college offers credit in .25 increments, this example would yield a 3.25 unit course. Another common example is a course offered for 40 contact hours, with no hours of homework, resulting in 40 total student learning hours. In a district that awards credit in .5 increments, 40 total student learning hours / 54 = .75, which meets the minimum threshold for .5 units of credit, but does not pass the minimum threshold for 1 unit of credit. In this example, 40 total student learning hours (36 contact and 4 outside-of-class) would award .5 units of credit. This is similar to grading systems where, for example, a student earns a "B" for any percentage between 80 and 89. The student is only awarded an "A" when they reach the minimum threshold of 90 percent.

III. Cooperative Work Experience

Units for Cooperative Work Experience courses are calculated as follows:

- Each 75 hours of paid work equals one semester credit or 50 hours equals one quarter credit.
- Each 60 hours of non-paid work equals one semester credit or 40 hours equals one quarter credit.

IV. Clock Hour Courses / Programs

The definition of a clock hour program and standards for awarding of units of credit for these programs is defined in federal regulations 34 CFR §668.8(k)(2)(i)(A) and 668.8(l), respectively. In this regulation, a program is considered to be a clock-hour program if a program is required to measure student progress in clock hours when:

- Receiving Federal or State approval or licensure to offer the program; or
- Completing clock hours is a requirement for graduates to apply for licensure or the authorization to practice the occupation that the student is intending to pursue.

Programs that meet this definition are required to use a federal formula for determining the appropriate awarding of credit that is outlined in 34CFR §668.8(l).

V. Local Policy

Colleges are encouraged to develop local policy, regulations, or procedures specifying the accepted relationship between contact hours, outside-of-class hours, and credit for calculating credit hours to ensure consistency in awarding units of credit. The creation of a standing policy or formal calculation document helps districts fulfill the responsibility of local governing boards under Title 5 §55002 to establish the relationship between units and hours for the local curriculum development and approval process.

VI. Sample Calculations Tables

The tables on the following pages provide examples of common configurations for credit hour calculations, divided into two sections.

The first section provides tables for three most common ratios of in-class to outside-of-class work as described above for semester calculations. The table on the left provides calculations for the minimum 48 hours = 1 unit of credit. The table on the right provides calculations for the maximum baseline of 54 hours = 1 unit of credit. For colleges that use 51, 52.5 or other intermediate divisors, the same general principle and ratios apply and all calculations should fall between these two number sets. For example, a college using 51 as the divisor would show 3 units of lecture credit as 51 hours of in-class work, 102 hours outside of class for a total of 153 total student learning hours. While these tables are not prescriptive, they are accurate guides for the development of local processes or policy and provide good examples of compliant calculations that are aligned to widely accepted standards for higher education. The second section provides examples of calculation tables in the same format for quarter calculations.

Section 1: Sample Calculation Tables – Semester Calculations

Lecture	***48 = 1 unit***				***54 = 1 unit***		
Units	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**		**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**
0.50	8	*16*	24		9	*18*	27
1.00	16	*32*	48		18	*36*	54
1.50	24	*48*	72		27	*54*	81
2.00	32	*64*	96		36	*72*	108
2.50	40	*80*	120		45	*90*	135
3.00	48	*96*	144		54	*108*	162
3.50	56	*112*	168		63	*126*	189
4.00	64	*128*	192		72	*144*	216
4.50	72	*144*	216		81	*162*	243
5.00	80	*160*	240		90	*180*	270
5.50	88	*176*	264		99	*198*	297
6.00	96	*192*	288		108	*216*	324
6.50	104	*208*	312		117	*234*	351
7.00	112	*224*	336		126	*252*	378
7.50	120	*240*	360		135	*270*	405
8.00	128	*256*	384		144	*288*	432
8.50	136	*272*	408		153	*306*	459
9.00	144	*288*	432		162	*324*	486
9.50	152	*304*	456		171	*342*	513
10.00	160	*320*	480		180	*360*	540
10.50	168	*336*	504		189	*378*	567
11.00	176	*352*	528		198	*396*	594
11.50	184	*368*	552		207	*414*	621
12.00	192	*384*	576		216	*432*	648
12.50	200	*400*	600		225	*450*	675
13.00	208	*416*	624		234	*468*	702
13.50	216	*432*	648		243	*486*	729
14.00	224	*448*	672		252	*504*	756
14.50	232	*464*	696		261	*522*	783
15.00	240	*480*	720		270	*540*	810
15.50	248	*496*	744		279	*558*	837
16.00	256	*512*	768		288	*576*	864
16.50	264	*528*	792		297	*594*	891
17.00	272	*544*	816		306	*612*	918
17.50	280	*560*	840		315	*630*	945
18.00	288	*576*	864		324	*648*	972

