

College Curriculum Committee Meeting Agenda
Tuesday, June 16, 2020
2:00 p.m. – 3:30 p.m.
Meeting will be held virtually via ConferZoom

Item	Action	Attachment(s)	Presenter(s)
1. Minutes: June 2, 2020	Action	#6/16/20-1	Kuehnl
2. Minutes: June 9, 2020	Action	#6/16/20-2	Kuehnl
3. Report Out from Division Reps	Discussion		All
4. Announcements a. New Course Proposals b. Notification of Proposed Requisites c. CCC Meeting Dates for 2020-21 d. Curriculum Institute Virtual Conference e. Bio-Health Diversity and Inclusion Leadership Certificate Approval	Information	#6/16/20-3-9 #6/16/20-10 #6/16/20-11	CCC Team
5. Consent Calendar a. Streamlined Certificates of Achievement	Action	#6/16/20-12-16	Kuehnl
6. New Program Application: Online and Blended Instruction Certificate of Achievement	2nd Read/Action	#6/16/20-17	Kuehnl
7. New Program Application: Cloud Computing Certificate of Achievement	1st Read	#6/16/20-18	Kuehnl
8. New Program Application: Software Development in C++ Certificate of Achievement	1st Read	#6/16/20-19 & 23	Kuehnl
9. New Program Application: Software Development in Java Certificate of Achievement	1st Read	#6/16/20-20 & 23	Kuehnl
10. New Program Application: Software Development in Python Certificate of Achievement	1st Read	#6/16/20-21 & 23	Kuehnl
11. New Program Application: Advanced Software Development Certificate of Achievement	1st Read	#6/16/20-22 & 23	Kuehnl
12. Program Deactivation: Field Ironworking Certificate of Achievement	2nd Read/Action	#6/16/20-24	Kuehnl
13. Stand Alone Approval Request: APSM 123	2nd Read/Action	#6/16/20-25	Kuehnl
14. Stand Alone Approval Request: ART 15D	2nd Read/Action	#6/16/20-26	Kuehnl
15. Stand Alone Approval Request: LINC 82B	2nd Read/Action	#6/16/20-27	Kuehnl
16. Stand Alone Approval Request: LINC 82C	2nd Read/Action	#6/16/20-28	Kuehnl
17. Stand Alone Approval Request: LINC 87	2nd Read/Action	#6/16/20-29	Kuehnl

18. Stand Alone Approval Request: THTR 7	2nd Read/ Action	#6/16/20-30	Kuehnl
19. Discuss E&E Council Concerns about Honors Prerequisite Resolution Process	Discussion		Gomes
20. Update Distance Learning Application	Discussion	#6/16/20-31- 33	Kuehnl
21. Revisiting Local Policy Requiring "C" Grade or Better for Major Courses	Discussion		Kuehnl
22. Paul's Point of Personal Privilege	Discussion		Starer
23. Good of the Order			Kuehnl
24. Adjournment			Kuehnl

Consent Calendar:

Streamlined Certificates of Achievement (attachments #6/16/20-12-16)

BSS: Early Childhood Education Fundamentals, Early Childhood Special Education, Elementary After Care Education

Attachments:

- #6/16/20-1 Draft Minutes: June 2, 2020
- #6/16/20-2 Draft Minutes: June 9, 2020
- #6/16/20-3-9 New Course Proposals: LINC 411, 412, 413, 414, 415, 416, 417
- #6/16/20-10 CCC Notification of Proposed Requisites
- #6/16/20-11 CCC Meeting Dates for 2020-21
- #6/16/20-17 New Program Application: Online and Blended Instruction Certificate of Achievement
- #6/16/20-18 New Program Application: Cloud Computing Certificate of Achievement
- #6/16/20-19 New Program Application: Software Development in C++ Certificate of Achievement
- #6/16/20-20 New Program Application: Software Development in Java Certificate of Achievement
- #6/16/20-21 New Program Application: Software Development in Python Certificate of Achievement
- #6/16/20-22 New Program Application: Advanced Software Development Certificate of Achievement
- #6/16/20-23 LMI for Software Development Certificates of Achievement
- #6/16/20-24 Program Deactivation: Field Ironworking Certificate of Achievement
- #6/16/20-25 Stand Alone Course Approval Request: APSM 123
- #6/16/20-26 Stand Alone Course Approval Request: ART 15D
- #6/16/20-27 Stand Alone Course Approval Request: LINC 82B
- #6/16/20-28 Stand Alone Course Approval Request: LINC 82C
- #6/16/20-29 Stand Alone Course Approval Request: LINC 87
- #6/16/20-30 Stand Alone Course Approval Request: THTR 7
- #6/16/20-31 Distance Learning Application
- #6/16/20-32 Ohlone College Distance Education Addendum draft
- #6/16/20-33 PSME Updated Distance Learning Application draft

2019-2020 Curriculum Committee Meetings:

<u>Fall 2019 Quarter</u>	<u>Winter 2020 Quarter</u>	<u>Spring 2020 Quarter</u>
10/8/19	1/21/20	4/21/20
10/22/19	2/4/20	5/5/20
11/5/19	2/18/20	5/19/20
11/19/19	3/3/20	6/2/20
12/3/19	3/17/20	6/16/20

Standing reminder: Items for inclusion on the CCC agenda are due no later than one week before the meeting.

2019-2020 Curriculum Deadlines:

- ~~12/1/19~~ Deadline to submit courses to CSU for CSU GE approval (Articulation Office).
- ~~12/1/19~~ Deadline to submit courses to UC/CSU for IGETC approval (Articulation Office).
- ~~2/18/20~~ Deadline to submit local GE applications for 2020-21 catalog (Faculty/Divisions).
- ~~2/18/20~~ Curriculum Sheet updates for 2020-21 catalog (Faculty/Divisions).
- ~~6/1/20~~ Deadline to submit new/revised courses to UCOP for UC transferability (Articulation Office).
- 6/19/20 COR/Title 5 updates for 2021-22 catalog (Faculty/Divisions).
- Ongoing* Submission of courses for C-ID approval and course-to-course articulation with individual colleges and universities (Articulation Office).

Distribution:

Micaela Agyare (LIBR), Ben Armerding (LA), Rachelle Campbell (BH), Zachary Cembellin (PSME), Anthony Cervantes (Dean, Enrollment Services), Stephanie Chan (LA), Isaac Escoto (AS President), Mark Ferrer (SRC), Valerie Fong (Acting Dean, LA), Marnie Francisco (PSME), Evan Gilstrap (Articulation Officer), Hilary Gomes (FA), Allison Herman (LA), Kurt Hueg (Dean, BSS), Marc Knobel (PSME), Eric Kuehnl (Faculty Co-Chair), Debbie Lee (Acting Dean, FA & KA), Kristy Lisle (VP Instruction), Kent McGee (Evaluations), Dokesha Meacham (CNSL), Allison Meezan (BSS), Ché Meneses (FA), Brian Murphy (APPR), Teresa Ong (AVP Workforce), Ron Painter (PSME), Katy Ripp (KA), Lisa Schultheis (BH), Lety Serna (CNSL), Matt Stanley (KA), Paul Starer (Administrator Co-Chair), Ram Subramaniam (Dean, BH & PSME), Nick Tuttle (BSS), Mary Vanatta (Curriculum Coordinator), Anand Venkataraman (PSME)

COLLEGE CURRICULUM COMMITTEE

Committee Members – 2019-20

Meeting Date: 6/16/20Co-Chairs (2)

<input checked="" type="checkbox"/>	Eric Kuehnl	7479	Vice President, Academic Senate (tiebreaker vote only)	kuehneric@fhda.edu
<input checked="" type="checkbox"/>	Paul Starer	7179	Interim Associate Vice-President of Instruction	starerpaul@fhda.edu

Voting Membership (12 total; 1 vote per division)

<input checked="" type="checkbox"/>	Micaela Agyare	7086	Library	agyaremicaela@fhda.edu
<input type="checkbox"/>	Ben Armerding	7453	LA	armerdingbenjamin@fhda.edu
<input type="checkbox"/>	Rachelle Campbell	7469	BH	campbellrachelle@fhda.edu
<input type="checkbox"/>	Zachary Cembellin	7383	PSME	cembellinzachary@fhda.edu
<input checked="" type="checkbox"/>	Stephanie Chan		LA	chanstephanie@fhda.edu
<input checked="" type="checkbox"/>	Mark Ferrer		SRC	ferrermark@fhda.edu
<input checked="" type="checkbox"/>	Valerie Fong	7135	Acting Dean—LA	fongvalerie@fhda.edu
<input checked="" type="checkbox"/>	Marnie Francisco	7420	PSME	franciscomarnie@fhda.edu
<input checked="" type="checkbox"/>	Evan Gilstrap	7675	Articulation	gilstrapevan@fhda.edu
<input checked="" type="checkbox"/>	Hilary Gomes	7585	FA	gomeshilary@fhda.edu
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<input checked="" type="checkbox"/>	Kurt Hueg	7394	Dean—BSS	huegkurt@fhda.edu
<input checked="" type="checkbox"/>	Marc Knobel	7049	PSME	knobelmarc@fhda.edu
<input checked="" type="checkbox"/>	Dokesha Meacham	7211	CNSL	meachamdokesha@fhda.edu
<input checked="" type="checkbox"/>	Allison Meezan	7166	BSS	meezankaren@fhda.edu
<input checked="" type="checkbox"/>	Ché Meneses	7015	FA	menesesche@fhda.edu
<input checked="" type="checkbox"/>	Brian Murphy		APPR	brian@pttc.edu
<input checked="" type="checkbox"/>	Ron Painter		PSME	painterron@fhda.edu
<input checked="" type="checkbox"/>	Lisa Schultheis	7780	BH	schultheislisa@fhda.edu
<input checked="" type="checkbox"/>	Lety Serna	7059	CNSL	sernaleticia@fhda.edu
<input checked="" type="checkbox"/>	Matt Stanley	7222	KA	stanleymatthew@fhda.edu
<input checked="" type="checkbox"/>	Ram Subramaniam	7472	Dean—BH & PSME	subramaniamram@fhda.edu
<input checked="" type="checkbox"/>	Nick Tuttle	7056	BSS	tuttlenick@fhda.edu
<input checked="" type="checkbox"/>	Anand Venkataraman	7495	PSME	venkataramananand@fhda.edu

Non-Voting Membership (4)

<input type="checkbox"/>			ASFC Rep.	
<input checked="" type="checkbox"/>	Mary Vanatta	7439	Curr. Coordinator	vanattamary@fhda.edu
<input type="checkbox"/>	Kent McGee	7298	Evaluations	mcgeekent@fhda.edu
<input type="checkbox"/>			SLO Coordinator	

Visitors

Jayme Albritton, Chris Allen, Anthony Cervantes, Melissa Cervantes, Donna Frankel, Carolyn Holcroft, Debbie Lee, Kristy Lisle, Lisa Ly, Teresa Ong, Kella Svetich, Priya Vasu, Voltaire Villanueva

**College Curriculum Committee
Meeting Minutes
Tuesday, June 2, 2020
2:00 p.m. – 3:30 p.m.
Meeting held virtually via ConferZoom**

Item	Discussion
1. Minutes: May 19, 2020	Approved by consensus.
2. Report Out from Division Reps	<p>Speaker: All PSME: Working on Title 5 updates; working with Bio Health CC re: draft update to DE addendum—very important to STEM faculty.</p> <p>Fine Arts: Faculty excited about CourseLeaf, rep asked for more info/dates about training— Vanatta responded that training tentatively scheduled for fall quarter. DE addendum discussed at recent division CC meeting, to solicit ideas and feedback. Particular interest in ensuring ADA compliance in all online classes (re: discussion at last CCC meeting)—Kuehnl noted will be included in continued discussions at CCC.</p> <p>BSS: Working on Title 5 updates; LINC dept. creating new courses and program in training K-12 educators on Distance Ed. Update re: discipline for new LINC course presented at previous CCC meeting—should be changing from Education to Instructional Design/Technology.</p> <p>Apprenticeship: No updates to report.</p> <p>Bio Health: Working on finishing up Title 5 updates.</p> <p>Counseling: Discussions regarding Pass/No Pass grade for major courses; working to determine best way to handle drop-in appts during summer.</p> <p>Kinesiology: No updates to report.</p> <p>Language Arts: Working on Title 5 updates; early stages of creating new certificate for NCEL courses.</p> <p>Library: Thanked faculty for completing survey re: new software for course reserves in Canvas. Developing plans to handle reserves in summer and fall, while library still closed.</p> <p>Articulation: No updates to report; UC still has not made a decision regarding if they're going fully online for fall.</p>
3. Announcements a. New Course Proposals b. Division Reps for 2020-21 c. Upcoming COR Deadline—June 19	<p>Speakers: CCC Team The following proposals were presented: ENGL 27G; LINC 68G, 78D, 84, 84D, 84E, 84F. Please share with your constituents. Gilstrap noticed LINC 68G lists discipline of Education—BSS rep noted that CORs have started division approval process so more info will be known soon. Bio Health rep commented on title for LINC 78D: thinks title doesn't reflect "fascinating" description, suggested adjusting—BSS rep will bring feedback to faculty.</p> <p>Kuehnl asked reps to email him any changes to reps for 2020-21.</p> <p>Vanatta reminded the group about the June 19th deadline for CORs to be in Review1 status in C3MS, for 2021-22 catalog. Same deadline for new and updated CORs, including on Title 5 list; also deadline for streamlined certificates to be submitted to Vanatta (post-division CC approval). Reminder that COR editing access in C3MS will be cut-off starting June</p>

<p>4. Consent Calendar a. GE Applications</p>	<p>22nd. Plans to check in with reps at least once more before the deadline.</p> <p>Speaker: Eric Kuehnl</p> <p>The following GE applications were presented: Area V & Area VI— Plumbing Technology Apprenticeship Program (for both). Would approve GE Area V & Area VI for students who complete the full program, not one individual course, similar to previous approvals for Foothill GE for this program. PSME rep noted both apps rarely reference language directly from CORs, mostly seemed to be descriptive statements about what’s included in the program. Mentioned we usually require info on these apps be copied/pasted directly from CORs. Concerned that these do not follow that process and worried could set a bad precedent. Noted some PSME faculty have concerns re: plan to approve GE for curriculum across the program; would like college to engage in wider conversation to address these concerns, hopefully in the fall. Counseling rep agreed with concerns regarding lack of COR language, and believes there is not clear evidence of requirements being met, particularly with Area VI app.</p> <p>Starer responded to concerns and noted that Ché Meneses and Patricia Gibbs present for discussion—they were involved in process. Noted that first GE app submitted/approved for program merely listed module numbers and division has gotten better with each app; noted prior apps also did not directly copy/paste COR language. Noted work is leading to local degree, and does not involve transfer or articulation, but acknowledged that Articulation Office has concerns. Noted that historically Apprenticeship curriculum has been shuffled around and now has its own division and division CC; worries CCC giving greater scrutiny and establishing stricter standard for these apps vs. what occurs for apps from other divisions, which is unfair to faculty and work they have done on this project. Gibbs agreed with Starer’s comments and noted work on this project has spanned almost two years, much of which was shared by Apprenticeship faculty during visit to CCC earlier this year. Assured the group that work has been diligent; fully believes in the integrity of the project.</p> <p>Language Arts rep worked on previous app for Area II, which was approved by CCC—noted current apps look very similar. Apprenticeship rep agreed with Gibbs regarding lengthy process; stated this program’s curriculum and CORs among the highest (if not the highest) quality of Apprenticeship programs. Goal is to acknowledge that there are different educational paths for students, and noted that it seems like the closer they get to reaching goal the more hurdles are thrown at them. Gilstrap acknowledged hard work involved in this project and echoed PSME rep’s suggestion for college-wide conversation. Noted particular concern re: GE reciprocity—a student who receives an associate degree using these GE approvals (or similar) would not be able to transfer GE to another community college. Also noted need for students to get to 90 units for an associate degree; current program courses total in the 40s.</p> <p>PSME rep responded to Apprenticeship rep, stating that for GE apps from other divisions CCC does require info be pasted directly from CORs. If this is not appropriate for apps from Apprenticeship, that’s okay, but does not recall CCC discussing/approving such an exception. Starer stated would need to look back at CCC minutes, but does recall conversation occurred when the first GE app for Apprenticeship presented at CCC; recalls he made the point that the GE criteria was met in a way that was spread throughout the entire program, and not specific to a single course. Agrees that specific conversation re: awarding an associate degree has not yet occurred. Responded to Gilstrap’s concerns re: reciprocity, noting this seems to suggest that CCC make a determination about a program based on how we anticipate another college will react. Believes this is a recipe for</p>
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	<p>stymieing progress; believes Foothill is ahead of the curve and other colleges may look to us for leadership when they begin to look at GE in this way. Asked the group how to move forward if there is a lack of consensus about this or other votes—is it pure majority; what process do we use? Other PSME rep asked if we need unanimity—Kuehnl doesn't believe so.</p> <p>PSME rep noted their division has been lone dissenting vote in cases over the years, but stressed that responsibility as rep is to bring concerns from PSME faculty. Noted many cases in which there was not unanimity but motion did pass; doesn't believe it is a requirement. Gilstrap addressed reciprocity, clarifying he is not saying it should prevent the GE apps or program from moving forward; agreed we should not act based on how others might respond. But stressed that we have to protect our students and should ensure it is clear to them that any associate degree using this GE applies to Foothill only and cannot be transferred. Also noted possible situation in which Apprenticeship student returns to Foothill for an additional degree, outside of this program, and asked how GE would be handled.</p> <p>Teresa Ong, AVP Workforce, suggested iterative process, moving forward, with this program as a starting point, instead of requiring perfection from the start. Goal is to help these students achieve their goals. Gilstrap stressed he wants to make sure it's clear to students that the degree will not be portable. Apprenticeship rep noted intent has always been for this to be a Foothill-only degree; future goal could be for these students to return to Foothill to complete another degree in construction management, using Plumbing Technology degree as a starting point. Meneses noted his work on the Area V app and echoed Gibbs' comments re: rigor of the program; believes the curriculum does map to the GE criteria. Agrees that a college-wide conversation is needed.</p> <p>Dean Chris Allen thanked the group for their comments. Currently onboarding a new program which decided to leave a different college because Foothill is willing to explore innovation. Wants to ensure he can provide guidance to faculty involved in this program and those who may be working on GE apps for their programs in the future.</p> <p>Kuehnl asked the group if they would like to bring apps back for further discussion or move for approval now. Starer proposed the group consider these apps, but to suspend moving forward with the program until wider discussion occurs. Will work with Apprenticeship and CCC Team to schedule more substantive discussion about the program/degree as a whole. Asked reps to vote their conscience on apps with the knowledge that wider discussion will be planned. Gilstrap recalled that a larger discussion was promised when Area II app was approved, which never took place; did acknowledge visit by Apprenticeship faculty and students.</p> <p>Motion to approve M/S (Murphy, Meezan). Approved.</p> <p>Vanatta noted these apps will need approval from Kristy Lisle, VP of Instruction, to be included in 2020-21 catalog, and will have to wait to be published in the fall 2020 addendum (too late for initial catalog PDF).</p>
<p>5. New Program Application: Online and Blended Instruction Certificate of Achievement</p>	<p>Speaker: Eric Kuehnl First read of new Online and Blended Instruction Certificate of Achievement. No comments.</p> <p>Second read and possible action will occur at next meeting.</p>
<p>6. Program Deactivation: Field Ironworking Certificate of Achievement</p>	<p>Speaker: Eric Kuehnl First read of deactivation of Field Ironworking Certificate of Achievement. No comments.</p>