Activity, Lab w/Hmwrk	*48 = 1 unit*				*54 = 1 unit*		
Units	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**		**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**
0.50	16	*8*	24		18	*9*	27
1.00	32	*16*	48		36	*18*	54
1.50	48	*24*	72		54	*27*	81
2.00	64	*32*	96		72	*36*	108
2.50	80	*40*	120		90	*45*	135
3.00	96	*48*	144		108	*54*	162
3.50	112	*56*	168		126	*63*	189
4.00	128	*64*	192		144	*72*	216
4.50	144	*72*	216		162	*81*	243
5.00	160	*80*	240		180	*90*	270
5.50	176	*88*	264		198	*99*	297
6.00	192	*96*	288		216	*108*	324
6.50	208	*104*	312		234	*117*	351
7.00	224	*112*	336		252	*126*	378
7.50	240	*120*	360		270	*135*	405
8.00	256	*128*	384		288	*144*	432
8.50	272	*136*	408		306	*153*	459
9.00	288	*144*	432		324	*162*	486
9.50	304	*152*	456		342	*171*	513
10.00	320	*160*	480		360	*180*	540
10.50	336	*168*	504		378	*189*	567
11.00	352	*176*	528		396	*198*	594
11.50	368	*184*	552		414	*207*	621
12.00	384	*192*	576		432	*216*	648
12.50	400	*200*	600		450	*225*	675
13.00	416	*208*	624		468	*234*	702
13.50	432	*216*	648		486	*243*	729
14.00	448	*224*	672		504	*252*	756
14.50	464	*232*	696		522	*261*	783
15.00	480	*240*	720		540	*270*	810
15.50	496	*248*	744		558	*279*	837
16.00	512	*256*	768		576	*288*	864
16.50	528	*264*	792		594	*297*	891
17.00	544	*272*	816		612	*306*	918
17.50	560	*280*	840		630	*315*	945
18.00	576	*288*	864		648	*324*	972

Lab, Clinical, Activity, etc.	*48 = 1 unit*				*54 = 1 unit*		
Units	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**		**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**
0.50	24	*0*	24		27	*0*	27
1.00	48	*0*	48		54	*0*	54
1.50	72	*0*	72		81	*0*	81
2.00	96	*0*	96		108	*0*	108
2.50	120	*0*	120		135	*0*	135
3.00	144	*0*	144		162	*0*	162
3.50	168	*0*	168		189	*0*	189
4.00	192	*0*	192		216	*0*	216
4.50	216	*0*	216		243	*0*	243
5.00	240	*0*	240		270	*0*	270
5.50	264	*0*	264		297	*0*	297
6.00	288	*0*	288		324	*0*	324
6.50	312	*0*	312		351	*0*	351
7.00	336	*0*	336		378	*0*	378
7.50	360	*0*	360		405	*0*	405
8.00	384	*0*	384		432	*0*	432
8.50	408	*0*	408		459	*0*	459
9.00	432	*0*	432		486	*0*	486
9.50	456	*0*	456		513	*0*	513
10.00	480	*0*	480		540	*0*	540
10.50	504	*0*	504		567	*0*	567
11.00	528	*0*	528		594	*0*	594
11.50	552	*0*	552		621	*0*	621
12.00	576	*0*	576		648	*0*	648
12.50	600	*0*	600		675	*0*	675
13.00	624	*0*	624		702	*0*	702
13.50	648	*0*	648		729	*0*	729
14.00	672	*0*	672		756	*0*	756
14.50	696	*0*	696		783	*0*	783
15.00	720	*0*	720		810	*0*	810
15.50	744	*0*	744		837	*0*	837
16.00	768	*0*	768		864	*0*	864
16.50	792	*0*	792		891	*0*	891
17.00	816	*0*	816		918	*0*	918
17.50	840	*0*	840		945	*0*	945
18.00	864	*0*	864		972	*0*	972

Section 2: Sample Calculation Tables - Quarter Calculations

Lecture	33 = 1 unit			36 = 1 unit		
Units	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**
0.5	5.5	11	16.5	6	12	18
1.0	11.0	22	33.0	12	24	36
1.5	16.5	33	49.5	18	36	54
2.0	22.0	44	66.0	24	48	72
2.5	27.5	55	82.5	30	60	90
3.0	33.0	66	99.0	36	72	108
3.5	38.5	77	115.5	42	84	126
4.0	44.0	88	132.0	48	96	144
4.5	49.5	99	148.5	54	108	162
5.0	55.0	110	165.0	60	120	180
5.5	60.5	121	181.5	66	132	198
6.0	66.0	132	198.0	72	144	216
6.5	71.5	143	214.5	78	156	234
7.0	77.0	154	231.0	84	168	252
7.5	82.5	165	247.5	90	180	270
8.0	88.0	176	264.0	96	192	288
8.5	93.5	187	280.5	102	204	306
9.0	99.0	198	297.0	108	216	324
9.5	104.5	209	313.5	114	228	342
10.0	110.0	220	330.0	120	240	360
10.5	115.5	231	346.5	126	252	378
11.0	121.0	242	363.0	132	264	396
11.5	126.5	253	379.5	138	276	414
12.0	132.0	264	396.0	144	288	432
12.5	137.5	275	412.5	150	300	450
13.0	143.0	286	429.0	156	312	468
13.5	148.5	297	445.5	162	324	486
14.0	154.0	308	462.0	168	336	504
14.5	159.5	319	478.5	174	348	522
15.0	165.0	330	495.0	180	360	540
15.5	170.5	341	511.5	186	372	558
16.0	176.0	352	528.0	192	384	576
16.5	181.5	363	544.5	198	396	594
17.0	187.0	374	561.0	204	408	612
17.5	192.5	385	577.5	210	420	630
18.0	198.0	396	594.0	216	432	648

Activity or Lab w/Hmwk	**33 = 1 unit**			**36 = 1 unit**		
Units	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**
0.5	11.0	5.5	16.5	12	6	18
1.0	22.0	11.0	33.0	24	12	36
1.5	33.0	16.5	49.5	36	18	54
2.0	44.0	22.0	66.0	48	24	72
2.5	55.0	27.5	82.5	60	30	90
3.0	66.0	33.0	99.0	72	36	108
3.5	77.0	38.5	115.5	84	42	126
4.0	88.0	44.0	132.0	96	48	144
4.5	99.0	49.5	148.5	108	54	162
5.0	110.0	55.0	165.0	120	60	180
5.5	121.0	60.5	181.5	132	66	198
6.0	132.0	66.0	198.0	144	72	216
6.5	143.0	71.5	214.5	156	78	234
7.0	154.0	77.0	231.0	168	84	252
7.5	165.0	82.5	247.5	180	90	270
8.0	176.0	88.0	264.0	192	96	288
8.5	187.0	93.5	280.5	204	102	306
9.0	198.0	99.0	297.0	216	108	324
9.5	209.0	104.5	313.5	228	114	342
10.0	220.0	110.0	330.0	240	120	360
10.5	231.0	115.5	346.5	252	126	378
11.0	242.0	121.0	363.0	264	132	396
11.5	253.0	126.5	379.5	276	138	414
12.0	264.0	132.0	396.0	288	144	432
12.5	275.0	137.5	412.5	300	150	450
13.0	286.0	143.0	429.0	312	156	468
13.5	297.0	148.5	445.5	324	162	486
14.0	308.0	154.0	462.0	336	168	504
14.5	319.0	159.5	478.5	348	174	522
15.0	330.0	165.0	495.0	360	180	540
15.5	341.0	170.5	511.5	372	186	558
16.0	352.0	176.0	528.0	384	192	576
16.5	363.0	181.5	544.5	396	198	594
17.0	374.0	187.0	561.0	408	204	612
17.5	385.0	192.5	577.5	420	210	630
18.0	396.0	198.0	594.0	432	216	648

Lab, Clinical, Activity, etc.	33 = 1 unit			36 = 1 unit		
Units	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**	**Contact Hours**	**Homework Hours**	**Total Student Learning Hours**
0.5	16.5	0.0	16.5	18	0	18
1.0	33.0	0.0	33.0	36	0	36
1.5	49.5	0.0	49.5	54	0	54
2.0	66.0	0.0	66.0	72	0	72
2.5	82.5	0.0	82.5	90	0	90
3.0	99.0	0.0	99.0	108	0	108
3.5	115.5	0.0	115.5	126	0	126
4.0	132.0	0.0	132.0	144	0	144
4.5	148.5	0.0	148.5	162	0	162
5.0	165.0	0.0	165.0	180	0	180
5.5	181.5	0.0	181.5	198	0	198
6.0	198.0	0.0	198.0	216	0	216
6.5	214.5	0.0	214.5	234	0	234
7.0	231.0	0.0	231.0	252	0	252
7.5	247.5	0.0	247.5	270	0	270
8.0	264.0	0.0	264.0	288	0	288
8.5	280.5	0.0	280.5	306	0	306
9.0	297.0	0.0	297.0	324	0	324
9.5	313.5	0.0	313.5	342	0	342
10.0	330.0	0.0	330.0	360	0	360
10.5	346.5	0.0	346.5	378	0	378
11.0	363.0	0.0	363.0	396	0	396
11.5	379.5	0.0	379.5	414	0	414
12.0	396.0	0.0	396.0	432	0	432
12.5	412.5	0.0	412.5	450	0	450
13.0	429.0	0.0	429.0	468	0	468
13.5	445.5	0.0	445.5	486	0	486
14.0	462.0	0.0	462.0	504	0	504
14.5	478.5	0.0	478.5	522	0	522
15.0	495.0	0.0	495.0	540	0	540
15.5	511.5	0.0	511.5	558	0	558
16.0	528.0	0.0	528.0	576	0	576
16.5	544.5	0.0	544.5	594	0	594
17.0	561.0	0.0	561.0	612	0	612
17.5	577.5	0.0	577.5	630	0	630
18.0	594.0	0.0	594.0	648	0	648