	<p>Second read and possible action will occur at next meeting.</p>
<p>7. Stand Alone Approval Request: APSM 123</p>	<p>Speaker: Eric Kuehnl First read of Stand Alone Approval Request for APSM 123. Will be permanently Stand Alone. Vanatta noted that all Stand Alone requests on today's agenda are for existing courses, which were previously listed on curriculum sheets but are being removed for 2020-21.</p> <p>Second read and possible action will occur at next meeting.</p>
<p>8. Stand Alone Approval Request: ART 15D</p>	<p>Speaker: Eric Kuehnl First read of Stand Alone Approval Request for ART 15D. Will be permanently Stand Alone. [See item 7 for note.] PSME rep pointed out that ART 15D and THTR 7 [item 12] listed on apps as transfer and noted the responses to Criteria B (Need) are pretty general and could apply to every course that's transferable to CSU—wondered what the point of this app and approvals are in these situations. Fine Arts rep noted that ART 15D was on Art sheet for many years but no longer really fits within Art or GID programs. Noted that faculty believes it could be a workforce course—it is a foundation-level course for many degrees in animation. PSME rep clarified that not objecting to courses being Stand Alone, just mentioned response on app could apply to every transferable course. Fine Arts rep asked if group would like apps returned to faculty for additional info; Kuehnl clarified that PSME rep's comments not necessarily about these courses, more general about the need for this process in this situation.</p> <p>Ong asked if a course may be TOP Coded as workforce but included in a non-workforce program. Kuehnl doesn't believe so; Dean Debbie Lee noted that Computer Science program not TOP Coded as workforce but has both transfer and workforce courses. Ong noted that our CS program is unique in that IT and CS are in the same dept (other colleges use separate subject codes). Lee noted that ART courses frequently cross-listed with GID; Fine Arts rep responded that ART 15D not cross-listed with GID. Kuehnl again clarified that PSME rep and group not requesting these apps be revised.</p> <p>Second read and possible action will occur at next meeting.</p>
<p>9. Stand Alone Approval Request: LINC 82B</p>	<p>Speaker: Eric Kuehnl First read of Stand Alone Approval Request for LINC 82B. Will be permanently Stand Alone. [See item 7 for note.] No comments.</p> <p>Second read and possible action will occur at next meeting.</p>
<p>10. Stand Alone Approval Request: LINC 82C</p>	<p>Speaker: Eric Kuehnl First read of Stand Alone Approval Request for LINC 82C. Will be permanently Stand Alone. [See item 7 for note.] No comments.</p> <p>Second read and possible action will occur at next meeting.</p>
<p>11. Stand Alone Approval Request: LINC 87</p>	<p>Speaker: Eric Kuehnl First read of Stand Alone Approval Request for LINC 87. Will be permanently Stand Alone. [See item 7 for note.] No comments.</p> <p>Second read and possible action will occur at next meeting.</p>
<p>12. Stand Alone Approval Request: THTR 7</p>	<p>Speaker: Eric Kuehnl First read of Stand Alone Approval Request for THTR 7. Will be permanently Stand Alone. [See item 7 for note; see item 8 for comments.]</p> <p>Second read and possible action will occur at next meeting.</p>

<p>13. Honors Institute Course Prerequisite Ad Hoc Committee Presentation</p>	<p>Speakers: Eric Kuehnl & Scott Lankford</p> <p>Scott Lankford chaired ad hoc committee. Shared committee's report with the group. Committee met throughout May; invited all honors faculty (Lankford listed committee members). Task was to investigate impact of removing the prerequisite and make a recommendation which ensures honors CORs are Title 5 compliant. Researched a number of other community colleges, spoke with honors directors at Skyline and Los Medanos, who are leaders in honors program in our region. Also compared with five colleges, including De Anza. Looked at three options: 1. Change prereq to Advisory; 2. Keep prereq but modify or eliminate entry criteria; 3. Eliminate prereq so there is no entry criteria or barrier at all. Lankford has attended many honors-related meetings around the state and the overall consensus is to break down equity barriers and move forward from the old model of honors programs being for those with privilege. Trend has been to remove entry criteria and place emphasis on exit criteria, as equity move.</p> <p>Committee made five recommendations (unanimous consensus):</p> <ol style="list-style-type: none">1. Implement option #3, to eliminate prereq. Prereq is not Title 5 compliant because not skills-based; removes confusing/off-putting info for 1st-gen and non-traditional students; puts emphasis on exit criteria; aligned with state-wide trends; frees honors co-directors to focus on building learning communities, instead of administrative burden of clearing prereq for students, which is current situation.2. Add standard course description "footnote" to all honors courses. Committee drafted proposed language, which links to honors program website. Believes better than prereq/Advisory, noting students don't always know the difference between the two.3. Use UCLA TAP criteria as guideline for standardizing honors CORs, to tell students and faculty what is meant by an honors course. Allows for flexibility among depts, while creating some standardization. Lankford was present for UCLA TAP site visits; they urgently wanted to increase transfer pipeline for students of color, 1st-gen, etc.4. Add additional Methods of Evaluation to all honors CORs, which might include info re: additional readings, research, written assignments, projects, service learning activities. Would ensure a clear difference between honors and non-honors CORs.5. Design student course evaluation similar to Los Medanos' rubric (shared document with group). Survey is sent to all students in every honors course; helps to include students. <p>Gilstrap was on committee and agreed with Lankford's presentation. From an articulation perspective, all courses will need to be rearticulated (for UC transfer, CSU GE, IGETC, C-ID, course-to-course in some situations) if prereq removed. For his needs, next step for CCC would be to determine if group will approve blanket removal of prereq for all honors courses vs. require faculty to manually remove it themselves.</p> <p>PSME rep thanked committee for their work and noted that PSME faculty have been interested in removing honors prereq for some time; noted full support from PSME division. Lankford advocated for blanket removal of prereq, noting that honors is not "owned" by anyone and spans all divisions, which results in question of how decisions about honors program are made. Noted that although Foothill still has a flagship honors program statewide, we are behind many others when it comes to this prereq, in terms of equity. Its removal would help honors co-directors and staff focus on the program.</p> <p>Vanatta noted precedent for CCC approving blanket COR changes—occurred a few years ago re: AB 705. Noted the bad timing, as prereq</p>
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removals would not make the 2020-21 catalog PDF; asked Gilstrap to advise re: articulation timeline. Suggested possibility that group approve blanket removal and delay publication of changes until after Gilstrap hears back re: articulation. Gilstrap noted may need to wait for 2021-22 catalog; could possibly submit for fall 2020 but very close to that deadline for UC transfer. Counseling rep agreed with removal of prereq and supported deferral to Gilstrap re: articulation timeline. Kuehnl noted that today's deadline for ad hoc committee recommendation was so Gilstrap could move forward with "test" of submitting a handful of courses for articulation. Gilstrap said if group does approve blanket removal, he could technically submit for fall 2020, but stressed this is related only to UC transfer. Mentioned that UC reviewers will review the CORs to ensure distinction from non-honors courses. Noted courses submitted in C3MS last year to remove prereq: ANTH 1H, 1HL, 2AH; CHEM 1AH, 1BH; COMM 1BH.

Lankford noted all of these CORs were previously approved for articulation. Other colleges have reported that articulation processes have gone smoothly when they made similar changes to honors courses. Gilstrap acknowledged that it could go smoothly, but will need to see what happens. Lankford advocated for fall 2020 prereq removals. Lee thanked Lankford and noted she was a co-director of honors program last year; removal of prereq has been advocated for by the co-directors for two years. Advocated for not waiting another year, to move forward with equity model. Kuehnl suggested some faculty might not feel comfortable with prereq being removed from their course. Also reminded the group of the previous plan to submit the test courses first, which would provide more information on how to best move forward, campus-wide. Doesn't believe group had ever discussed moving forward with blanket removal for fall 2020. Concedes that perhaps this is cautious, but wants to defer to Gilstrap re: articulation.

Starer thanked Lankford for the committee's work; suggested something this significant not be done outside of a formal resolution. Proposed that depts interested in removing the prereq could make Gilstrap's deadline for fall 2020. Could possibly suspend the first read rules to approve resolution. Depts that wish to move forward now could be for fall 2020, and others could be for summer 2021. Gilstrap noted that his local deadline related to UC transfer changes was yesterday.

Kuehnl pointed out meeting has gone over time, and will continue topic at next meeting. Starer asked if ad hoc committee could draft resolution or work with Starer to do so; Lankford noted their report could easily become a resolution. Addressed group's worry about moving forward, and stressed this would be "dooming" honors co-directors to one more year of paperwork and the students to another year of a barrier to access. Counseling rep again stressed support to move forward ASAP. Starer will head effort to bring resolution to next CCC meeting. PSME rep noted some PSME honors courses not currently in queue to be updated for 2021-22; asked Gilstrap if they should be making quick change to them in C3MS and if he would have the capacity to review them. Gilstrap unsure he could accommodate but acknowledged he will have a large workload if we are removing prereq from all honors courses. Noted his absolute deadline for UC is June 25th but would need COR at least a week beforehand to ensure he can process it. Vanatta mentioned that in previous situations re: blanket updates (e.g., AB 705-related changes) she directly updated CORs in C3MS, as CCC approval takes place of C3MS approval steps; would make sense to do the same, for these. Kuehnl mentioned other changes advocated by ad hoc committee, which could not be made if Vanatta makes direct updates. Lankford suggested a two-step process: blanket removal of prereq with no other COR changes, then advising faculty to use criteria when making next

	<p>update to CORs. Sees these as separate and believes it would be okay for Vanatta to simply remove honors prereq as a first step. Noted that when courses are deactivated they drop off of prereqs without larger campus-wide discussion occurring.</p> <p>Gilstrap reiterated that the courses have already been articulated—hopes the reviewers considered more than simply the honors prereq, but can't say for certain what the outcome of re-review/approval may be. Reminded the group of the stages: June for UC, December for IGETC and CSU GE, and likely December for C-ID. Course-to-course timeline is up to each institution (UC and CSU) to review and determine if they still want to articulate the course with us. Reviewers may be completely different and consider different aspects during their review. Kuehnl asked what happens if articulation denied—for UC transferability, two-year phase-out, so we would still have time to get course back on track. Same with IGETC (two-year phase-out). Unsure about CSU GE. C-ID also has phase-out. Would have opportunity to re-apply for articulation if course denied. Appeals process usually occurs for technical issues, not content issues. Gilstrap noted he likely won't hear back from UC until mid-late September, re: fall 2020.</p> <p>Kuehnl asked Gilstrap, Vanatta, Starer, and Lisle, what the mechanics are if we want to move forward for fall 2020. Gilstrap needs to know ASAP, as he is already in UC submission mode. Vanatta noted recent examples of COR updates being requested/submitted for fall 2020 but delaying publication until winter 2021, until Gilstrap has heard back from UC. Unsure if we can legally publish courses as UC transferable for fall 2020 if we remove prereq, as response from UC will happen after catalog addendum published. Lisle is okay with publishing in an addendum, but also doesn't want to mislead students re: transferability. Asked Gilstrap for examples of what has happened in the past when prereq removed—if prereq is required for C-ID it will likely not be approved, but since these are not skills prereqs it's not the same situation. Lisle noted the difference in these prereqs, which are more tied to our own local expectations for honors program. Gilstrap agreed but noted he is required to resubmit for articulation whenever a prereq is removed, regardless. Agreed that the chance is that they will be approved. Lisle stated that there are a few options for moving forward, re: timing of publication. Starer mentioned the two-year phase-out—Lisle advocated for moving forward ASAP and publishing the prereq removals for fall 2020.</p> <p>Starer will draft resolution shortly. Kuehnl suggested holding an emergency vote. Vanatta strongly suggested not waiting until the next CCC meeting, considering the amount of work this will put on Gilstrap's plate. Kuehnl suggested holding an extra meeting next week to include just this item and the two below. Kuehnl will schedule additional meeting for June 9th.</p>
14. Update Distance Learning Application	<p>Speaker: Eric Kuehnl Topic delayed to future meeting, due to time constraint.</p>
15. Revisiting Local Policy Requiring "C" Grade or Better for Major Courses	<p>Speaker: Eric Kuehnl Topic delayed to future meeting, due to time constraint.</p>
16. Good of the Order	
17. Adjournment	4:07 PM

Attendees: Micaela Agyare (LIBR), Chris Allen (Dean, APPR), Rachelle Campbell (BH), Stephanie Chan (LA), Mark Ferrer (SRC), Valerie Fong (Acting Dean, LA), Marnie Francisco (PSME), Patricia Gibbs (BSS), Evan Gilstrap (Articulation Officer), Hilary Gomes (FA), Katie Ha (LA), Marc Knobel (PSME), Eric Kuehnl (Faculty Co-Chair), Scott Lankford (LA), Debbie Lee (Acting Dean, FA & KA), Kristy Lisle (VP Instruction), Dokesha Meacham (CNSL), Allison Meezan (BSS), Ché Meneses (FA), Brian Murphy (APPR), Teresa Ong (AVP Workforce), Ron Painter (PSME), Lisa Schultheis (BH), Lety Serna (CNSL), Matt Stanley (KA), Paul Starer (Administrator Co-Chair), Ram Subramaniam (Dean, BH & PSME), Nick Tuttle (BSS), Mary Vanatta (Curriculum Coordinator), Anand Venkataraman (PSME)

Minutes Recorded by: M. Vanatta

**College Curriculum Committee
Meeting Minutes
Tuesday, June 9, 2020
2:30 p.m. – 3:30 p.m.
Meeting held virtually via ConferZoom**

Item	Discussion
1. Resolution to Remove Honors Prerequisite Language	<p>Speaker: Eric Kuehnl First read of Resolution to Remove Honors Program Prerequisite Language. Kuehnl thanked the group for attending this additional meeting. Expressed hope that the group would suspend rule requiring two reads and pass resolution today. Mentioned Scott Lankford's presentation at the previous meeting; group again thanked Lankford.</p> <p>Motion to suspend rule requiring two reads M/S (Francisco, Meneses & Serna). Approved.</p> <p>Motion to approve M/S (Serna, Venkataraman). Approved.</p>
2. Update Distance Learning Application	<p>Speaker: Eric Kuehnl Continuing discussion from previous meeting. Attachments include draft Distance Education addendum from Ohlone College and draft of suggested update to our current DE addendum created by Bio Health and PSME faculty. Kuehnl suggested two ways of proceeding: 1) quickly, to respond to emergency considerations; 2) more comprehensively, to incorporate Title 5 changes discussed at previous meeting.</p> <p>PSME rep described collaboration with Bio Health division, noting different perspectives from, for example, faculty teaching hands-on labs which "cannot be taught virtually" (per the faculty). Noted that faculty consider a lot of grey areas in DE decision-making and discussions, and that collaborating with different division helped gain perspective. Faculty really want the ability to document that they would teach virtually only in emergency situations—very important to include on DE addendum. Would make decisions much easier, going forward; could even be a factor for winter 2021 quarter, if we still need to be teaching virtually.</p> <p>PSME rep noted they have not yet had time to address the full addendum, e.g., methods of contact. Asked for support from CCC that their suggested changes be considered and supported, going forward. Bio Health rep said faculty from many programs asked to include options for cancellation, due to concerns with outside accrediting bodies—would like a document they can use to show they have ways to deal with emergencies but are not normally teaching the course online. Mentioned concerns re: articulation/transfer and that DE addendum could help provide support. Also noted some faculty are finding they have been able to successfully teach online and are submitting DE apps at this time.</p> <p>Kuehnl noted that, come January, we will need courses to be approved to be taught virtually in order to do so, even in emergency situations. Dean Debbie Lee acknowledged need to make distinctions re: emergency approval only, but mentioned concerns from faculty in situations during which we're not in an emergency but they want to teach online because of health concerns. Worried that emergency-only approval would not apply to such situations. Kuehnl believes this would be more of a legal issue and larger than CCC policy; would be a question of trying to give alternate assignments to faculty in those situations so they don't have to be on campus. Noted he has spoken with Kristy Lisle, VP of Instruction, and those</p>

in legal community—believes assignment cannot be taken away and college would have to allow class to be taught online if faculty's health at risk. Again, more related to legal issues and employee rights, which trump this sort of discussion and policy. Noted there will inevitably be outliers and CCC's focus is more on the general policy to encompass most situations.

BSS rep asked for explanation re: hybrid-only in state of emergency (on PSME/Bio Health draft); how could hybrid be used if campus closed? Bio Health rep explained that, for some programs (e.g., Vet Tech), lecture can be taught online but lab component cannot, as opposed to some labs that can be taught online, even if not ideal. This option is tied to the need to find a way for students/faculty/staff to safely be on campus in certain special situations, e.g., surgical labs for animals. Pointed out cancellation clause if hybrid not possible. Noted cohort model of such programs, which better allows for classes to be rescheduled if one needs to be postponed. Subramaniam noted division currently cannot schedule such classes because they aren't allowed to be on campus, but work must be done physically. BSS rep thanked Bio Health rep for explanation and suggested wording be edited for more clarity.

BSS rep asked about incorporating ADA compliance aspects now required by Title 5. Noted distinction between courses (in general) and classes (instructor-specific) re: accessibility training. Kuehnl suggested agreed with importance of accessibility and Canvas training. Fine Arts rep mentioned feedback from faculty in division, that accessibility be separate from DE addendum—still required, but separate. Kuehnl noted this falls into course/class distinction, since DE addendum is for the COR, which is the course, and not individual sections. BSS rep suggested including on the addendum that all faculty teaching the course be required to complete training (incl. accessibility), which would be provided by the college. Noted difficult to track on class-to-class basis.

PSME rep suggested that our update to the addendum be comprehensive and ensure compliance with Title 5. Suggested adding info re: student-to-student contact, also now required by Title 5. Fine Arts rep noted distinction between faculty receiving accessibility training and course itself being accessible (e.g., materials used). Lee noted that Canvas training already required for faculty teaching hybrid/online, per faculty agreement; question is whether accessibility is part of such training. Mentioned possible situation in which faculty receives Canvas training elsewhere—would need to ensure accessibility included in such training. Hueg noted currently not much being done to ensure courses/classes are accessible—generally left up to faculty. Starer echoed BSS rep's suggestion to explicitly include accessibility training requirement on addendum. Noted resource demand re: checking every class to ensure materials are accessible. Kuehnl noted our current Canvas training includes accessibility module, but unsure of the specifics.

PSME rep asked for general sense of whether the group agrees with adding different options in cases of emergency—would like to bring feedback to concerned faculty. Kuehnl has heard strong support for adding emergency-only designation, which is also what the state Chancellor's Office is asking colleges to do. Would like further discussion regarding cancellation aspect; noted he has heard questions about impact on students (e.g., do they receive incompletes?) and faculty compensation. Starer stated faculty pay is a negotiated item, and believes that CCC concerns are more curricular than related to pay and budget. PSME rep agreed that administration would need to handle pay and other issues, and that faculty opinion on whether or not a class needs to be cancelled (e.g., Vet Tech labs) is a curricular issue. Subramaniam noted Foothill already

	<p>using incomplete and in-progress grading options, in such situations. BSS rep asked Kinesiology rep how faculty are handling PE classes—division has had extensive discussions on which classes can be taught virtually; rep has also discussed with faculty state-wide. Some beginning-level classes can be taught online, but generally not intermediate or advanced.</p> <p>Kuehnl noted that new DE addendum will be top priority in the fall.</p>
<p>3. Revisiting Local Policy Requiring “C” Grade or Better for Major Courses</p>	<p>Speaker: Eric Kuehnl</p> <p>Continuing discussion from previous meeting. Counseling rep provided update re: discussions within division. Noted that CSU has adopted consistent rules for all campuses, but policies still vary for private universities and UC campuses. Policies are temporary. Graduate and professional schools do not accept Pass/No Pass. Some schools translate Pass grades as 2.0 for GPA scale (equiv. to C grade), which can negatively impact students. Noted we serve not only transfer students but also those who do not intend to transfer, e.g., CPA licensure program. Would be good to know which majors are considering allowing P/NP grades. Kuehnl asked if generally counselors are in support of revising the policy—rep believes that opinions are mixed.</p> <p>Bio Health rep asked if Pass means a C grade—Gilstrap noted that Pass equals a C grade or higher but that our course catalog does not explicitly state this. Re: transferability, would be problematic to allow Pass grades, but acknowledged that not all Foothill students need or want to transfer. Noted there would need to be a lot of work done by counselors to ensure students understand implications of taking a major course for P/NP, if policy revised to allow it. Counseling rep also noted that students do change majors, and could be an issue if their initial major allows P/NP but they change to one that does not.</p> <p>PSME rep asked what happens if a student takes a class for P/NP, but transfer school requires a letter grade, noting faculty submit letter grades for all students (which are converted for P/NP students)—are those records kept? Gilstrap noted we do currently have a process to handle this situation. Counseling rep stated that process is difficult, so we don't want this to become a regular occurrence for students. Counselors already strongly suggest to students to not take major courses P/NP, but not all students follow such guidance. Fine Arts rep noted nuances of individual students, suggesting a blanket policy could make things more problematic. Suggested more emphasis in information dissemination than policy, to allow students to make their own decisions. Kuehnl stated this was why he asked Counseling reps to bring discussion to their colleagues. Fine Arts rep noted connection to Guided Pathways, re: transfer and possible collaboration with other schools. Counseling rep mentioned example of certain students using P/NP for classes that don't transfer, and suggested there could be a different mindset at play for some students when considering grade options. Suggested group consider this nuance in future discussions on this topic.</p>
<p>4. Good of the Order</p>	
<p>5. Adjournment</p>	<p>3:33 PM</p>

Attendees: Micaela Agyare (LIBR), Chris Allen (Dean, APPR), Stephanie Chan (LA), Mark Ferrer (SRC), Valerie Fong (Acting Dean, LA), Marnie Francisco (PSME), Evan Gilstrap (Articulation Officer), Kurt Hueg (Dean, BSS), Marc Knobel (PSME), Eric Kuehnl (Faculty Co-Chair), Scott Lankford (LA), Debbie Lee (Acting Dean, FA & KA), Allison Meezan (BSS), Ché Meneses (FA), Brian Murphy (APPR), Teresa Ong (AVP Workforce), Ron Painter (PSME), Katy Ripp (KA), Lisa Schultheis (BH), Lety Serna (CNSL), Paul Starer (Administrator Co-Chair), Ram Subramaniam (Dean, BH & PSME), Mary Vanatta (Curriculum Coordinator), Anand Venkataraman (PSME)

Minutes Recorded by: M. Vanatta

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**Foothill College
College Curriculum Committee
New Course Proposal**

*This form should be completed by the faculty author as preparation to writing a new course. Your division CC rep can assist you in completing it appropriately, and will forward it to the Office of Instruction for inclusion as an announcement at the next available CCC meeting. The purpose of this form is **interdisciplinary communication**. The responsibility to rigorously review and approve new courses remains with the divisional curriculum committees.*

Faculty Author: Cassandra Pereira

Proposed Number: LINC 411

Proposed Units: 0 (Noncredit)

Proposed Hours: 3 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: Google Drive

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of Google Drive, as part of the GSuite of tools. Skills covered include managing and organizing files and folders in Google Drive, as well as managing sharing settings. This course will prepare students for the Drive portion of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

The Krause Center for Innovation is a Google Education Partner

Instruction Office:

Date presented at CCC:

Number assigned:

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Faculty Author: Cassandra Pereira

Proposed Number: LINC 412

Proposed Units: 0 (Noncredit)

Proposed Hours: 3 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: Gmail

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of Google's email service, Gmail, as part of the GSuite of tools. Skills covered include, personalizing settings, managing and organizing the inbox, as well as using the contacts features. This course will prepare students for the Gmail portion of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

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Faculty Author: Cassandra Pereira

Proposed Number: LINC 413

Proposed Units: 0 (Noncredit)

Proposed Hours: 3 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: Google Hangouts Meet

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of Google's video conferencing service, Hangouts Meet, as part of the GSuite of tools. Skills covered include, setting up a Hangout, managing audio and visuals, and handling users. This course will prepare students for the Hangouts Meet portion of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer. A computer with a built-in or connected camera and microphone are necessary for this course.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

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Faculty Author: Cassandra Pereira

Proposed Number: LINC 414

Proposed Units: 0 (Noncredit)

Proposed Hours: 4 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: Google Docs

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of Google's cloud-based document service, Google Docs, as part of the GSuite of tools. Skills covered include, setting up a document, formatting text, inserting images and tables, and collaborating with other users. This course will prepare students for the Docs portion of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

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Faculty Author: Cassandra Pereira

Proposed Number: LINC 415

Proposed Units: 0 (Noncredit)

Proposed Hours: 5 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: Google Sheets

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of Google's cloud-based spreadsheet service, Google Sheets, as part of the GSuite of tools. Skills covered include cell management, formatting spreadsheets, using functions, and managing data. This course will prepare students for the Sheets portion of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

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Faculty Author: Cassandra Pereira

Proposed Number: LINC 416

Proposed Units: 0 (Noncredit)

Proposed Hours: 3 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: Google Slides

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of Google's cloud-based presentation service, Google Slides, as part of the GSuite of tools. Skills covered include presentation design, formatting text, inserting images and videos, arranging objects, and sharing presentations. This course will prepare students for the Slides portion of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

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Instruction Office:

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College Curriculum Committee
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Faculty Author: Cassandra Pereira

Proposed Number: LINC 417

Proposed Units: 0 (Noncredit)

Proposed Hours: 3 hours lecture total per quarter

Proposed Transferability: Non-transferable

Proposed Title: GSuite Certification Preparation

Proposed Catalog Description & Requisites:

This non-credit workforce-preparation course provides an overview of the GSuite Certification exam. Topics covered include exam question types, test strategies and review of GSuite tools. Students will practice with sample exam questions and performance tasks. This course will prepare students for the format and expectations of the GSuite Certification exam.

Advisory: Basic experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Proposed Discipline:

Instructional Design/Technology

To which Degree(s) or Certificate(s) would this course potentially be added?

Non-credit certificate of completion in GSuite Tools (currently in development)

Are there any other departments that may be impacted from the addition of this course? Please identify those departments and the effect:

None

Comments & Other Relevant Information for Discussion:

The Krause Center for Innovation is a Google Education Partner

Instruction Office:

Date presented at CCC:

Number assigned:

CCC Notification of Proposed Prerequisites/Co-Requisites

The following courses are currently undergoing review for requisite additions or changes. Please contact the Division Curriculum Rep if you have any questions or comments.

Target Course Number & Title	COR Editor	Requisite Course Number & Title	New/Ongoing
ENGL 1BH: Honors Composition, Critical Reading & Thinking through Literature	K. Svetich	Prereq: One of the following: ENGL 1A, 1AH, or 1S & 1T.	New for fall 2020 quarter
ENGL 1CH: Honors Argumentative Writing & Critical Thinking	S. Chan	Prereq: One of the following: ENGL 1A, 1AH, or 1S & 1T.	New for fall 2020 quarter

**Foothill College
College Curriculum Committee
2020-21 Meeting Dates**

Fall Quarter:

October 6
October 20
November 3
November 17
December 1

Winter Quarter:

January 19
February 2
February 16
March 2
March 16

Spring Quarter:

April 20
May 4
May 18
June 1
June 16

All meetings fall on Tuesday and will be held from 2:00 p.m. – 3:30 p.m. in the President's Conference Room (and/or via ConferZoom, as needed).

Note: Meeting dates are tentative and subject to change. The final schedule will be confirmed via calendar invitations sent to CCC Reps via email.

Streamlined Certificate Applications

Below is a list of the non-transcriptable certificates that are ready for CCC review/approval. Each certificate listed has been approved by the division curriculum committee, and the state-required narrative is ready for submission to the state.

Business and Social Sciences Division

Certificate Title	Current Units	New Units	TOP Code	Local or Workforce	Rationale for Change in Units (if applicable)
Early Childhood Education Certificate of Specialization - <i>title will change to Early Childhood Education Fundamentals</i>	25	18	1305.40	Workforce	This certificate is changing to 18 units to directly align with the requirements of the early childhood education field (Title 22 and Title 5 regulations). Additionally, we want certificates to be more attainable to students, as a degree in Child Development is not always needed to work in the early childhood field.
School-Age Child Care Certificate of Specialization - <i>title will change to Elementary After Care Education</i>	25	21	1305.50	Workforce	The units of this certificate are changing to better align with the requirements of the early childhood education field (under Title 22 and Title 5 regulations). Additionally, we want certificates to be more attainable to students, as a degree in Child Development is not always needed to work in the early childhood field.
Inclusion and Children with Special Needs Certificate of Specialization - <i>title will change to Early Childhood Special Education</i>	24	20	1305.20	Workforce	The units of this certificate are changing to better align with the requirements of the early childhood education field (under Title 22 and Title 5 regulations). Additionally, we want certificates to be more attainable to students, as a degree in Child Development is not always needed to work in the early childhood field.

Foothill College
Credit Program Narrative
Certificate of Achievement in Early Childhood Education Fundamentals

Item 1. Program Goals and Objectives

The Certificate of Achievement in Early Childhood Education Fundamentals is designed to deepen understanding of children, their families and developmentally appropriate practices while preparing students for careers in early childhood education.

Program Learning Outcomes:

- Demonstrate understanding of the needs and characteristics of children birth through middle childhood and the multiple influences on their development as related to the high-quality care and education of young children.
- Demonstrate ethical standards and professional behaviors that deepen knowledge and commitment to the field of early care and education as related to NAEYC Code of Ethical Conduct.

Item 2. Catalog Description

The Certificate of Achievement in Early Childhood Education Fundamentals is designed to deepen understanding of children, their families and developmentally appropriate practices while preparing students for careers in early childhood education. This certificate is equal to 12 semester units in Early Childhood Education and qualifies the student to be a “fully qualified teacher” under Title 22 regulations. Additionally, this certificate meets the education requirements of the Associate Teacher Child Development Permit awarded by the California Commission on Teacher Credentialing in support of Title 5 regulations. The recommended order of these classes is CHLD 56N, 8, 1, 88B and 89, though there are no required pre-requisites.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (18 units)	CHLD 1	Child Growth & Development: Prenatal through Early Childhood	4	Year 1, Winter
	CHLD 8	Child, Family & Community	4	Year 1, Fall
	CHLD 56N	Principles & Practices of Teaching Young Children	4	Year 1, Fall
	CHLD 88B	Positive Behavior Management	2	Year 1, Spring
	CHLD 89	Curriculum for Early Care & Education Programs	4	Year 1, Spring

TOTAL UNITS: 18 units

Proposed Sequence:

Year 1, Fall = 8 units

Year 1, Winter = 4 units

Year 1, Spring = 6 units

TOTAL UNITS: 18 units**Item 4. Master Planning**

This program prepares the early childhood education workforce, by supplying entry-level teachers the units they need to start working in early childhood programs. It is a starting place in the workforce and in their education. Students are encouraged to go on to gain an associate's degree with Foothill or a degree for transfer. This program directly supports underrepresented populations, both the students in their career goals and the families of our community.

Item 5. Enrollment and Completer Projections

Initially an expected number of students of this program would be 30 students in the first year. That number would rise as people became more aware of the program, with an estimation of 50 students completing this program annually. It would be the most popular certificate we offer.

Course #	Course Title	Year 1 (2016-17)		Year 2 (2017-18)	
		Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
CHLD 1	Child Growth & Development: Prenatal through Early Childhood	14	493	13	484
CHLD 8	Child, Family & Community	11	360	10	300
CHLD 56N	Principles & Practices of Teaching Young Children	7	149	5	146
CHLD 88B	Positive Behavior Management	6	135	5	135
CHLD 89	Curriculum for Early Care & Education Programs	4	113	4	115

Item 6. Place of Program in Curriculum/Similar Programs

This certificate is a replacement of the Early Childhood Education Certificate of Specialization and prepares the workforce by providing both academic and practical CTE coursework.

Item 7. Similar Programs at Other Colleges in Service Area

It is similar, but not an exact match to Mission College's Certificate of Achievement: Associate Teacher.

What is unique about this proposed certificate is that it specifically matches the requirements of the workforce. This certificate is equal to 12 semester units in Early Childhood Education (ECE) and qualifies the student to be a "fully qualified teacher" under Title 22 regulations under the California Department of Social Services. Additionally, this certificate meets the education

requirements of the Associate Teacher Child Development Permit awarded by the California Commission on Teacher Credentialing in support of Title 5 regulations.

Additional Information Required for State Submission:

TOP Code: 1305.40 - Preschool Age Children

Annual Completers: 30

Net Annual Labor Demand: 54,597 (Bay Area Region)

Faculty Workload: .4

New Faculty Positions: 0

New Equipment: 0

New/Remodeled Facilities: 0

Library Acquisitions: 0

Gainful Employment: Yes

Program Review Date: Estimate December, 2022

Distance Education: 50-99%

**Foothill College
Credit Program Narrative
Certificate of Achievement in Early Childhood Special Education**

Item 1. Program Goals and Objectives

The Certificate of Achievement in Early Childhood Special Education is designed to deepen understanding of children, their families and developmentally appropriate practices while preparing students for careers in early childhood education.

Program Learning Outcomes:

- Demonstrate understanding of the needs and characteristics of children birth through middle childhood and the multiple influences on their development as related to the high-quality care and education of young children.
- Demonstrate ethical standards and professional behaviors that deepen knowledge and commitment to the field of early care and education as related to NAEYC Code of Ethical Conduct.

Item 2. Catalog Description

The Certificate of Achievement in Early Childhood Special Education is designed to deepen the understanding of development of all children, and help educators learn how to meet individual needs and how they can support children and their families in early childhood education programs. This certificate meets the requirements for the California Commission on Teacher Credentialing Child Development Associate Teacher Permit, and can be used as a specialization for the Master Teacher Permit.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (20 units)	CHLD 1	Child Growth & Development: Prenatal through Early Childhood	4	Year 1, Winter
	CHLD 8	Child, Family & Community	4	Year 1, Winter
	CHLD 53NC	Supporting Children with Special Needs in Children's Programs	3	Year 1, Fall
	CHLD 53NP	Development of Children with Special Needs	3	Year 1, Spring
	CHLD 56N	Principles & Practices of Teaching Young Children	4	Year 1, Fall
	CHLD 88B	Positive Behavior Management	2	Year 1, Spring

TOTAL UNITS: 20 units

Proposed Sequence for one year completion:

Year 1, Fall = 7 units

Year 1, Winter = 8 units

Year 1, Spring = 5 units

TOTAL UNITS: 20 units

Proposed Sequence for one class at a time:

Year 1, Fall = 4 units

Year 1, Winter = 4 units

Year 1, Spring = 3 units

Year 2, Fall = 3 units

Year 2, Winter = 4 units

Year 2, Spring = 2 units

TOTAL UNITS: 20 units

Item 4. Master Planning

The Certificate of Achievement in Early Childhood Special Education prepares the early childhood education workforce, by supplying entry-level teachers the units they need to start working in early childhood programs specifically with children with disabilities. It is a starting place in the workforce and in their education. Students are encouraged to go on to gain an associate's degree with Foothill or a degree for transfer. This program directly supports underrepresented populations, both the students in their career goals and the families of our community.

Item 5. Enrollment and Completer Projections

We anticipate that 5 students will complete this certificate after 1 year, and that numbers will double in subsequent years after the certificate becomes better known.

Course #	Course Title	Year 1 (2016-17)		Year 2 (2017-18)	
		Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
CHLD 1	Child Growth & Development: Prenatal through Early Childhood	14	493	13	484
CHLD 8	Child, Family & Community	11	360	10	300
CHLD 53NC	Supporting Children with Special Needs in Children's Programs	1	32	0	0
CHLD 53NP	Development of Children with Special Needs	1	22	1	20
CHLD 56N	Principles & Practices of Teaching Young Children	7	149	5	146
CHLD 88B	Positive Behavior Management	6	135	5	135

Item 6. Place of Program in Curriculum/Similar Programs

This certificate is a replacement of the Inclusion and Children with Special Needs Certificate of Specialization, overlaps content with no other program outside of Child Development, and prepares the workforce by providing both academic and practical CTE coursework.

Item 7. Similar Programs at Other Colleges in Service Area

There are a number of colleges offering similar certificates, though typically they are larger requiring more coursework.

DeAnza offers an Early Intervention/Special Education Assistant Certificate of Achievement-Advanced consisting of 45 quarter units.

Mission College offers a Certificate of Achievement: Early Intervention Assistant consisting of 27 semester units.

Additional Information Required for State Submission:

TOP Code: 1305.20 - Children with Special Needs

Annual Completers: 30

Net Annual Labor Demand: 54,597 (Bay Area Region)

Faculty Workload: .4

New Faculty Positions: 0

New Equipment: 0

New/Remodeled Facilities: 0

Library Acquisitions: 0

Gainful Employment: Yes

Program Review Date: Estimate December, 2022

Distance Education: 50-99%

**Foothill College
Credit Program Narrative
Certificate of Achievement in Elementary After Care Education**

Item 1. Program Goals and Objectives

The Certificate of Achievement in Elementary After Care Education is designed to deepen understanding of children, their families and developmentally appropriate practices, while preparing students for careers in elementary after care programs. This certificate consists of classes that will deepen understanding of typical and exceptional development, as well as inform care for children and collaboration with their families. This certificate focuses on the school age group.

Program Learning Outcomes:

- Identify the behaviors and characteristics of children ages five to twelve years.
- Define the elements of developmentally appropriate, high quality school-age child care and practices.

Item 2. Catalog Description

The Certificate of Achievement in Elementary After Care Education is designed to deepen the understanding of development of elementary aged children, and support children and their families in elementary after care education programs.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (21 units)	CHLD 2	Child Growth & Development II: Middle Childhood through Adolescence	4	Year 1, Winter
	CHLD 8	Child, Family & Community	4	Year 1, Winter
	CHLD 53NC	Supporting Children with Special Needs in Children's Programs	3	Year 1, Fall
	CHLD 56N	Principles & Practices of Teaching Young Children	4	Year 1, Fall
	CHLD 59	Working with School-Age Children	4	Year 1, Spring
	CHLD 88B	Positive Behavior Management	2	Year 1, Spring

TOTAL UNITS: 21 units

Proposed Sequence for one year completion:

Year 1, Fall = 7 units

Year 1, Winter = 8 units

Year 1, Spring = 6 units
TOTAL UNITS: 21 units

Proposed Sequence for one class at a time:

Year 1, Fall = 4 units
 Year 1, Winter = 4 units
 Year 1, Spring = 4 units
 Year 2, Fall = 3 units
 Year 2, Winter = 4 units
 Year 2, Spring = 2 units
TOTAL UNITS: 21 units

Item 4. Master Planning

The Certificate of Achievement in Elementary After Care Education prepares the child care workforce, by supplying entry-level teachers the units they need to start working in early elementary after care education. It is a starting place in the workforce and in their education. Students are encouraged to go on to gain an associate’s degree with Foothill or a degree for transfer. This program directly supports underrepresented populations, both the students in their career goals and the families of our community.

Item 5. Enrollment and Completer Projections

We anticipate that 5 students will complete this certificate after 1 year, and that numbers will double in subsequent years after the certificate becomes better known.

Course #	Course Title	Year 1		Year 2	
		Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
CHLD 2	Child Growth & Development II: Middle Childhood through Adolescence	8	245	8	260
CHLD 8	Child, Family & Community	11	360	10	300
CHLD 53NC	Supporting Children with Special Needs in Children's Programs	1	32	0	0
CHLD 56N	Principles & Practices of Teaching Young Children	7	149	5	146
CHLD 59	Working with School-Age Children	1	12	2	66
CHLD 88B	Positive Behavior Management	6	135	5	135

Item 6. Place of Program in Curriculum/Similar Programs

This certificate is a replacement of the School-Age Child Care Certificate of Specialization, overlaps content with no other program outside of Child Development, and prepares the

workforce by providing both academic and practical CTE coursework.

Item 7. Similar Programs at Other Colleges in Service Area

None known.

Additional Information Required for State Submission:

TOP Code: 1305.50 - The School Age Child

Annual Completers: 30

Net Annual Labor Demand: 54,597 (Bay Area Region)

Faculty Workload: .4

New Faculty Positions: 0

New Equipment: 0

New/Remodeled Facilities: 0

Library Acquisitions: 0

Gainful Employment: Yes

Program Review Date: Estimate December, 2022

Distance Education: 50-99%

Child Development Occupations Labor Market Information Report City College of San Francisco

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
May 2019

Recommendation

Based on all available data, there appears to be a significant undersupply of Child Development workers compared to the demand for this cluster of occupations in the Bay region and in the Mid-Peninsula sub-region (San Francisco and San Mateo Counties). The gap is about 10,420 students annually in the Bay region and 2,955 students in the Mid-Peninsula sub-region. In addition, there are thousands of incumbent Early Childhood Education teachers and staff whose professional development could potentially be supported with this certificate.

This report also provides student outcomes data on employment and earnings for programs on TOP 1305.00 - Child Development/Early Care and Education in the state and region. It is recommended that this data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at City College of San Francisco and in the region.

Introduction

This report profiles Child Development Occupations in the 12 county Bay region and in the Mid-Peninsula sub-region for a proposed revision to an existing certificate at City College of San Francisco. The proposed revision would support the professional development of Early Childhood Education teachers and staff.

- **Childcare Workers (SOC 39-9011):** Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Excludes "Preschool Teachers, Except Special Education" (25-2011) and "Teacher Assistants" (25-9041).
Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: Short-term on-the-job training
Percentage of Community College Award Holders or Some Postsecondary Coursework: 36%
- **Special Education Teachers, Preschool (SOC 25-2051):** Teach preschool school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099).
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 11%
- **Preschool Teachers, Except Special Education (SOC 25-2011):** Instruct preschool-aged children in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). May be required to hold State certification. Excludes "Childcare Workers" (39-9011) and "Special Education Teachers" (25-2050).
Entry-Level Educational Requirement: Associate's degree
Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 38%

- **Education Administrators, Preschool and Childcare Center/Program (SOC 11-9031):** Plan, direct, or coordinate the academic and nonacademic activities of preschool and childcare centers or programs. Excludes "Preschool Teachers" (25-2011).

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 12%

- **Teacher Assistants (SOC 25-9041):** Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher has ultimate responsibility for the design and implementation of educational programs and services. Excludes "Graduate Teaching Assistants" (25-1191).

Entry-Level Educational Requirement: Some college, no degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 41%

Occupational Demand

Table 1. Employment Outlook for Child Development Occupations in Bay Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Annual Openings	10% Hourly Wage	Median Hourly Wage
Childcare Workers	34,444	35,519	1,075	3%	27,141	5,428	\$7.45	\$9.21
Special Education Teachers, Preschool	274	344	70	26%	178	36	\$15.31	\$23.43
Preschool Teachers, Except Special Education	18,412	19,719	1,307	7%	10,557	2,111	\$13.27	\$18.22
Education Administrators, Preschool and Childcare Center/Program	3,084	3,235	151	5%	1,373	275	\$18.76	\$25.45
Teacher Assistants	34,237	37,397	3,160	9%	21,205	4,241	\$11.92	\$17.27
Total	90,450	96,214	5,764	6%	60,454	12,091	\$10.74	\$14.69

Source: EMSI 2018.3

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Child Development Occupations in Mid-Peninsula Sub-Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Annual Openings	10% Hourly Wage	Median Hourly Wage
Childcare Workers	10,815	11,824	1,009	9%	9,419	1,884	\$7.51	\$8.96
Special Education Teachers, Preschool	29	43	14	50%	27	5	\$11.55	\$20.33
Preschool Teachers, Except Special Education	4,176	4,575	399	10%	2,513	503	\$15.50	\$20.46
Education Administrators, Preschool and Childcare Center/Program	644	693	49	8%	306	61	\$19.90	\$28.87
Teacher Assistants	6,101	6,831	731	12%	3,997	799	\$13.02	\$18.08
TOTAL	21,765	23,967	2,202	10%	16,262	3,252	\$10.96	\$14.33

Source: EMSI 2018.3

Mid-Peninsula Sub-Region includes San Francisco and San Mateo Counties

Job Postings in Bay Region and Mid-Peninsula Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Oct 2017 - Sept 2018)

Child Development Occupations in 12 County Bay Region and in Mid-Peninsula, 2018

Occupation	Bay Region	Mid-Peninsula
Childcare Workers (39-9011.00)	4,809	1,490
Nannies (39-9011.01)	4,803	1,285
Teacher Assistants (25-9041.00)	3,406	936
Preschool Teachers, Except Special Education (25-2011.00)	3,110	641
Special Education Teachers, Preschool (25-2051.00)	405	104
Education Administrators, Preschool and Childcare Center/Program (11-9031.00)	360	70
Total	16,893	4,526

Source: Burning Glass

Table 4. Top Job Titles for Child Development Occupations for latest 12 months (Oct 2017 - Sept 2018)

Common Title	Bay	Mid-Peninsula	Common Title	Bay	Mid-Peninsula
Nanny	3,612	1,167	Special Education Aide	245	87
Babysitter	2,642	683	Special Education Paraprofessional	172	48
Preschool Teacher	1,061	299	Infant Teacher	167	61
Instructional Assistant	709	28	Child Care Provider	162	63
Paraeducator	445	85	Childcare Teacher	153	46
Instructional Aide	309	97	Teacher	145	41
Assistant Teacher	267	64	Teacher's Aide	144	51
Sitter	266	72	Pet Sitter	135	35

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Child Development Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2017)	Jobs in Industry (2022)	% Change (2017-22)	% in Industry (2017)
Child Day Care Services (624410)	27,786	28,618	3%	30.7%
Elementary and Secondary Schools (Local Government) (903611)	24,418	26,581	9%	27.0%
Private Households (814110)	14,030	14,660	4%	15.5%
Elementary and Secondary Schools (611110)	6,698	7,325	9%	7.4%
Religious Organizations (813110)	3,482	3,617	4%	3.8%
Fitness and Recreational Sports Centers (713940)	1,503	1,664	11%	1.7%
Colleges, Universities, and Professional Schools (State Government) (902612)	1,357	1,504	11%	1.5%
Civic and Social Organizations (813410)	1,342	1,434	7%	1.5%
Local Government, Excluding Education and Hospitals (903999)	1,296	1,376	6%	1.4%
Colleges, Universities, and Professional Schools (Local Government) (903612)	1,155	1,042	(10%)	1.3%
Other Individual and Family Services (624190)	966	1,117	16%	1.1%
Services for the Elderly and Persons with Disabilities (624120)	955	1,187	24%	1.1%

Source: EMSI 2018.3

Table 6. Top Employers Posting Child Development Occupations in Bay Region and Mid-Peninsula Sub-Region (Oct 2017 - Sept 2018)

Employer	Bay	Employer	Bay	Employer	Mid-Peninsula
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Child Development Occupations in 12 County Bay Region and in Mid-Peninsula, 2018

Bright Horizons	219	Salinas City Elementary	91	Bright Horizons	120
West Contra Costa Unified School District	202	San Ramon Valley Unified School District	89	Zum	89
College Nannies Sitters Tutors Development, Inc	179	Alameda Unified School District	86	Coe Incorporated	78
Zum	146	La Petite Academy	81	Nanny Lane	77
Honor Home Care	113	Monterey County Office Of Education	80	Coe Company	54
Sitter	109	Nanny Lane	79	College Nannies Sitters Tutors Development, Inc	51
YMCA	95	Coe Incorporated	78	Sitter	48
Capital Markets Placement	93	Santa Rosa City Schools	63	San Carlos School District	43
Cupertino Union School District	91	In House Vacancy Internal Candidates Only	60	Honor Home Care	41
Petsitter	91	Santa Clara Unified School District	60	Petsitter	36

Source: Burning Glass

Educational Supply

There are 23 community colleges in the Bay Region issuing 1,672 awards annually on TOP 1305.00 – Child Development/Early Care and Education and three colleges in the Mid-Peninsula sub-region issuing 296 awards annually on this TOP code.

Table 7. Awards on TOP 1305.00 - Child Development/Early Care and Education in the Bay Region

College	Sub-Region	Headcount	Associates	Certificates	Total
Cabrillo	Santa Cruz & Monterey	718	23	86	109
Canada	Mid-Peninsula	675	44	60	104
Chabot Hayward	East Bay	1,203	27	20	47
Contra Costa	East Bay	430	9	13	22
Deanza	Silicon Valley	1,429	30	53	83
Diablo Valley	East Bay	1,662	28	118	146
Foothill	Silicon Valley	1,231	24	5	29
Gavilan	Silicon Valley	580	8	10	18
Hartnell	Santa Cruz & Monterey	452	15	12	27
Las Positas	East Bay	748	23	93	116
Los Medanos	East Bay	1,583	28	104	132
Marin	North Bay	248	3	1	4
Merritt	East Bay	658	32	257	289
Mission	Silicon Valley	650	14	11	25
Monterey	Santa Cruz & Monterey	419	23	12	35
Napa	North Bay	587	9	2	11
Ohlone	East Bay	335	11	5	16
San Francisco	Mid-Peninsula	1,775	62	60	122
San Jose City	Silicon Valley	409	22	22	44
Santa Rosa	North Bay	1,848	31	117	148
Skyline	Mid-Peninsula	748	38	32	70
Solano	North Bay	994	11	5	16
West Valley	Silicon Valley	650	25	34	59
Total Bay Region		20,032	540	1,132	1,672
Total Mid-Peninsula Sub-Region		3,198	144	152	296

Source: IPEDS, Data Mart and Launchboard

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 12,091 annual openings for the Child Development occupational cluster and 1,672 annual awards for an annual undersupply of 10,419. In the Mid-Peninsula sub-region, there is also a gap with 3,252 annual openings and 296 annual awards for an annual undersupply of 2,956.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1305.00 - Child Development/Early Care and Education

2015-16	Bay (All CTE Programs)	City College of San Francisco (All CTE Programs)	State (TOP 1305.00)	Bay (TOP 1305.00)	Mid-Peninsula (TOP 1305.00)	City College of San Francisco (TOP 1305.00)
% Employed Four Quarters After Exit	74%	72%	67%	69%	71%	72%
Median Quarterly Earnings Two Quarters After Exit	\$10,310	\$10,794	\$6,351	\$7,276	\$7,855	\$7,649
Median % Change in Earnings	46%	46%	43%	42%	47%	48%
% of Students Earning a Living Wage	63%	55%	35%	39%	33%	32%

Source: Launchboard Pipeline (version available on 9/28/18)

Skills, Certifications and Education

Table 9. Top Skills for Child Development Occupations in Bay Region (Oct 2017 - Sept 2018)

Skill	Postings	Skill	Postings	Skill	Postings
Child Care	7,423	Autism Diagnosis / Treatment / Care	527	Health Screening	217
Teaching	4,944	Toileting	454	Educational Programs	215
Babysitting	3,972	Customer Service	447	Lifting Ability	212
Cardiopulmonary Resuscitation (CPR)	1,994	Child Care Facility	417	Curriculum Development	175
Child Development	1,927	Clerical Duties	369	Behavior Analysis	172
Early Childhood Education	1,759	Cooking	367	Mental Health	172
Meal Preparation	1,305	Music	358	Budgeting	170
Special Education	1,127	Psychology	352	Maintaining Student Records	167
Laundry	1,049	Record Keeping	342	X-Rays	161
Lesson Planning	1,005	No Child Left Behind (NCLB)	341	Emotional Support	153
Caregiving	797	Tutoring	305	Chest X-Ray	152
Scheduling	670	Parenting	272	Social Services	150
Cleaning	602	Bathing	257	Pertussis	138

Source: Burning Glass

Table 10. Certifications for Child Development Occupations in the Bay Region (Oct 2017 - Sept 2018)

Note: 83% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Child Development Occupations in 12 County Bay Region and in Mid-Peninsula, 2018

Certification	Postings	Certification	Postings
First Aid CPR AED	1,296	Certified Child Care Provider	23
Driver's License	1,208	Certified Occupational Therapy Assistant (COTA)	21
Child Development Associate (CDA)	291	Bloodborne Pathogens Certification	12
Registered Behavior Technician	173	Sign Language Certification	12
Home Health Aide	122	CDL Class C	10
Certified Teacher	83	Administrative Services Credential	9
Licensed Vocational Nurse (LVN)	80	Cross-Cultural Language and Academic Development	9
Board Certified Behavior Analyst (BCBA)	78	Certified Health Education Specialist	8
Certified Regulatory Compliance Manager (CRCM)	49	Certified Child Care Worker	7
Basic Life Saving (BLS)	27	Certified Nanny	7

Source: Burning Glass

Table 11. Education Requirements for Child Development Occupations in Bay Region

Note: 83% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings
High school or vocational training	3,047 (64%)
Associate Degree	755 (16%)
Bachelor's Degree or Higher	996 (20%)

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

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- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, icarrese@ccsf.edu or (415) 267-6544

FOOTHILL COLLEGE
Credit Program Narrative
Certificate of Achievement in Online and Blended Instruction

Item 1. Program Goals and Objectives

The Certificate of Achievement in Online and Blended Instruction is designed for students working in or planning for a career in online human resource training and development or education; in-service and pre-service teachers; educators at any level; and those working as trainers for any market sector. The program focuses on the design and development of online coursework through the use of a learning management system, with a focus on the key areas of content presentation, interaction, assessment, and accessibility. The content includes current best practices in instructional design, student engagement, socio-emotional learning, differentiation, equity, collaboration, assessment, and professional responsibilities, all through the lens of online teaching and learning. Skills learned include the ability to develop online courses in learning management systems, design and assess meaningful learning objectives, monitor student progress and engagement, build virtual communities that embrace diversity, create learning materials that are accessible to diverse learners, develop activities to promote engagement, and create interactive multimedia to support learning. Upon completion of the program, students will be prepared to develop and successfully facilitate courses, workshops, and trainings in an online or blended environment.

Program Learning Outcomes:

- Students will be able to demonstrate professional responsibilities in keeping with the best practices of online instruction.
- Students will be able to support learning and facilitate presence (teacher, social, and learner) with digital pedagogy.
- Students will be able to facilitate interactions and collaboration to build a supportive online community that fosters active learning.
- Students will be able to promote learner success through interactions with learners and other stakeholders and by facilitating meaningful learner engagement in learning activities.
- Students will be able to model, guide, and encourage legal, ethical, and safe behavior related to technology use.
- Students will be able to personalize instruction based on the learner's diverse academic, social, and emotional needs.
- Students will be able to create and/or implement assessments in online learning environments in ways that ensure the validity and reliability of the instruments and procedures.
- Students will be able to measure learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluate learner understanding of how these assessments measure achievement of the learning objectives.
- Students will be able to curate and create instructional materials, tools, strategies, and resources to engage all learners and ensure achievement of academic goals.

Item 2. Catalog Description

The Certificate of Achievement in Online and Blended Instruction is designed for students

working in or planning for a career in online human resource training and development or education; in-service and pre-service teachers; educators at any level; and those working as trainers for any market sector. The program provides 15 units of instruction and support for developing online courses in learning management systems, designing and assessing meaningful learning objectives, monitoring student progress and engagement, building virtual communities that embrace diversity, developing learning materials that are accessible to diverse audiences, developing activities to promote engagement, and creating interactive multimedia to support learning. Upon completion of the program, students will be prepared to develop and successfully facilitate courses, workshops, and trainings in an online or blended environment.

Item 3. Program Requirements

Requirements	Course #	Name	Units	Sequence
Core Courses (11 units)	LINC 57	Designing Learner-Centered Instruction	1	Year 1, Spring
	LINC 75A	Introduction to Instructional Design & Technology	3	Year 1, Fall
	LINC 75C	Designing Online Instruction	3	Year 1, Winter
	LINC 91B	Evaluating Technology-Based Learning Outcomes	3	Year 1, Spring
	LINC 93B	Assistive Technology & Universal Access	1	Year 1, Winter
Restricted Electives (select 4 units)	LINC 58	Global Project-Based Learning	2	Year 1, Spring
	LINC 66C	Searching & Researching the Internet	2	Year 1, Fall
	LINC 67	Designing Web-Based Learning Projects	1	Year 1, Spring
	LINC 70	Web Page Design Overview	1	Year 1, Fall
	LINC 80	Multimedia Overview	1	Year 1, Winter
	LINC 81	Using Digital Images	1	Year 1, Winter
	LINC 83F	Introduction to Digital Video Editing	1	Year 1, Spring
	LINC 90A	Webinars	1	Year 1, Winter
	LINC 90C	Online Collaboration Tools	2	Year 1, Winter
	LINC 95B	Technology Ethics & Educational Law	1	Year 1, Fall
LINC 98	Teaching & Learning in the Digital Age	1	Year 1, Fall	

TOTAL UNITS: 15 units

Proposed Sequence:

Year 1, Fall = 5 units

Year 1, Winter = 5 units

Year 1, Spring = 5 units

TOTAL UNITS: 15 units

Item 4. Master Planning

Foothill's mission is to offer equitable programs and services that empower students to achieve their goals and become productive global citizens. By offering an Online and Blended Instruction certificate, Foothill will provide an invaluable service to current and future educators and trainers by teaching them to create high quality learning programs in a virtual environment, with a focus

on access and equity. By modeling best practices in online education students in the program will experience a real-life example of successful online learning, and they will be able to apply these skills to their own online learning projects.

Foothill’s 2019-2020 Annual College Strategic Objectives recognizes that classes are being moved from face-to-face to hybrid and/or online; however, the document also recognizes that not all students are equipped with the tools to be successful in an online environment. In this program, students will learn best practices and equity-driven strategies to help ALL students find success in online classes. This will enable K-12 educators to scaffold online learning strategies in traditional and blended classrooms, empowering younger students to become successful learners and leaders in higher-ed virtual environments.

The 2019 California Community College State of the System Report highlighted the California Online College that is helping the needs of stranded workers looking for an opportunity to boost their skills and marketability. Additionally, there is a push to expand the online opportunities for all students so that access is equitable and flexible for the diverse needs of adult learners. Upon completion of the Online and Blended Instruction program, students will be able to offer all learners a high-quality education anywhere in the world.

Item 5. Enrollment and Completer Projections

During its initial year, one cohort of 30 students is projected to complete the program. After the first year, the program will increase its cohort size to 50 students. The intention is to conduct two cohorts of 50 students per year, or 100 students per year. After five years, approximately 400 students are projected to complete the program (accounting for attrition). Events related to COVID-19 and shelter-in-place orders have highlighted the extremely pressing need for a program of this nature. There is expected to be an increased demand for quality online and blended educational models, both as a safeguard against another shelter-in-place event, and as an opportunity to promote more flexible learning opportunities for a variety of educational institutions and workplaces. Because this program can be taught entirely online, there is the potential for a greater reach to students beyond the local area.

		Year 1		Year 2	
Course #	Course Title	Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
LINC 57	Designing Learner-Centered Instruction	1	30	1	35
LINC 58	Global Project-Based Learning	1	36	2	59
LINC 66C	Searching & Researching the Internet	N/A	N/A	N/A	N/A
LINC 67	Designing Web-Based Learning Projects	1	37	1	36
LINC 70	Web Page Design Overview	1	60	3	136

LINC 75A	Introduction to Instructional Design & Technology	4	99	3	81
LINC 75C	Designing Online Instruction	N/A	N/A	N/A	N/A
LINC 80	Multimedia Overview	2	107	3	132
LINC 81	Using Digital Images	2	100	1	64
LINC 83F	Introduction to Digital Video Editing	2	126	2	96
LINC 90A	Webinars	N/A	N/A	N/A	N/A
LINC 90C	Online Collaboration Tools	2	59	1	35
LINC 91B	Evaluating Technology-Based Learning Outcomes	1	32	1	25
LINC 93B	Assistive Technology & Universal Access	N/A	N/A	N/A	N/A
LINC 95B	Technology Ethics & Educational Law	1	17	1	17
LINC 98	Teaching & Learning in the Digital Age	1	57	2	73

Item 6. Place of Program in Curriculum

This program is a natural outcome of the Learning in New Media Classes department's focus, and reflects the Krause Center for Innovation's mission to empower teachers and transform the learning experience through innovation and effective practices. The foundational courses of the program connect to the LINC Certificate of Achievement in Instructional Design and Technology before branching into the realm of online-specific instruction. The curriculum sequence is designed to address the key themes and outcomes provided by the CVC-OEI initiative, bringing this excellent model of online instruction to a wider-ranging audience.

Item 7. Similar Programs at Other Colleges in Service Area

There are no similar programs at other colleges in Foothill's service area. However, there are some similarities between this program and programs at other organizations that are connected with educational institutions.

The curricular themes for this program are founded in the CCC California Virtual Campus-Online Education Initiative (CVC-OEI) program for CCC employees. This initiative runs multiple successful programs related to online instruction, but program participation is limited to employees of the California Community College system, so it does not impact K-12 educators, non-CCC college educators, virtual tutors, and industry/corporate trainers and education development managers.

Leading Edge, through the Riverside County Office of Education, offers an Online and Blended Teacher Certification that includes 60 hours of learning and is adapted from CVC-OEI online certification programs. Of the organizations that impact Foothill's service area, the Santa Clara County Office of Education (SCCOE) and the New Tech Network are only ones that are

qualified to offer this program. The last time this program was offered through the SCCOE was June of 2018. This program has not been offered through the New Tech Network in the past 3 years. Currently, no upcoming programs of this kind are scheduled through Leading Edge anywhere in California through 2025.

Leading Edge has offered programs, which includes the Online and Blended Teacher Certification, several times over the past three years in the Southern California area, especially in San Bernardino and Riverside.

The University of California-San Diego Extension offers a 13-unit, \$1705 Online Teaching program that can be completed in 6-9 months. It is offered online exclusively.

There are also other for-cost programs related to online teaching that are not associated with any academic institution, such as the Online Learning Consortium's Online Teaching Certificate Program.

Additional Information Required for State Submission:

TOP Code: 0860.00 – Educational Technology

Annual Completers: 75

Net Annual Labor Demand: 19,304-21,128 (Bay Region)

Faculty Workload: PT Adjunct faculty load would be between .133 and .266 each quarter

New Faculty Positions: 0

New Equipment: 0

New/Remodeled Facilities: 0

Library Acquisitions: 0

Gainful Employment: Yes

Program Review Date: February, 2022

Distance Education: 100%



Online and Blended Instruction Occupations Labor Market Information Report Foothill College

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
May 2020

Recommendation

Based on all available data, there appears to be an undersupply of Online and Blended Instruction workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County). There is a projected annual gap of about 2,330 students in the Bay region and 620 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0860.00 - Educational Technology in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

Introduction

This report profiles Online and Blended Instruction Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01), therefore, the data shown in Tables 1 and 2 is for Education Administrators, All Other (at the six digit SOC level) and likely overstates demand for Distance Learning Coordinators. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01).

- **Education Administrators, All Other (SOC 11-9039):** All education administrators not listed separately.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 12%
- **Training and Development Managers (SOC 11-3131):** Plan, direct, or coordinate the training and development activities and staff of an organization.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
- **Training and Development Specialists (SOC 13-1151):** Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 31%

- **Instructional Coordinators (SOC 25-9031):** Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

Entry-Level Educational Requirement: Master's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 11%

Occupational Demand

Table 1. Employment Outlook for Online and Blended Instruction Occupations in Bay Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Average Annual Openings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	2,800	2,990	190	7%	1,320	264	\$25.20	\$35.36
Training and Development Managers	1,787	1,909	122	7%	941	188	\$47.43	\$68.57
Training and Development Specialists	9,676	10,802	1,126	12%	6,600	1,320	\$26.00	\$37.83
Instructional Coordinators	5,042	5,427	385	8%	2,815	563	\$24.52	\$32.84
TOTAL	19,304	21,128	1,823	9%	11,676	2,335	\$27.48	\$39.01

Source: EMSI 2020.1

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Online and Blended Instruction Occupations in Silicon Valley Sub-Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Average Annual Openings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	483	533	50	10%	248	50	\$26.78	\$41.57
Training and Development Managers	515	555	40	8%	276	55	\$61.55	\$76.42
Training and Development Specialists	2,848	3,219	372	13%	1,993	399	\$24.80	\$35.92
Instructional Coordinators	961	1,074	113	12%	584	117	\$27.24	\$33.54
TOTAL	4,805	5,381	575	12%	3,101	620	\$29.42	\$40.35

Source: EMSI 2020.1

Silicon Valley Sub-Region includes Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (April 2019 - March 2020)

Occupation	Bay Region	Silicon Valley
Training and Development Specialists	2,485	788
Training and Development Managers	963	251

Instructional Designers and Technologists	781	353
Distance Learning Coordinators	42	8
TOTAL	4,271	1,400

Source: Burning Glass

Table 4a. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Bay Region

Common Title	Bay	Common Title	Bay
Instructional Designer	652	Learning Development Specialist	33
Training Coordinator	343	Sales Training Manager	27
Training Specialist	337	Director, Learning, Development	27
Training Manager	296	Developer	25
Technical Trainer	149	Machine Learning Developer	21
Development Coordinator	110	Operations Specialist	20
Trainer	106	Field Trainer	20
Development Specialist	69	Curriculum Designer	19
Director, Staff Development	63	Machine Learning Specialist	18
Sales Trainer	54	Supervisor, Training	17
Education Specialist	52	Sales Training Specialist	17
Learning Specialist	41	Director of Sales	17
Development Trainer	38	Head, Development	16
Training Developer	34	Behavior Technician, Training	16

Table 4b. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Silicon Valley Sub-Region

Common Title	Silicon Valley	Common Title	Silicon Valley
Instructional Designer	327	Developer	11
Training Coordinator	145	Program Analyst	8
Training Specialist	94	Learning Development Specialist	8
Training Manager	92	Staff Assistant	7
Technical Trainer	65	Machine Learning Specialist	7
Trainer	29	Learning Specialist	7
Development Coordinator	23	Field Training Officer	7
Director, Staff Development	18	Education Specialist	7
Sales Trainer	17	Development Trainer	7
Machine Learning Developer	17	Commercial Learning Trainer	7
Training Developer	15	Product Trainer	6
Development Specialist	14	Management Training Program	6
Sales Training Manager	11	Learning Technology Specialist	6
Principal Epic Trainer, Billing, Healthcare Industry	11	Director, Development	6

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Online and Blended Instruction Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2022)	% Change (2019-24)	% Occupation Group in Industry (2019)
Elementary and Secondary Schools (Local Government) (903611)	1,625	1,686	4%	8%
Corporate, Subsidiary, and Regional Managing Offices (551114)	824	864	5%	4%
Internet Publishing and Broadcasting and Web Search Portals (519130)	800	1,042	30%	4%
Colleges, Universities, and Professional Schools (State Government) (902612)	725	695	-4%	4%
Educational Support Services (611710)	719	842	17%	4%
Custom Computer Programming Services (541511)	715	914	28%	4%
Colleges, Universities, and Professional Schools (611310)	665	731	10%	3%
Local Government, Excluding Education and Hospitals (903999)	622	649	4%	3%
Elementary and Secondary Schools (611110)	520	550	6%	3%
Software Publishers (511210)	514	646	26%	3%
Computer Systems Design Services (541512)	404	495	23%	2%
Sports and Recreation Instruction (611620)	316	356	13%	2%
Administrative Management and General Management Consulting Services (541611)	312	383	23%	2%
Exam Preparation and Tutoring (611691)	306	347	13%	2%
State Government, Excluding Education and Hospitals (902999)	294	312	6%	2%
Colleges, Universities, and Professional Schools (Local Government) (903612)	277	261	-6%	1%
Federal Government, Military (901200)	270	261	-3%	1%

Source: EMSI 2020.1

Table 6. Top Employers Posting Online and Blended Instruction Occupations in Bay Region and Silicon Valley Sub-Region (April 2019 - March 2020)

Employer	Bay	Employer	Bay	Employer	Silicon Valley
UC Berkeley	34	Microsoft Corporation	18	Apple Inc.	27
Facebook	33	Workday, Inc	17	Intuitive Surgical Inc	21
Google Inc.	30	US Army	16	Google Inc.	21
Reynolds & Reynolds	28	Pinterest	16	Stanford University	18
Apple Inc.	27	Agiloft	16	Servicenow, Inc	12
Amazon	26	UC San Francisco	15	Reynolds & Reynolds	10
Anthem Blue Cross	25	Medtronic	14	Core Group Technologies Inc	10
Walmart / Sam's	23	Genentech	14	Microsoft Corporation	9
Stanford University	22	Abbott Laboratories	14	Applied Materials	9
Milestone Technologies Inc	21	Servicenow, Inc	13	Anthem Blue Cross	9
Intuitive Surgical Inc	21	Advance Behavioral Therapies	12	Comerica	8
Envision	21	Lucile Packard Childrens Hospital	11	Servicenow	7
Visa	20	Linkedin Limited	11	Abbott Laboratories	7
Kaiser Permanente	20	Health Services Llc	11	Walmart / Sam's	6
University California	19	Tti Incorporated	10	Palo Alto Networks	6
Core Group Technologies Inc	19	GP Strategies Corporation	10	Linkedin Limited	6

Pacific Gas and Electric Co	18	Falcon Cct	10	Intellipro Incorporated	6
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Source: Burning Glass

Educational Supply

There is one (1) community college in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no colleges in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

There is one (1) Other Educational Institution in the Bay Region issuing two (2) Bachelor's Degrees on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no Other Educational Institutions in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

Table 7a. Awards on TOP 0860.00 - Educational Technology in Bay Region

College	Sub-Region	Certificate Low Unit	Total
Merritt	East Bay	3	3
Total Bay Region		3	3
Total Silicon Valley Sub-Region		0	0

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

Table 7b. Other Educational Institutions - Bachelor's Degree Awards on TOP 0860.00 - Educational Technology Bay Region

College	Sub-Region	Bachelor's Degree
Academy of Art University	Mid-Peninsula	2
Total Bay Region		2
Total Silicon Valley Sub-Region		0

Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,335 annual openings for the Online and Blended Instruction occupational cluster and 5 annual (3-year average) awards for an annual undersupply of 2,330 students. In the Silicon Valley Sub-Region, there is also a gap with 620 annual openings and no annual (3-year average) awards for an annual undersupply of 620 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0860.00-Educational Technology

2015-16	Bay (All CTE Programs)	Foothill College (All CTE Programs)	State (0860.00)	Bay (0860.00)	Silicon Valley (0860.00)	Foothill College (0860.00)
% Employed Four Quarters After Exit	74%	77%	81%	81%	77%	77%
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$15,301	\$20,325	\$22,242	\$20,549	\$20,549

Median % Change in Earnings	46%	82%	32%	30%	25%	25%
% of Students Earning a Living Wage	63%	76%	83%	88%	86%	86%

Source: Launchboard Pipeline (version available on 5/6/20)

Skills, Certifications and Education

Table 9. Top Skills for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Skill	Postings	Skill	Postings	Skill	Postings
Training Programs	941	Curriculum Development	264	Multimedia	178
Project Management	903	Needs Assessment	258	Adobe Creative Suite	177
Instructional Design	881	Staff Management	224	Talent Management	174
Training Materials	758	Staff Development	222	Course Development	168
Scheduling	638	Change Management	215	Content Management	167
Teaching	581	Leadership Development	215	Employee Training	166
Customer Service	485	Adobe Acrobat	213	Training Activities	156
Onboarding	455	Organizational Development	209	Technical Writing / Editing	154
Learning Management System	405	Adobe Indesign	196	Software as a Service (SaaS)	153
Technical Training	388	Project Planning and Development Skills	194	Performance Management	152
Budgeting	376	Sales Training	193	Quality Assurance and Control	152
Adobe Captivate	332	Graphic Design	191	New Hire Orientation	151
Sales	308	Stakeholder Management	186	Adobe Illustrator	146
Content Development	296	Technical Support	184	Psychology	136
Adobe Photoshop	286	Salesforce	179	Public Speaking	136

Source: Burning Glass

Table 10. Certifications for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Note: 80% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
Driver's License	314	Basic Life Saving (BLS)	16
Licensed Vocational Nurse (LVN)	75	Microsoft Certified Trainer (MCT)	15

First Aid CPR AED	74	Medical Examiner's License	14
Epic Certification	67	Lean Six Sigma Certification	14
Project Management Certification	59	Six Sigma Yellow Belt	13
Security Clearance	56	Certified Teacher	13
Registered Nurse	39	Adult Learning Certificate	12
Project Management Professional (PMP)	28	Professional in Human Resources	11
Registered Behavior Technician	26	Licensed Practical Nurse (LPN)	10
Hearing Aid Dealers	20	Special Education Certification	9
Board Certified Behavior Analyst (BCBA)	18	ServSafe	9
IT Infrastructure Library (ITIL) Certification	16	Psychologist License	9

Source: Burning Glass

Table 11. Education Requirements for Online and Blended Instruction Occupations in Bay Region

Note: 36% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	444	17%
Associate Degree	92	4%
Bachelor's Degree or Higher	2,004	79%

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCC Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

For more information, please contact:

- Doreen O'Donovan, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544

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FOOTHILL COLLEGE
Temporary Program Creation Process
Feedback Form for New Programs

Until the new permanent program creation process has been determined, as part of the temporary program creation process this form shall be used by a department to gather feedback on a new program from key governance committees on campus. A complete program narrative and supporting documentation must be submitted to the groups listed below (simultaneous submission is recommended). Each committee will provide initial feedback via email within two weeks but might also provide additional feedback after their monthly meetings.

After a two-week period, regardless of whether feedback has been received from the three committees, the Division Curriculum Committee may consider the new program for approval. Following Division CC approval, please forward this completed form to the Office of Instruction.

Faculty Author(s): Cassandra Pereira
Division: Business and Social Sciences

Program Title: Online and Blended Instruction
Program Units: 15

Workforce/CTE Program (Y/N): Y
Please note that Workforce/CTE status is dependent on the TOP Code assigned to the program.

Type of Award:

- | | |
|--|---|
| <input type="checkbox"/> Non-transcriptable credit certificate | <input type="checkbox"/> AA/AS Degree (local) |
| <input checked="" type="checkbox"/> Certificate of Achievement | <input type="checkbox"/> AA-T/AS-T Degree (ADT) |
| <input type="checkbox"/> Noncredit certificate | |

EQUITY & EDUCATION https://foothill.edu/gov/equity-and-education/
Date of meeting:
Comments: <i>Submitted to Equity and Education committee on April 30, 2020. No reply received.</i>

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

REVENUE & RESOURCES https://foothill.edu/gov/revenue-and-resources/
Date of meeting:
Comments: <i>Submitted to Revenue and Resources committee on April 30, 2020. No reply received.</i>

ADVISORY COUNCIL https://foothill.edu/gov/council/
Date of meeting:
Comments: <i>Submitted to Advisory Council committee on April 30, 2020. No reply received.</i>

Division Curriculum Committee Approval Date: May 22, 2020

Division CC Representative: Allison Meezan

**Foothill College
Credit Program Narrative
Certificate of Achievement in Cloud Computing**

Item 1. Program Goals and Objectives

The Certificate of Achievement in Cloud Computing will provide the industry standard skills to understand and deploy applications for the cloud. Students learn a range of topics that cover the technical principles of the hardware and software requirements to run systems in the cloud including storage, database management, and software systems, while maintaining secure access.

Program Learning Outcome:

- Students will be able to host a database and run queries using an interface from a commercial provider and run a file-server service using a provider of their choice.

Item 2. Catalog Description

The Certificate of Achievement in Cloud Computing is designed for people who are seeking employment with companies that use cloud computing. The program provides 27 units of instruction on the industry standard skills to understand and develop applications for the cloud. Students learn a range of topics that cover the technical principals of the hardware and software requirements to run systems in the cloud including networking, storage, database management, Linux and software systems, while maintaining secure access.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (27 units)	C S 30A	INTRODUCTION TO LINUX	4.5	Year 1, Winter
	C S 50A	NETWORK BASICS (CCNA)	4.5	Year 1, Fall
	C S 55A	INTRODUCTION TO CLOUD COMPUTING IN AMAZON WEB SERVICES	4.5	Year 1, Fall
	C S 55B	DATABASE ESSENTIALS IN AMAZON WEB SERVICES	4.5	Year 1, Winter
	C S 55C	COMPUTE ENGINES IN AMAZON WEB SERVICES	4.5	Year 1, Spring
	C S 55D	SECURITY IN AMAZON WEB SERVICES	4.5	Year 1, Spring

TOTAL UNITS: 27 units

Proposed Sequence:

Year 1, Fall = 9 units
 Year 1, Winter = 9 units
 Year 1, Spring = 9 units
TOTAL UNITS: 27 units

Item 4. Master Planning

Foothill College offers programs and services that empower students to achieve goals as members of the workforce. There is currently a high demand for qualified individuals who are well-versed in cloud computing, which delivers vast data capacity to organizations of all shapes and sizes without requiring expensive on-site servers. It is considered one of the biggest growth arenas in technology today. This certificate program will allow companies to hire individuals who are familiar with cloud storage, database management, security principles with web services applications.

Item 5. Enrollment and Completer Projections

Currently, there is a significant undersupply of cloud computing workers compared to the demand in the Bay Area region. The median hourly wage for jobs in cloud computing is slightly under \$60/hr. Due to the high demand and relatively high wages for cloud computing jobs, we foresee that the demand for the certificate will be at least 20 students per year. In addition, we expect to offer the courses as hybrid/online split format, which will attract a number of students statewide. The other community college offering this certificate is Santa Monica Community College, which has had a huge burst of enrollment in the cloud computing courses.

A subset of the courses included in the program are new. Hence the columns Annual Sections and Annual Enrollment are left as N/A, as historical enrollment data is not applicable.

		Year 1: 2016-17		Year 2: 2017-18	
Course #	Course Title	Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
C S 30A	INTRODUCTION TO LINUX	6	231	4	170
C S 50A	NETWORK BASICS (CCNA)	3	101	4	87
C S 55A	INTRODUCTION TO CLOUD COMPUTING IN AMAZON WEB SERVICES	N/A	N/A	N/A	N/A
C S 55B	DATABASE ESSENTIALS IN AMAZON WEB SERVICES	N/A	N/A	N/A	N/A
C S 55C	COMPUTE ENGINES IN AMAZON WEB SERVICES	N/A	N/A	N/A	N/A
C S 55D	SECURITY IN AMAZON WEB SERVICES	N/A	N/A	N/A	N/A

Item 6. Place of Program in Curriculum/Similar Programs

Foothill College offers many different computer science courses, some of which are language-based, while others are in the enterprise networking arena. However, there is no other program similar to the Certificate of Achievement in Cloud Computing at Foothill.

Item 7. Similar Programs at Other Colleges in Service Area

Currently, there are no other colleges that offer this program. There is discussion of other community colleges, such as Canada Community College, creating such a program. Foothill's Certificate of Achievement in Cloud Computing is based off the highly successful cloud computing certificate program offered at Santa Monica Community College. Other Bay Area colleges are looking to replicate Santa Monica's program.

Additional Information Required for State Submission:

TOP Code: 0707.00 - Computer Software Development

Annual Completers: 20 (minimum)

Net Annual Labor Demand: 6107 (SF Bay Area)

Faculty Workload: 3

New Faculty Positions: 0

New Equipment: \$0

New/Remodeled Facilities: \$0

Library Acquisitions: \$0

Gainful Employment: Yes

Program Review Date: December, 2025, or earlier as required by state.

Distance Education: 100%

Cloud Computing Occupations Labor Market Information Report College of San Mateo

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
January 2019

Recommendation

Based on all available data, there appears to be a significant undersupply of Cloud Computing workers compared to the demand for this cluster of occupations in the Bay region and in the Mid-Peninsula sub-region (San Francisco and San Mateo Counties). The gap is about 5,541 students annually in the Bay region and 1,812 students annually in the Mid-Peninsula Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0707.10 - Computer Programming in the state and region. It is recommended that this data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at College of San Mateo and in the region.

Introduction

This report profiles Cloud Computing Occupations in the 12 county Bay region and in the Mid-Peninsula sub-region for a proposed new program at College of San Mateo.

- **Computer Systems Analysts (SOC 15-1121):** Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 21%
- **Database Administrators (SOC 15-1141):** Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases. Excludes "Information Security Analysts" (15-1122).
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 21%
- **Software Developers, Systems Software (SOC 15-1133):** Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 13%

- Network and Computer Systems Administrators (SOC 15-1142):** Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer network security measures. Excludes "Information Security Analysts"(15-1122), "Computer User Support Specialists" (15-1151), and "Computer Network Support Specialists" (15-1152).

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 38%

Occupational Demand

Table 1. Employment Outlook for Cloud Computing Occupations in Bay Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Annual Openings	10% Hourly Wage	Median Hourly Wage
Computer Systems Analysts	32,292	36,023	3,731	12%	2,888	2,123	\$33.25	\$53.21
Database Administrators	4,852	5,528	676	14%	458	322	\$25.88	\$49.62
Software Developers, Systems Software	40,880	44,555	3,675	9%	3,409	2,667	\$40.33	\$65.52
Network and Computer Systems Administrators	15,697	17,336	1,639	10%	1,334	995	\$29.79	\$49.09
Total	93,721	103,442	9,721	10%	8,089	6,107	\$35.38	\$57.70

Source: EMSI 2018.4

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Cloud Computing Occupations in Mid-Peninsula Sub-Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Openings	Annual Openings	10% Hourly Wage	Median Hourly Wage
Computer Systems Analysts	11,488	13,364	1,876	16%	1,147	769	\$36.72	\$56.09
Database Administrators	1,618	1,928	310	19%	172	109	\$30.84	\$51.41
Software Developers, Systems Software	11,075	12,901	1,826	16%	1,108	743	\$42.39	\$65.17
Network and Computer Systems Administrators	4,714	5,495	781	17%	463	306	\$29.24	\$51.19
TOTAL	28,896	33,689	4,793	17%	2,890	1,927	\$37.34	\$58.51

Source: EMSI 2018.4

Mid-Peninsula Sub-Region includes San Francisco and San Mateo Counties

Job Postings in Bay Region and Mid-Peninsula Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Jan 2018 - Dec 2018)

Occupation	Bay Region	Mid-Peninsula
Computer Systems Analysts (15-1121.00)	13,952	5,215
Database Administrators (15-1141.00)	10,647	4,023
Network and Computer Systems Administrators (15-1142.00)	6,864	2,208
Software Developers, Systems Software (15-1133.00)	1,308	416
Informatics Nurse Specialists (15-1121.01)	23	8

Occupation	Bay Region	Mid-Peninsula
Total	32,771	11,862

Source: Burning Glass

Table 4. Top Job Titles for Cloud Computing Occupations for latest 12 months (Jan 2018 - Dec 2018)

Common Title	Bay	Mid-Peninsula	Common Title	Bay	Mid-Peninsula
Business Systems Analyst	2,321	948	SQL Developer	301	106
Data Engineer	2,117	895	Senior Systems Administrator	299	107
Systems Administrator	1,541	514	Database Engineer	286	121
Senior Data Engineer	969	503	Information Technology Analyst	277	116
Developer	870	297	Technical Analyst	271	114
Systems Analyst	760	266	Business Analyst	205	
Database Administrator	758	242	Database Developer	196	90
Technical Consultant	523	254	Oracle Consultant	195	58
ETL Developer	456	168	Information Technology Business Analyst	189	88
Software Development Engineer	432	129	Information Technology Administrator	188	87
Linux Administrator	401	59	Database Analyst	184	
Network Administrator	348	87	Information Technology Consultant	180	71
Oracle Database Administrator	337	86	Salesforce Administrator	175	103
Linux Systems Administrator	316	72	Oracle Developer	162	67

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Cloud Computing Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2017)	Jobs in Industry (2022)	% Change (2017-22)	% in Industry (2017)
Custom Computer Programming Services (541511)	19,669	19,933	14%	21.1%
Computer Systems Design Services (541512)	12,355	12,357	11%	13.1%
Electronic Computer Manufacturing (334111)	8,720	8,780	4%	9.3%
Software Publishers (511210)	5,467	5,589	18%	5.9%
Internet Publishing and Broadcasting and Web Search Portals (519130)	5,062	5,164	32%	5.5%
Data Processing, Hosting, and Related Services (518210)	3,658	3,808	33%	4.0%
Corporate, Subsidiary, and Regional Managing Offices (551114)	3,277	3,362	6%	3.6%
Other Computer Related Services (541519)	2,707	2,729	19%	2.9%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715)	1,797	1,834	(7%)	1.9%
Semiconductor and Related Device Manufacturing (334413)	1,332	1,325	(7%)	1.4%
Engineering Services (541330)	1,275	1,282	10%	1.4%
Local Government, Excluding Education and Hospitals (903999)	1,060	1,062	3%	1.1%
Computer and Computer Peripheral Equipment and Software Merchant Wholesalers (423430)	1,036	1,036	(4%)	1.1%
Temporary Help Services (561320)	961	956	4%	1.0%
Research and Development in Biotechnology (except Nanobiotechnology) (541714)	922	946	36%	1.0%

Cloud Computing Occupations in 12 County Bay Region and in Mid-Peninsula Sub-Region, 2019

Table 6. Top Employers Posting Cloud Computing Occupations in Bay Region and Mid-Peninsula Sub-Region (Jan. 2018 – Dec. 2018)

Employer	Bay	Employer	Bay	Employer	Mid-Peninsula
Google Inc.	278	Wipro	82	Accenture	123
Accenture	244	Capgemini	79	Facebook	115
Apple Inc.	231	Infoobjects Inc	79	Salesforce	93
Cisco Systems Incorporated	166	Mumba Technologies	77	Deloitte	90
Capital Markets Placement	162	Flexton Incorporated	75	Matchpoint Solutions Incorporated	82
Scoop Technologies	150	Codeforce 360	72	Wells Fargo	79
Deloitte	129	University California	67	Oracle	69
IBM	129	Republic Bancorp	66	Capgemini	65
Facebook	125	Vdart, Inc	63	Republic Bancorp	64
Techfetch Com	125	Diverse Lynx	61	IBM	63
Matchpoint Solutions Incorporated	124	Microsoft Corporation	59	Scoop Technologies	60
Wells Fargo	120	Xoriant	59	Google Inc.	52
Vmware Incorporated	104	K Anand Corporation	58	Capital Markets Placement	46
Kaiser Permanente	103	Bio-Rad Laboratories	57	Amazon	44
Oracle	98	Workday, Inc	56	Cisco Systems Incorporated	36
Salesforce	98	Intellipro Incorporated	55	Uber	36
Amazon	95	Intelliswift Software	55	Infoobjects Inc	32
Cynet Systems	94	Nityo Infotech	55	Bitsoft International Incorporated	31
Etouch Systems Corporation	94	Paypal	55	Mumba Technologies	31
Stanford University	82	SAP	54	Autodesk Incorporated	30

Source: Burning Glass

Educational Supply

There are 24 colleges in the Bay Region issuing 566 awards annually on the following TOP codes: TOP 0707.10 - Computer Programming, TOP 0702.00 – Computer Information Systems and TOP 0708.10 - Computer Networking. There are three colleges in the Mid-Peninsula Sub-Region issuing 115 awards annually on these three TOP codes.

Table 7. Awards on TOP 0707.10 - Computer Programming, TOP 0702.00 – Computer Information Systems and TOP 0708.10 - Computer Networking in the Bay Region

College	Sub-Region	TOP Code	Headcount	Associates	Certificates	Total
Berkeley City College	East Bay	70710	n/a	2	4	6
Cabrillo College	Santa Cruz - Monterey	70710	133	6	20	26
Cañada College	Mid Peninsula	70710	n/a			
Chabot College	East Bay	70710	590			
City College of San Francisco	Mid-Peninsula	70710	24		54	54
College of Alameda	East Bay	70710	105			
College of Marin	North Bay	70710	39			
College of San Mateo	Mid-Peninsula	70710	400	0	2	2
Contra Costa College	East Bay	70710	n/a	1	1	2
De Anza College	Silicon Valley	70710	1,405	8	29	37
Diablo Valley College	East Bay	70710	n/a	43	112	155
Evergreen Valley College	Silicon Valley	70710	678			

Foothill College	Silicon Valley	70710	n/a			
Gavilan College	Santa Cruz - Monterey	70710	414	8	3	11
Hartnell College	Santa Cruz - Monterey	70710	662	11	1	12
Laney College	East Bay	70710	108	1	0	1
Las Positas College	East Bay	70710	471	0	1	1
Los Medanos College	East Bay	70710	921			
Merritt College	East Bay	70710	315			
Mission College	Silicon Valley	70710	30			
Monterey Peninsula College	Santa Cruz - Monterey	70710	n/a			
Napa Valley College	North Bay	70710	145			
Ohlone College	East Bay	70710	504	1	0	1
San Jose City College	Silicon Valley	70710	459	6	6	12
Santa Rosa Junior College	North Bay	70710	606			
Skyline College	Mid-Peninsula	70710	n/a			
Solano College	North Bay	70710	n/a	4	0	4
West Valley College	Silicon Valley	70710	n/a			
Alameda	East Bay	70200	512	4	3	7
Berkeley	East Bay	70200	146			
Chabot	East Bay	70200	221	2		2
Diablo Valley	East Bay	70200	741			
Evergreen Valley	Silicon Valley	70200	n/a	1		1
Gavilan	Silicon Valley	70200	n/a	0		0
Laney	East Bay	70200	294			
Las Positas	East Bay	70200	368	3		3
Los Medanos	East Bay	70200	n/a		1	1
Marin	North Bay	70200	181	0	1	1
Merritt	East Bay	70200	390	2	3	6
Mission	Silicon Valley	70200	211	6		6
Monterey	Santa Cruz & Monterey	70200	35			
Napa	North Bay	70200	161	3	0	3
San Francisco	Mid-Peninsula	70200	220			
Santa Rosa	North Bay	70200	77			
Skyline	Mid-Peninsula	70200	n/a	3	1	3
Contra Costa	East Bay	70810	n/a	3	12	15
Contra Costa	East Bay	70810	216			
Deanza	Silicon Valley	70810	151	10	10	19
Diablo Valley	North Bay	70810	167	5	1	6
Foothill	Silicon Valley	70810	n/a	1		1
Gavilan	Silicon Valley	70810	24	4	1	5
Las Positas	East Bay	70810	n/a	4	1	5
Los Medanos	East Bay	70810	n/a	7	8	15
Mission	Silicon Valley	70810	230	12	20	32
Monterey	Santa Cruz - Monterey	70810	97		1	1
Ohlone	East Bay	70810	495	3	17	20
San Francisco	Mid-Peninsula	70810	1,289		50	50
San Jose City	Silicon Valley	70810	154	6	7	13
San Mateo	Mid-Peninsula	70810	38			
Santa Rosa	North Bay	70810	39		20	20
Skyline	Mid-Peninsula	70810	n/a	4	1	5
Total Bay Region			13,954	175	391	566
Total Mid-Peninsula Sub-Region			2,748	7	108	115

Source: IPEDS, Data Mart and Launchboard

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 6,107 annual openings for the Cloud Computing occupational cluster and 566 annual awards for an annual undersupply of 5,541 students. In the Mid-Peninsula Sub-Region, there is also a gap with 1,927 annual openings and 115 annual awards for an annual undersupply of 1,812 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0707.10 - Computer Programming

2015-16	Bay (All CTE Programs)	College of San Mateo (All CTE Programs)	State (0707.10)	Bay (0707.10)	Mid-Peninsula (0707.10)	College of San Mateo (0707.10)
% Employed Four Quarters After Exit	74%	73%	63%	65%	67%	68%
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$24,257	\$21,930	\$27,905	\$32,263	\$41,564
Median % Change in Earnings	46%	57%	51%	55%	59%	44%
% of Students Earning a Living Wage	63%	57%	58%	63%	63%	65%

Source: Launchboard Pipeline (version available on 1/9/19)

Skills, Certifications and Education

Table 9. Top Skills for Cloud Computing Occupations in Bay Region (Jan 2018 - Dec 2018)

Skill	Postings	Skill	Postings	Skill	Postings
SQL	8,870	Data Warehousing	2,390	Performance tuning	1,857
Python	6,880	Customer Service	2,349	VMware	1,856
Oracle	5,734	Software Engineering	2,240	Scala	1,841
Java	5,528	Database Administration	2,211	MySQL	1,827
Linux	5,421	Systems Analysis	2,202	Apache Kafka	1,823
Project Management	3,872	Salesforce	2,160	Quality Assurance and Control	1,784
System Administration	3,794	Technical Support	2,131	Scheduling	1,762
Apache Hadoop	3,574	Business Analysis	2,098	PERL Scripting Language	1,748
Business Process	3,524	JavaScript	2,060	Shell Scripting	1,722
Software Development	3,423	Information Systems	2,011	Data Modeling	1,660
Extraction Transformation and Loading (ETL)	3,356	Apache Hive	2,005	Relational Databases	1,630
Big Data	3,141	Pipeline (Computing)	1,996	C++	1,599
UNIX	2,908	SAP	1,982	NoSQL	1,529
Business Systems Analysis	2,719	Data Analysis	1,978	Machine Learning	1,516
Business Systems	2,602	Data Science	1,879	Tableau	1,487

Source: Burning Glass

Table 10. Certifications for Cloud Computing Occupations in the Bay Region (Jan 2018 - Dec 2018)

Note: 90% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
IT Infrastructure Library (ITIL) Certification	663	Oracle Certification	89
Driver's License	452	Microsoft Certified Professional (MCP)	78

Project Management Certification	304	Vmware Certified Professional (VCP)	71
Cisco Certified Network Associate (CCNA)	284	Certified Information Systems Auditor (CISA)	67
Security Clearance	263	Six Sigma Certification	63
ITIL Certification	210	Microsoft Certified Technology Specialist (MCTS)	62
Certified Salesforce Administrator	198	Certified Salesforce Advanced Administrator	48
Microsoft Certified Solutions Expert (MCSE)	197	SANS/GIAC Certification	46
Microsoft Certified Solutions Associate (MCSA)	182	ITIL Foundation	43
CompTIA Security+	164	Certified Scrum Trainer (CST)	42
Cisco Certified Network Professional (CCNP)	141	Certified Administrator	37
Certified Information Systems Security Professional (CISSP)	138	Epic Certification	35
Certified A+ Technician	128	SAP Certification	34
Project Management Professional (PMP)	124	Red Hat Certified System Administrator (RHCSA)	33
CompTIA Network+	105	Salesforce Developer	32
Cisco Certified Internetwork Expert (CCIE)	96	Certified Business Analysis Professional (CBAP)	29
Red Hat Certified Engineer (RHCE)	94	Microsoft Certified Systems Administrator (Legacy)	27

Source: Burning Glass

Table 11. Education Requirements for Cloud Computing Occupations in Bay Region

Note: 52% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings
High school or vocational training	825 (5%)
Associate Degree	455 (3%)
Bachelor's Degree or Higher	13,974 (92%)

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard www.calpassplus.org/Launchboard/

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor's Office MIS system

Contacts

For more information, please contact:

- Doreen O'Donovan, Data Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481

Cloud Computing Occupations in 12 County Bay Region and in Mid-Peninsula Sub-Region, 2019

- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, icarrese@ccsf.edu or (415) 267-6544

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE
Temporary Program Creation Process
Feedback Form for New Programs

Until the new permanent program creation process has been determined, as part of the temporary program creation process this form shall be used by a department to gather feedback on a new program from key governance committees on campus. A complete program narrative and supporting documentation must be submitted to the groups listed below (simultaneous submission is recommended). Each committee will provide initial feedback via email within two weeks but might also provide additional feedback after their monthly meetings.

After a two-week period, regardless of whether feedback has been received from the three committees, the Division Curriculum Committee may consider the new program for approval. Following Division CC approval, please forward this completed form to the Office of Instruction.

Faculty Author(s): Bita Mazloom, Elaine Haight, Anand Venkataraman, Eric Reed, Baba Kofi Weusijana, Mike Murphy

Division: PSME

Program Title: Certificate of Achievement in Cloud Computing

Program Units: 27 units

Workforce/CTE Program (Y/N): Yes

Please note that Workforce/CTE status is dependent on the TOP Code assigned to the program.

Type of Award:

Non-transcriptable credit certificate

AA/AS Degree (local)

Certificate of Achievement

AA-T/AS-T Degree (ADT)

Noncredit certificate

EQUITY & EDUCATION

<https://foothill.edu/gov/equity-and-education/>

Date of meeting: June 9, 2020

Comments:

I like that these proposals all address the lack of diversity in these respective fields and that the stated goal of these program is to produce "more trained graduates of diverse backgrounds." However, these proposals don't really say how they are going to do that. The Master Planning Section does say: "The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field," but what are those initiatives? How exactly are they increasing the number of underrepresented minorities in this field? I understand that is a very large topic, but I would recommend these proposals actually list the initiatives they will take part in and how students will be supported throughout the program. For instance, the Software Development in Python CA Narrative talks about how they will work with TIDE academy to recruit more underrepresented minorities, which is excellent, but that seems to be the only proposal to list this activity.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

I also want to ask what happened with our recommendations for new programs that we made earlier in the year? We came up with a few recommendations along the lines of how will new programs address possible ethical concerns raised by entering this field, and how will this program address systemic barriers inherent with the particular field of study. Was there any response to those recommendations?

From Chris Chavez

REVENUE & RESOURCES

<https://foothill.edu/gov/revenue-and-resources/>

Date of meeting: June 11, 2020

Comments:

The committee reviewed this and approved it.

From Kurt Hueg

ADVISORY COUNCIL

<https://foothill.edu/gov/council/>

Date of meeting: June 11, 2020

Comments:

Good to go from the Advisory Council faculty side.

From Isaac Escoto

Division Curriculum Committee Approval Date: 5/28/20

Division CC Representative: Anand Venkataraman

Foothill College
Credit Program Narrative
Certificate of Achievement in Software Development in C++

Item 1. Program Goals and Objectives

The Certificate of Achievement in Software Development in C++ will train students in software development techniques and methods for creating applications in C++. Students also apply these skills in practical projects relevant to the software industry. The successful student will be able to use much of the coursework toward a Bachelor’s degree in computer science.

Program Learning Outcomes:

- Students will be able to design, document, test and debug programs using C++.
- Students will be able to use design patterns in application programs.
- Students will be able to demonstrate techniques for creating modular reusable code.

Item 2. Catalog Description

The Certificate of Achievement in Software Development in C++ will train students in software development techniques and methods for creating applications in C++. C++ is a high-level programming language that lets you work quickly and integrate systems more effectively. C++ programmers are employed in research, data science, machine learning, artificial intelligence, quality assurance, web back-end, and other careers throughout the software industry. The courses required for this certificate can lead to a higher degree in computer science including an Associate’s degree for transfer in computer science.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (9 units)	C S 2A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN C++	4.5	Year 1, Fall
	C S 2B	INTERMEDIATE SOFTWARE DESIGN IN C++	4.5	Year 1, Winter
Restricted Electives (select at least 15 units)	C S 2C	ADVANCED DATA STRUCTURES & ALGORITHMS IN C++	4.5	Year 1, Spring
	C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	4.5	Year 1, Spring
	C S 18 OR	DISCRETE MATHEMATICS	5	Year 1, Winter
	MATH 22	DISCRETE MATHEMATICS	5	Year 1, Winter
	C S 22A	JAVASCRIPT FOR PROGRAMMERS	4.5	Year 1, Spring
	C S 30A	INTRODUCTION TO LINUX	4.5	Year 1, Fall

	C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4.5	Year 1, Spring
	C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	4.5	Year 1, Spring
	C S 50A	NETWORK BASICS (CCNA)	4.5	Year 1, Spring
	MATH 1A OR MATH 1AH OR MATH 10	CALCULUS HONORS CALCULUS I ELEMENTARY STATISTICS	5 5 5	Year 1, Spring Year 1, Spring Year 1, Spring

TOTAL UNITS: 24 units (minimum)

Proposed Sequence:

Year 1, Fall = 9 units

Year 1, Winter = 9.5 units

Year 1, Spring = 9 units

TOTAL UNITS: 27.5 units

Item 4. Master Planning

Most of the prospective students for this program are from the San Francisco Bay Area, which is a hub of technological innovation in the world. However, the certificate is relevant and useful to any student who wishes to contribute to the area and potentially seek employment with one of the major multinational technology companies. There is a great need within the software industry for more trained graduates of diverse backgrounds with knowledge of advanced algorithms and data structures, which is a need this certificate seeks to meet. There is a significant lack of underrepresented minorities employed in the technology industry. The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field. Creating a certificate can provide clear guidance for students on getting into the field. The courses required for this certificate can lead to a higher degree in computer science including an Associate's degree for transfer in computer science. Moreover, the certificate prepares a student to continue their education at a baccalaureate-granting institution in computer science.

Item 5. Enrollment and Completer Projections

We estimate 50 students per year, which would be 250 students in 5 years.

		Year 1: 2016-17		Year 2: 2017-18	
Course #	Course Title	Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
C S 2A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN	6	162	11	327

	C++				
C S 2B	INTERMEDIATE SOFTWARE DESIGN IN C++	4	124	5	140
C S 2C	ADVANCED DATA STRUCTURES & ALGORITHMS IN C++	4	101	4	121
C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	5	176	6	197
C S 18/ MATH 22	DISCRETE MATHEMATICS	4	230	4	239
C S 22A	JAVASCRIPT FOR PROGRAMMERS	5	161	4	154
C S 30A	INTRODUCTION TO LINUX	6	231	4	170
C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4	140	5	123
C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	N/A	N/A	1	17
C S 50A	NETWORK BASICS (CCNA)	3	101	4	87
MATH 1A/ 1AH	CALCULUS	21	739	22	759
MATH 10	ELEMENTARY STATISTICS	35	1902	36	2024

Item 6. Place of Program in Curriculum/Similar Programs

None.

Item 7. Similar Programs at Other Colleges in Service Area

This program is like the De Anza College Certificate of Achievement in Programming in C++. Data shows that there is currently yet unmet demand for graduates in this area.

Several students at Foothill college come here from north of Foothill and will be better served by an offering of this program at our campus. Furthermore, the focus of our program is different from the De Anza offering due to our emphasis on software engineering patterns and principles. None of the community colleges in the San Mateo Community College district (north of Foothill) offer this program currently.

Additional Information Required for State Submission:

TOP Code: 0707.00 - Computer Software Development

Annual Completers: 50

Net Annual Labor Demand: 9000 new jobs per year (SF Bay Area)

Faculty Workload: 1.5

New Faculty Positions: 0

New Equipment: \$0

New/Remodeled Facilities: \$0

Library Acquisitions: \$0

Gainful Employment: Yes

Program Review Date: December, 2025, or earlier as required by state.

Distance Education: 100%

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE
Temporary Program Creation Process
Feedback Form for New Programs

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After a two-week period, regardless of whether feedback has been received from the three committees, the Division Curriculum Committee may consider the new program for approval. Following Division CC approval, please forward this completed form to the Office of Instruction.

Faculty Author(s): Bitu Mazloom, Elaine Haight, Anand Venkataraman, Eric Reed, Baba Kofi Weusijana, Mike Murphy

Division: PSME

Program Title: Certificate of Achievement in Software Development in C++

Program Units: 24 units

Workforce/CTE Program (Y/N): Yes

Please note that Workforce/CTE status is dependent on the TOP Code assigned to the program.

Type of Award:

Non-transcriptable credit certificate

AA/AS Degree (local)

Certificate of Achievement

AA-T/AS-T Degree (ADT)

Noncredit certificate

EQUITY & EDUCATION

<https://foothill.edu/gov/equity-and-education/>

Date of meeting: June 9, 2020

Comments:

I like that these proposals all address the lack of diversity in these respective fields and that the stated goal of these program is to produce “more trained graduates of diverse backgrounds.” However, these proposals don’t really say how they are going to do that. The Master Planning Section does say: “The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field,” but what are those initiatives? How exactly are they increasing the number of underrepresented minorities in this field? I understand that is a very large topic, but I would recommend these proposals actually list the initiatives they will take part in and how students will be supported throughout the program. For instance, the Software Development in Python CA Narrative talks about how they will work with TIDE academy to recruit more underrepresented minorities, which is excellent, but that seems to be the only proposal to list this activity.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

I also want to ask what happened with our recommendations for new programs that we made earlier in the year? We came up with a few recommendations along the lines of how will new programs address possible ethical concerns raised by entering this field, and how will this program address systemic barriers inherent with the particular field of study. Was there any response to those recommendations?

From Chris Chavez

REVENUE & RESOURCES

<https://foothill.edu/gov/revenue-and-resources/>

Date of meeting: June 11, 2020

Comments:

The committee reviewed this and approved it.

From Kurt Hueg

ADVISORY COUNCIL

<https://foothill.edu/gov/council/>

Date of meeting: June 11, 2020

Comments:

Good to go from the Advisory Council faculty side.

From Isaac Escoto

Division Curriculum Committee Approval Date: 5/28/20

Division CC Representative: Anand Venkataraman

Foothill College
Credit Program Narrative
Certificate of Achievement in Software Development in Java

Item 1. Program Goals and Objectives

The Certificate of Achievement in Software Development in Java will train students in software development techniques and methods for creating applications in Java. Students also apply these skills in practical projects relevant to the software industry. The successful student will be able to use much of the coursework toward a Bachelor’s degree in computer science.

Program Learning Outcomes:

- Students will be able to design, document, test and debug programs using Java.
- Students will be able to use design patterns in application programs.
- Students will be able to demonstrate techniques for creating modular reusable code.

Item 2. Catalog Description

The Certificate of Achievement in Software Development in Java will train students in software development techniques and methods for creating applications in Java. Java is a high-level programming language that lets you work quickly and integrate systems more effectively. Java programmers are employed in research, data science, machine learning, artificial intelligence, quality assurance, web back-end, and other careers throughout the software industry. The courses required for this certificate can lead to a higher degree in computer science including an Associate’s degree for transfer in computer science.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (9 units)	C S 1A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN JAVA	4.5	Year 1, Fall
	C S 1B	INTERMEDIATE SOFTWARE DESIGN IN JAVA	4.5	Year 1, Winter
Restricted Electives (select at least 15 units)	C S 1C	ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA	4.5	Year 1, Spring
	C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	4.5	Year 1, Spring
	C S 18 OR	DISCRETE MATHEMATICS	5	Year 1, Winter
	MATH 22	DISCRETE MATHEMATICS	5	Year 1, Winter
	C S 22A	JAVASCRIPT FOR PROGRAMMERS	4.5	Year 1, Spring
	C S 30A	INTRODUCTION TO LINUX	4.5	Year 1, Fall

	C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4.5	Year 1, Spring
	C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	4.5	Year 1, Spring
	C S 50A	NETWORK BASICS (CCNA)	4.5	Year 1, Spring
	MATH 1A OR MATH 1AH OR MATH 10	CALCULUS HONORS CALCULUS I ELEMENTARY STATISTICS	5 5 5	Year 1, Spring Year 1, Spring Year 1, Spring

TOTAL UNITS: 24 units (minimum)

Proposed Sequence:

Year 1, Fall = 9 units

Year 1, Winter = 9.5 units

Year 1, Spring = 9 units

TOTAL UNITS: 27.5 units

Item 4. Master Planning

Most of the prospective students for this program are from the San Francisco Bay Area, which is a hub of technological innovation in the world. However, the certificate is relevant and useful to any student who wishes to contribute to the area and potentially seek employment with one of the major multinational technology companies. There is a great need within the software industry for more trained graduates of diverse backgrounds with knowledge of advanced algorithms and data structures, which is a need this certificate seeks to meet. There is a significant lack of underrepresented minorities employed in the technology industry. The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field. Creating a certificate can provide clear guidance for students on getting into the field. The courses required for this certificate can lead to a higher degree in computer science including an Associate's degree for transfer in computer science. Moreover, the certificate prepares a student to continue their education at a baccalaureate-granting institution in computer science.

Item 5. Enrollment and Completer Projections

We estimate 50 students per year, which would be 250 students in 5 years.

Course #	Course Title	Year 1: 2016-17		Year 2: 2017-18	
		Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
C S 1A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN	20	805	21	826

	JAVA				
C S 1B	INTERMEDIATE SOFTWARE DESIGN IN JAVA	11	179	12	368
C S 1C	ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA	5	192	5	160
C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	5	176	6	197
C S 18/ MATH 22	DISCRETE MATHEMATICS	4	230	4	239
C S 22A	JAVASCRIPT FOR PROGRAMMERS	5	161	4	154
C S 30A	INTRODUCTION TO LINUX	6	231	4	170
C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4	140	5	123
C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	N/A	N/A	1	17
C S 50A	NETWORK BASICS (CCNA)	3	101	4	87
MATH 1A/ 1AH	CALCULUS	21	739	22	759
MATH 10	ELEMENTARY STATISTICS	35	1902	36	2024

Item 6. Place of Program in Curriculum/Similar Programs

None.

Item 7. Similar Programs at Other Colleges in Service Area

This program is like the De Anza College Certificate of Achievement in Programming in Java. Data shows that there is currently yet unmet demand for graduates in this area.

Several students at Foothill college come here from north of Foothill and will be better served by an offering of this program at our campus. Furthermore, the focus of our program is different from the De Anza offering due to our emphasis on software engineering patterns and principles. None of the community colleges in the San Mateo Community College district (north of Foothill) offer this program currently.

Additional Information Required for State Submission:

TOP Code: 0707.00 - Computer Software Development

Annual Completers: 50

Net Annual Labor Demand: 9000 new jobs per year (SF Bay Area)

Faculty Workload: 1.5

New Faculty Positions: 0

New Equipment: \$0

New/Remodeled Facilities: \$0

Library Acquisitions: \$0

Gainful Employment: Yes

Program Review Date: December, 2025, or earlier as required by state.

Distance Education: 100%

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE
Temporary Program Creation Process
Feedback Form for New Programs

Until the new permanent program creation process has been determined, as part of the temporary program creation process this form shall be used by a department to gather feedback on a new program from key governance committees on campus. A complete program narrative and supporting documentation must be submitted to the groups listed below (simultaneous submission is recommended). Each committee will provide initial feedback via email within two weeks but might also provide additional feedback after their monthly meetings.

After a two-week period, regardless of whether feedback has been received from the three committees, the Division Curriculum Committee may consider the new program for approval. Following Division CC approval, please forward this completed form to the Office of Instruction.

Faculty Author(s): Bitu Mazloom, Elaine Haight, Anand Venkataraman, Eric Reed, Baba Kofi Weusijana, Mike Murphy

Division: PSME

Program Title: Certificate of Achievement in Software Development in Java

Program Units: 24 units

Workforce/CTE Program (Y/N): Yes

Please note that Workforce/CTE status is dependent on the TOP Code assigned to the program.

Type of Award:

Non-transcriptable credit certificate

AA/AS Degree (local)

Certificate of Achievement

AA-T/AS-T Degree (ADT)

Noncredit certificate

EQUITY & EDUCATION

<https://foothill.edu/gov/equity-and-education/>

Date of meeting: June 9, 2020

Comments:

I like that these proposals all address the lack of diversity in these respective fields and that the stated goal of these program is to produce “more trained graduates of diverse backgrounds.” However, these proposals don’t really say how they are going to do that. The Master Planning Section does say: “The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field,” but what are those initiatives? How exactly are they increasing the number of underrepresented minorities in this field? I understand that is a very large topic, but I would recommend these proposals actually list the initiatives they will take part in and how students will be supported throughout the program. For instance, the Software Development in Python CA Narrative talks about how they will work with TIDE academy to recruit more underrepresented minorities, which is excellent, but that seems to be the only proposal to list this activity.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

I also want to ask what happened with our recommendations for new programs that we made earlier in the year? We came up with a few recommendations along the lines of how will new programs address possible ethical concerns raised by entering this field, and how will this program address systemic barriers inherent with the particular field of study. Was there any response to those recommendations?

From Chris Chavez

REVENUE & RESOURCES

<https://foothill.edu/gov/revenue-and-resources/>

Date of meeting: June 11, 2020

Comments:

The committee reviewed this and approved it.

From Kurt Hueg

ADVISORY COUNCIL

<https://foothill.edu/gov/council/>

Date of meeting: June 11, 2020

Comments:

Good to go from the Advisory Council faculty side.

From Isaac Escoto

Division Curriculum Committee Approval Date: 5/28/20

Division CC Representative: Anand Venkataraman

**Foothill College
Credit Program Narrative
Certificate of Achievement in Software Development in Python**

Item 1. Program Goals and Objectives

The Certificate of Achievement in Software Development in Python will train students in software development techniques and methods for creating applications in Python. Students apply these skills in practical projects relevant to the software industry. The successful student will be able to use much of the coursework toward a Bachelor’s degree in computer science.

Program Learning Outcomes:

- Students will be able to design, document, test and debug programs using Python.
- Students will be able to use design patterns in application programs.
- Students will be able to demonstrate techniques for creating modular reusable code.

Item 2. Catalog Description

The Certificate of Achievement in Software Development in Python will train students in software development techniques and methods for creating applications in Python. Python is a high-level programming language that lets you work quickly and integrate systems more effectively. Python programmers are employed in research, data science, machine learning, artificial intelligence, quality assurance, web back-end, and other careers throughout the software industry. The courses required for this certificate can lead to a higher degree in computer science including an Associate’s degree for transfer in computer science.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (9 units)	C S 3A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN PYTHON	4.5	Year 1, Fall
	C S 3B	INTERMEDIATE SOFTWARE DESIGN IN PYTHON	4.5	Year 1 Winter
Restricted Electives (select at least 15 units)	C S 3C	ADVANCED DATA STRUCTURES & ALGORITHMS IN PYTHON	4.5	Year 1, Spring
	C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	4.5	Year 1, Spring
	C S 18 OR	DISCRETE MATHEMATICS	5	Year 1, Winter
	MATH 22	DISCRETE MATHEMATICS	5	Year 1, Winter
	C S 22A	JAVASCRIPT FOR PROGRAMMERS	4.5	Year 1, Spring
	C S 30A	INTRODUCTION TO LINUX	4.5	Year 1, Fall

	C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4.5	Year 1, Spring
	C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	4.5	Year 1, Spring
	C S 50A	NETWORK BASICS (CCNA)	4.5	Year 1, Spring
	MATH 1A OR	CALCULUS	5	Year 1, Spring
	MATH 1AH OR	HONORS CALCULUS I	5	Year 1, Spring
	MATH 10	ELEMENTARY STATISTICS	5	Year 1, Spring

TOTAL UNITS: 24 units (minimum)

Proposed Sequence:

Year 1, Fall = 9 units

Year 1, Winter = 9.5 units

Year 1, Spring = 9 units

TOTAL UNITS: 27.5 units

Item 4. Master Planning

Most of the prospective students for this program are from the San Francisco Bay Area, which is a hub of technological innovation in the world. However, the certificate is relevant and useful to any student who wishes to contribute to the area and potentially seek employment with one of the major multinational technology companies. There is a great need within the software industry for more trained graduates of diverse backgrounds with knowledge of advanced algorithms and data structures, which is a need this certificate seeks to meet. There is a significant lack of underrepresented minorities employed in the technology industry. The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field. Creating a certificate can provide clear guidance for students on getting into the field. The courses required for this certificate can lead to a higher degree in computer science including an Associate's degree for transfer in computer science. Moreover, the certificate prepares a student to continue their education at a baccalaureate-granting institution in computer science.

In addition to students from our home campus, Technology Innovation Design Engineering (TIDE) school students will complete this certificate. TIDE is recruiting first gen, Latinx, and African American students for an overall diverse population of students. Most of the students are from the Sequoia Atherton district, near Facebook, HP, and SAP. TIDE seeks to connect their students to these companies. Approximately 100 students will join the program each year, beginning in 2020. By 2023, there should be 400 TIDE students in this certificate pipeline at any point in time.

Item 5. Enrollment and Completer Projections

We estimate 50 students per year, which would be 250 students in 5 years.

Course #	Course Title	Year 1: 2016-17		Year 2: 2017-18	
		Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
C S 3A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN PYTHON	6	189	11	381
C S 3B	INTERMEDIATE SOFTWARE DESIGN IN PYTHON	N/A	N/A	N/A	N/A
C S 3C	ADVANCED DATA STRUCTURES & ALGORITHMS IN PYTHON	N/A	N/A	N/A	N/A
C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	5	176	6	197
C S 18/ MATH 22	DISCRETE MATHEMATICS	4	230	4	239
C S 22A	JAVASCRIPT FOR PROGRAMMERS	5	161	4	154
C S 30A	INTRODUCTION TO LINUX	6	231	4	170
C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4	140	5	123
C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	N/A	N/A	1	17
C S 50A	NETWORK BASICS (CCNA)	3	101	4	87
MATH 1A/ 1AH	CALCULUS	21	739	22	759
MATH 10	ELEMENTARY STATISTICS	35	1902	36	2024

Item 6. Place of Program in Curriculum/Similar Programs

None.

Item 7. Similar Programs at Other Colleges in Service Area

This program is similar to the De Anza College Certificate of Achievement in Programming in Python. Data shows that there is currently yet unmet demand for graduates in this area.

Many students at Foothill college travel from north of Foothill and will be better served by an offering of this program at our campus. Furthermore, the focus of our program is different from the De Anza offering due to our emphasis on software engineering patterns and principles. None of the community colleges in the San Mateo Community College district (north of Foothill) offer this program currently.

Additional Information Required for State Submission:

TOP Code: 0707.00 - Computer Software Development

Annual Completers: 50

Net Annual Labor Demand: 9000 new jobs per year (SF Bay Area)

Faculty Workload: 1.5

New Faculty Positions: 0

New Equipment: \$0

New/Remodeled Facilities: \$0

Library Acquisitions: \$0

Gainful Employment: Yes

Program Review Date: December, 2025, or earlier as required by state.

Distance Education: 100%

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Faculty Author(s): Bitu Mazloom, Elaine Haight, Anand Venkataraman, Eric Reed, Baba Kofi Weusijana, Mike Murphy

Division: PSME

Program Title: Certificate of Achievement in Software Development in Python

Program Units: 24 units

Workforce/CTE Program (Y/N): Yes

Please note that Workforce/CTE status is dependent on the TOP Code assigned to the program.

Type of Award:

Non-transcriptable credit certificate

AA/AS Degree (local)

Certificate of Achievement

AA-T/AS-T Degree (ADT)

Noncredit certificate

EQUITY & EDUCATION

<https://foothill.edu/gov/equity-and-education/>

Date of meeting: June 9, 2020

Comments:

I like that these proposals all address the lack of diversity in these respective fields and that the stated goal of these program is to produce “more trained graduates of diverse backgrounds.” However, these proposals don’t really say how they are going to do that. The Master Planning Section does say: “The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field,” but what are those initiatives? How exactly are they increasing the number of underrepresented minorities in this field? I understand that is a very large topic, but I would recommend these proposals actually list the initiatives they will take part in and how students will be supported throughout the program. For instance, the Software Development in Python CA Narrative talks about how they will work with TIDE academy to recruit more underrepresented minorities, which is excellent, but that seems to be the only proposal to list this activity.

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I also want to ask what happened with our recommendations for new programs that we made earlier in the year? We came up with a few recommendations along the lines of how will new programs address possible ethical concerns raised by entering this field, and how will this program address systemic barriers inherent with the particular field of study. Was there any response to those recommendations?

From Chris Chavez

REVENUE & RESOURCES

<https://foothill.edu/gov/revenue-and-resources/>

Date of meeting: June 11, 2020

Comments:

The committee reviewed this and approved it.

From Kurt Hueg

ADVISORY COUNCIL

<https://foothill.edu/gov/council/>

Date of meeting: June 11, 2020

Comments:

Good to go from the Advisory Council faculty side.

From Isaac Escoto

Division Curriculum Committee Approval Date: 5/28/20

Division CC Representative: Anand Venkataraman

Foothill College
Credit Program Narrative
Certificate of Achievement in Advanced Software Development

Item 1. Program Goals and Objectives

The Certificate of Achievement in Advanced Software Development will train students in software development techniques and methods for creating applications using Python, C++ or Java. Students will learn non-trivial data structures (e.g., hash tables, trees, graphs) and advanced techniques for manipulating them to solving complex real-world problems. Students also apply these skills in practical projects. The successful student will be able to use much of the coursework toward a Bachelor’s degree in computer science.

Program Learning Outcomes:

- Students will be able to design, document, test and debug programs using Python, C++ or Java.
- Students will be able to use design patterns in application programs.
- Students will be able to demonstrate techniques for creating modular reusable code.

Item 2. Catalog Description

The Certificate of Achievement in Advanced Software Development teaches skills needed by the software engineering industry. It can be completed in one of the major mainstream languages of instruction (Java, C++ or Python). Besides learning intermediate skills relating to syntax, control structures and simple data structures, the program teaches students advanced data structures including hash tables, trees and graphs, and introduces algorithms intended to solve complex problems using such data structures. The courses required for this certificate can lead to a higher degree in computer science including an Associate’s degree for transfer in computer science.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses* (13.5 units)	C S 1A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN JAVA	4.5	Year 1, Fall
	OR			
	C S 2A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN C++	4.5	Year 1, Fall
	OR			
	C S 3A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN PYTHON	4.5	Year 1, Fall
	AND			
	C S 1B	INTERMEDIATE SOFTWARE DESIGN IN JAVA	4.5	Year 1, Winter
OR				
	C S 2B	INTERMEDIATE SOFTWARE DESIGN IN C++	4.5	Year 1, Winter
	OR			

	C S 3B	INTERMEDIATE SOFTWARE DESIGN IN PYTHON	4.5	Year 1, Winter
	AND C S 1C	ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA	4.5	Year 1, Spring
	OR C S 2C	ADVANCED DATA STRUCTURES & ALGORITHMS IN C++	4.5	Year 1, Spring
	OR C S 3C	ADVANCED DATA STRUCTURES & ALGORITHMS IN PYTHON	4.5	Year 1, Spring
Restricted Electives (select at least 3 courses - minimum of 13.5 units)	C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	4.5	Year 1, Spring
	C S 18 OR MATH 22	DISCRETE MATHEMATICS	5	Year 1, Winter
		DISCRETE MATHEMATICS	5	Year 1, Winter
	C S 22A	JAVASCRIPT FOR PROGRAMMERS	4.5	Year 1, Spring
	C S 30A	INTRODUCTION TO LINUX	4.5	Year 1, Fall
	C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4.5	Year 1, Spring
	C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	4.5	Year 1, Spring
	C S 50A	NETWORK BASICS (CCNA)	4.5	Year 1, Spring
	MATH 1A OR MATH 1AH OR MATH 10	CALCULUS	5	Year 1, Spring
	HONORS CALCULUS I	5	Year 1, Spring	
	ELEMENTARY STATISTICS	5	Year 1, Spring	

**Although this document does not specify that students stick to a particular programming language through the sequence of A, B and C courses (e.g., C S 1A, C S 2A, C S 3A), it is strongly recommended that they do, at least for the A and B sections of the sequence.*

TOTAL UNITS: 27 units (minimum)

Proposed Sequence:

Year 1, Fall = 9 units

Year 1, Winter = 9.5 units

Year 1, Spring = 9 units

TOTAL UNITS: 27.5 units

Item 4. Master Planning

Most of the prospective students for this program are from the San Francisco Bay Area, which is a hub of technological innovation in the world. However, the certificate is relevant and useful to any student who wishes to contribute to the area and potentially seek employment with one of the major multinational technology companies. There is a great need within the software industry for more trained graduates of diverse backgrounds with knowledge of advanced algorithms and data structures, which is a need this certificate seeks to meet. There is a significant lack of underrepresented minorities employed in the technology industry. The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field. Creating a certificate can provide clear guidance for students on getting into the field. The courses required for this certificate can lead to a higher degree in computer science including an Associate's degree for transfer in computer science. Moreover, the certificate prepares a student to continue their education at a baccalaureate-granting institution in computer science.

Item 5. Enrollment and Completer Projections

We estimate 40 students per year, which would be 200 students in 5 years.

Course #	Course Title	Year 1: 2016-17		Year 2: 2017-18	
		Annual Sections	Annual Enrollment	Annual Sections	Annual Enrollment
C S 1A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN JAVA	6	856	11	916
C S 1B	INTERMEDIATE SOFTWARE DESIGN IN JAVA	4	286	5	337
C S 1C	ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA	4	139	4	154
C S 2A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN C++	4	587	5	602
C S 2B	INTERMEDIATE SOFTWARE DESIGN IN C++	3	256	3	217
C S 2C	ADVANCED DATA STRUCTURES & ALGORITHMS IN C++	4	123	3	139
C S 3A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN PYTHON	5	189	3	381
C S 3B	INTERMEDIATE	3	N/A	4	N/A

	SOFTWARE DESIGN IN PYTHON				
C S 3C	ADVANCED DATA STRUCTURES & ALGORITHMS IN PYTHON	N/A	N/A	1	N/A
C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	5	176	6	197
C S 18/ MATH 22	DISCRETE MATHEMATICS	4	230	4	239
C S 22A	JAVASCRIPT FOR PROGRAMMERS	5	161	4	154
C S 30A	INTRODUCTION TO LINUX	6	231	4	170
C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	4	140	5	123
C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	N/A	N/A	1	17
C S 50A	NETWORK BASICS (CCNA)	3	101	4	87
MATH 1A/ 1AH	CALCULUS	21	739	22	759
MATH 10	ELEMENTARY STATISTICS	35	1902	36	2024

Item 6. Place of Program in Curriculum/Similar Programs

None.

Item 7. Similar Programs at Other Colleges in Service Area

This program is similar to the De Anza College Certificate of Achievement in Programming in Python, C++ or Java. However, this program includes advanced topics in each sequence that are not part of the sequence of corresponding courses at De Anza College. The motivation for such advanced courses is to provide a pathway for students to potentially obtain gainful employment at software organization and/or pursue further studies in computer science at an accredited 4-year institution with a solid foundation. Data shows that there is currently yet unmet demand for graduates in this area.

Several students at Foothill college come here from north of Foothill and will be better served by an offering of this program at our campus. Furthermore, the focus of our program is different from the De Anza offering due to our emphasis on software engineering patterns and principles. None of the community colleges in the San Mateo Community College district (north of Foothill) offer this program currently.

Additional Information Required for State Submission:

TOP Code: 0707.00 - Computer Software Development

Annual Completers: 40

Net Annual Labor Demand: 9000 new jobs per year (SF Bay Area)

Faculty Workload: 1.5

New Faculty Positions: 0

New Equipment: \$0

New/Remodeled Facilities: \$0

Library Acquisitions: \$0

Gainful Employment: Yes

Program Review Date: December, 2025, or earlier as required by the state.

Distance Education: 100%

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE
Temporary Program Creation Process
Feedback Form for New Programs

Until the new permanent program creation process has been determined, as part of the temporary program creation process this form shall be used by a department to gather feedback on a new program from key governance committees on campus. A complete program narrative and supporting documentation must be submitted to the groups listed below (simultaneous submission is recommended). Each committee will provide initial feedback via email within two weeks but might also provide additional feedback after their monthly meetings.

After a two-week period, regardless of whether feedback has been received from the three committees, the Division Curriculum Committee may consider the new program for approval. Following Division CC approval, please forward this completed form to the Office of Instruction.

Faculty Author(s): Bitu Mazloom, Elaine Haight, Anand Venkataraman, Eric Reed, Baba Kofi Weusijana, Mike Murphy

Division: PSME

Program Title: Certificate of Achievement in Advanced Software Development

Program Units: 27 units

Workforce/CTE Program (Y/N): Yes

Please note that Workforce/CTE status is dependent on the TOP Code assigned to the program.

Type of Award:

Non-transcriptable credit certificate

AA/AS Degree (local)

Certificate of Achievement

AA-T/AS-T Degree (ADT)

Noncredit certificate

EQUITY & EDUCATION

<https://foothill.edu/gov/equity-and-education/>

Date of meeting: June 9, 2020

Comments:

I like that these proposals all address the lack of diversity in these respective fields and that the stated goal of these program is to produce “more trained graduates of diverse backgrounds.” However, these proposals don’t really say how they are going to do that. The Master Planning Section does say: “The college is engaged in several initiatives that look to increase the number of underrepresented minorities in this field,” but what are those initiatives? How exactly are they increasing the number of underrepresented minorities in this field? I understand that is a very large topic, but I would recommend these proposals actually list the initiatives they will take part in and how students will be supported throughout the program. For instance, the Software Development in Python CA Narrative talks about how they will work with TIDE academy to recruit more underrepresented minorities, which is excellent, but that seems to be the only proposal to list this activity.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

I also want to ask what happened with our recommendations for new programs that we made earlier in the year? We came up with a few recommendations along the lines of how will new programs address possible ethical concerns raised by entering this field, and how will this program address systemic barriers inherent with the particular field of study. Was there any response to those recommendations?

From Chris Chavez

REVENUE & RESOURCES

<https://foothill.edu/gov/revenue-and-resources/>

Date of meeting: June 11, 2020

Comments:

The committee reviewed this and approved it.

From Kurt Hueg

ADVISORY COUNCIL

<https://foothill.edu/gov/council/>

Date of meeting: June 11, 2020

Comments:

Good to go from the Advisory Council faculty side.

From Isaac Escoto

Division Curriculum Committee Approval Date: 5/28/20

Division CC Representative: Anand Venkataraman

Programming Language Occupations Labor Market Information Report Foothill College

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
March 2019

Recommendation

Based on all available data, there appears to be a significant undersupply of Programming Language workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County). There is a projected annual gap of about 20,665 students in the Bay region and 2,294 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0707.00 - Computer Software Development in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

Introduction

This report profiles Programming Language Occupations in the 12 county Bay region and in the Silicon Valley sub-region for the revision to an existing program at Foothill College.

- **Software Developers, Applications (SOC 15-1132):** Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.
 Entry-Level Educational Requirement: Bachelor's degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 13%
- **Computer User Support Specialists (SOC 15-1151):** Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Excludes "Network and Computer Systems Administrators" (15-1142).
 Entry-Level Educational Requirement: Some college, no degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 41%
- **Software Developers, Systems Software (SOC 15-1133):** Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.
 Entry-Level Educational Requirement: Bachelor's degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 13%

- Web Developers (SOC 15-1134):** Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content. Excludes “Multimedia Artists and Animators” (27-1014).
 Entry-Level Educational Requirement: Associate's degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 25%
- Computer and Information Systems Managers (SOC 11-3021):** Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Excludes “Computer Occupations” (15-1111 through 15-1199).
 Entry-Level Educational Requirement: Bachelor's degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 21%

Occupational Demand

Table 1. Employment Outlook for Programming Language Occupations in Bay Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	10% Hourly Wage	Median Hourly Wage
Software Developers, Applications	89,372	109,872	20,499	23%	51,391	10,278	\$38.68	\$62.13
Computer User Support Specialists	29,393	34,005	4,612	16%	15,944	3,189	\$20.02	\$32.70
Software Developers, Systems Software	40,748	44,919	4,171	10%	17,637	3,527	\$40.21	\$65.42
Web Developers	10,306	12,242	1,937	19%	5,802	1,160	\$20.83	\$38.90
Computer and Information Systems Managers	25,897	29,357	3,461	13%	13,343	2,669	\$55.65	\$86.30
Total	195,716	230,396	34,680	18%	104,118	20,823	\$37.50	\$60.37

Source: EMSI 2019.1

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Programming Language Occupations in Silicon Valley Sub-Region

Occupation	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	10% Hourly Wage	Median Hourly Wage
Software Developers, Applications	10,106	11,375	1,269	13%	4,634	927	\$32.77	\$57.83
Computer User Support Specialists	5,092	5,490	398	8%	2,313	463	\$19.30	\$29.05
Software Developers, Systems Software	4,717	4,966	249	5%	1,807	361	\$33.94	\$61.17
Web Developers	2,177	2,327	150	7%	951	190	\$19.56	\$28.48
Computer and Information Systems Managers	4,172	4,385	213	5%	1,773	355	\$43.76	\$75.74
TOTAL	26,263	28,543	2,279	9%	11,477	2,296	\$31.02	\$53.26

Source: EMSI 2019.1

Silicon Valley Sub-Region includes Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Feb 2018 - Jan 2018)

Occupation	Bay Region	Silicon Valley
Software Developers, Applications (15-1132.00)	105,796	50,257
Web Developers (15-1134.00)	25,242	10,258
Computer User Support Specialists (15-1151.00)	14,324	5,226
Computer and Information Systems Managers (11-3021.00)	1,956	656
Software Developers, Systems Software (15-1133.00)	1,325	665
Total	148,643	67,062

Source: Burning Glass

Table 4. Top Job Titles for Programming Language Occupations for latest 12 months (Feb 2018 - Jan 2018)

Common Title	Bay	Silicon Valley	Common Title	Bay	Silicon Valley
Software Development Engineer	32,635	15,008	Applications Developer	1,488	546
Java Developer	7,475	4,346	Android Developer	1,445	752
Devops Engineer	3,819	1,774	Principal Software Engineer	1,259	554
Applications Engineer	3,021	1,818	User Interface (UX)/User Experience (UX) Designer	1,199	370
User Experience (UX) Designer	2,789	1,172	Senior Engineer	1,144	401
Software Developer	2,768	1,354	PHP Developer	1,078	203
Java Engineer	2,580	1,415	iOS Developer	1,048	527
Python Developer	1,902	1,215	Senior Devops Engineer	1,031	427
Front End Developer	1,857	893	Desktop Support	1,014	337
Developer	1,693	708	.Net Developer	945	207
Senior Developer	1,648	668	Software Engineering Manager	885	376
User Interface (UI) Developer	1,631	947	Technical Support Engineer	763	430
Web Developer	1,613	613	Software Architect	709	356
Engineer	1,538	840	Full Stack Developer	641	287

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Programming Language Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2017)	Jobs in Industry (2022)	% Change (2017-22)	% in Industry (2017)
Custom Computer Programming Services (541511)	34,646	35,722	20%	20.0%
Computer Systems Design Services (541512)	21,607	22,034	17%	12.4%
Internet Publishing and Broadcasting and Web Search Portals (519130)	18,979	20,125	42%	11.3%
Software Publishers (511210)	17,817	18,859	27%	10.6%
Electronic Computer Manufacturing (334111)	15,341	15,856	10%	8.9%
Data Processing, Hosting, and Related Services (518210)	6,219	6,758	41%	3.8%
Other Computer Related Services (541519)	4,720	4,841	24%	2.7%
Corporate, Subsidiary, and Regional Managing Offices (551114)	3,685	3,925	15%	2.2%
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715)	3,019	3,165	(1%)	1.8%

Semiconductor and Related Device Manufacturing (334413)	2,077	2,076	(5%)	1.2%
Research and Development in Biotechnology (except Nanobiotechnology) (541714)	1,641	1,738	44%	1.0%
Colleges, Universities, and Professional Schools (State Government) (902612)	1,667	1,730	11%	1.0%
Temporary Help Services (561320)	1,703	1,707	7%	1.0%

Source: EMSI 2019.1

Table 6. Top Employers Posting Programming Language Occupations in Bay Region and Silicon Valley Sub-Region (Feb 2018 - Jan 2018)

Employer	Bay	Employer	Bay	Employer	Silicon Valley
Capital Markets Placement	2,245	Redolent, Inc	340	Apple Inc.	2,175
Apple Inc.	2,233	Techfetch Com	334	Cisco Systems Inc	1,170
Amazon	1,504	eBay	330	Amazon	916
Cisco Systems Incorporated	1,325	Splunk	317	Google Inc.	886
Google Inc.	1,139	Adobe Systems	311	Vmware Incorporated	452
Scoop Technologies	1,053	Amazon Lab126	310	Paypal	390
Facebook	784	Best Buy	289	Intel Corporation	370
IBM	639	Bayone Solutions	277	IBM	342
Oracle	621	Twitter	274	Walmart / Sam's	301
Workday, Inc	554	Etouch Systems Corp	270	Redolent, Inc	273
Microsoft Corporation	526	Linkedin Limited	257	eBay	253
Vmware Incorporated	475	Wipro	257	SAP	247
Salesforce	459	Xoriant Incorporated	250	Amazon Lab126	245
Paypal	428	Palo Alto Networks	244	Palo Alto Networks	243
SAP	427	Revature	243	Nvidia Corporation	238
Walmart / Sam's	425	Infoobjects Inc	241	Dell	217
Intel Corporation	372	Accenture	238	Fortinet Incorporated	215
Redolent, Inc	340	Nvidia Corporation	238	Linkedin Limited	212
Techfetch Com	334	Uber	234	Techfetch Com	205
Capital Markets Placement	2,245	Sony Electronics Inc	228	Splunk	191
Apple Inc.	2,233	Deloitte	227	Xilinx Incorporated	189

Source: Burning Glass

Educational Supply

There are 10 community colleges in the Bay Region issuing 158 awards on average annually (last 3 years) on TOP 0707.00 - Computer Software Development and TOP 0708.00 - Computer Infrastructure and Support. Foothill College is the only college in the Silicon Valley Sub-Region issuing awards on these TOP codes, issuing 2 awards on average annually (last 3 years) on Computer Software Development.

Table 7. Awards on TOP 0707.00 - Computer Software Development and TOP 0708.00 - Computer Infrastructure and Support in the Bay Region

College	Sub-Region	TOP	Headcount	Associates	Certificates	Total
Cabrillo	Santa Cruz & Monterey	70800	335			
Contra Costa	East Bay	70800	n/a		1	1
DeAnza	Silicon Valley	70800	312			
Diablo Valley	East Bay	70800	125			
Foothill	Silicon Valley	70800	304			
Gavilan	Santa Cruz & Monterey	70800	95	1		1
Las Positas	East Bay	70800	184			
Los Medanos	East Bay	70800	n/a	4	4	8

Mission	Silicon Valley	70800	43			
Ohlone	East Bay	70800	64		1	1
San Francisco	Mid-Peninsula	70800	345	39	9	48
San Mateo	Mid-Peninsula	70800	n/a	1	2	3
Santa Rosa	North Bay	70800	205			
Slyline	Mid-Peninsula	70800	112			
Foothill	Silicon Valley	70700	2,518		2	2
San Francisco	Mid-Peninsula	70700	n/a		2	2
San Mateo	Mid-Peninsula	70700	n/a	6	85	91
Solano	North Bay	70700	1,401		2	2
Total Bay Region			6,043	51	107	158
Total Silicon Valley Sub-Region			3,177	0	2	2

Source: IPEDS, Data Mart and Launchboard

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 20,823 annual openings for Programming Language Occupations and 158 annual (3-year average) awards for an annual undersupply of 20,665 students. In the Silicon Valley Sub-Region, there is also a large gap with 2,296 annual openings and 2 annual (3-year average) awards for an annual undersupply of 2,294 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0707.00 - Computer Software Development

2015-16	Bay (All CTE Programs)	Foothill College (All CTE Programs)	State (0707.00)	Bay (0707.00)	Silicon Valley (0707.00)	Foothill College (0707.00)
% Employed Four Quarters After Exit	74%	77%	62%	59%	n/a	n/a
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$15,310	\$12,500	\$14,169	n/a	n/a
Median % Change in Earnings	46%	82%	54%	37%	n/a	n/a
% of Students Earning a Living Wage	63%	76%	67%	68%	n/a	n/a

Source: Launchboard Pipeline (version available on 3/6/19)

Skills, Certifications and Education

Table 9. Top Skills for Programming Language Occupations in Bay Region (Feb 2018 - Jan 2018)

Skill	Postings	Skill	Postings	Skill	Postings
Java	50,519	AngularJS	11,311	Ruby	8,481
Software Engineering	47,854	UNIX	11,180	Microsoft C#	8,293
Python	34,810	React Javascript	10,163	JavaScript Object Notation (JSON)	8,059
JavaScript	34,741	Continuous Integration (CI)	10,026	Docker Software	7,894
Software Development	34,128	HTML5	10,023	Kubernetes	7,826
SQL	24,742	MySQL	10,000	Product Management	7,811
Linux	23,148	NoSQL	9,851	Software Architecture	7,768

C++	19,882	Technical Support	9,835	Extensible Markup Language (XML)	7,728
Git	16,159	Scrum	9,731	Node.js	7,625
Web Application Development	14,319	Quality Assurance and Control	9,690	Web Development	7,594
Object-Oriented Analysis and Design (OOAD)	13,976	Data Structures	9,400	Machine Learning	7,580
Debugging	13,331	Agile Development	9,396	Project Management	7,578
DevOps	13,111	Customer Service	9,038	Big Data	7,556
Oracle	12,280	jQuery	8,884	Apache Hadoop	7,495
Unit Testing	12,233	Scalability Design	8,860	Hypertext Preprocessor (PHP)	7,442

Source: Burning Glass

Table 10. Certifications for Programming Language Occupations in the Bay Region (Feb 2018 - Jan 2018)

Note: 95% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
Driver's License	1,245	Certified Scrum Trainer (CST)	195
IT Infrastructure Library (ITIL) Certification	1,188	Certified Salesforce Administrator	177
Certified A+ Technician	1,065	Apple Certified Macintosh Technician	146
Security Clearance	850	Project Management Professional (PMP)	144
Cisco Certified Network Associate (CCNA)	452	SANS/GIAC Certification	140
Microsoft Certified Professional (MCP)	432	Certified Information Systems Auditor (CISA)	126
Project Management Certification	397	ITIL Foundation	118
ITIL Certification	379	Certified ScrumMaster (CSM)	109
CompTIA Network+	373	Certified Information Security Manager (CISM)	106
Certified Information Systems Security Professional (CISSP)	322	Capability Model Maturity Integration (CMMI) Certification	103
Cisco Certified Internetwork Expert (CCIE)	277	Computer Science Certification	94
Cisco Certified Network Professional (CCNP)	253	Certified Salesforce Platform Developer II	89
Salesforce Developer	229	Certified Scrum Professional (CSP)	86
Microsoft Certified Solutions Associate (MCSA)	220	Java Certification	83
Certified Salesforce Platform Developer	214	Microsoft Certified Desktop Support Technician (Legacy)	82
Microsoft Certified Solutions Expert (MCSE)	213	Certified Novell Administrator	78
CompTIA Security+	206	Microsoft Certified Technology Specialist (MCTS)	78

Source: Burning Glass

Table 11. Education Requirements for Programming Language Occupations in Bay Region

Note: 49% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings
High school or vocational training	1,789 (2%)
Associate Degree	1,350 (2%)
Bachelor's Degree or Higher	72,094 (96%)

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online
Labor Insight/Jobs (Burning Glass)
Economic Modeling Specialists International (EMSI)
CTE LaunchBoard www.calpassplus.org/Launchboard/
Statewide CTE Outcomes Survey
Employment Development Department Unemployment Insurance Dataset
Living Insight Center for Community Economic Development
Chancellor's Office MIS system

Contacts

For more information, please contact:

- Doreen O'Donovan, Data Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544

Program Deactivation: Apprenticeship - Field Ironworkers (Certificate of Achievement in Field Ironworking)

Due to Field Ironworkers transitioning on from Foothill College, the Apprenticeship division has decided to deactivate this program in addition to all APIW courses, as per the following list:

APIW 100
APIW 101
APIW 102
APIW 103
APIW 104
APIW 105
APIW 106
APIW 107
APIW 109
APIW 110
APIW 111
APIW 112
APIW 113
APIW 114
APIW 115
APIW 116
APIW 117

Apprenticeship Division Curriculum Committee Approval: May 15, 2020

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE Stand-Alone Course Approval Request

If a Foothill credit course is **NOT** part of a State approved associate's degree, certificate of achievement or the Foothill College GE Pattern, it is considered by the State to be a "Stand Alone Course." Per Title 5, local curriculum committees must review and approve proposed stand-alone courses to ensure that they are consistent with credit course standards (§55002), the community college mission and there is sufficient need and resources for the course. To be compliant with State regulations, there must be a completed, approved Stand Alone Form on file in the Office of Instruction.

Per our local process, the same process of review and approval is used for noncredit Stand Alone courses.

Stand Alone Course Approval Requests should be completed and forwarded to your Division Curriculum Committee to begin the approval process.

Course #: APSM 123

Course Title: SMQ-23 Residential Sheet Metal

Credit Status:

- Credit course
 Noncredit course

Catalog Description:

Introduction to sheet metal work specific to residential construction including: the various types of residential heating, ventilation and air conditioning systems, combustion theory, basic air distribution, furnace construction, filters, humidifiers, installation techniques, maintenance procedures and roof drainage system requirements.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?

- The course will be **permanently** Stand Alone; there are no plans to add it to a State approved degree or certificate, nor to the Foothill GE pattern
- The course will be Stand Alone **temporarily**, and it will be incorporated into a new degree or certificate that is not yet State approved. In this case, identify the degree/certificate to which the course will be added:

- What is the specific timeline for program application/approval? (e.g., is your program application locally approved, or is it still in development and if so, what is your anticipated submission date?)

***NOTE:** If you have not submitted your program application to the State by the end of the current academic year, you must reapply for permanent Stand Alone approval.*

The Curriculum Committee must evaluate this application based on the following criteria:

Criteria A. Appropriateness to Mission

The Foothill College Mission states: Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability. Foothill College offers associate degrees and certificates in multiple disciplines, and a baccalaureate degree in dental hygiene.

Please indicate how your course supports the Foothill College Mission (select all that apply):

- Transfer

Workforce/CTE
 Basic Skills

Criteria B. Need

A course may only be granted Stand Alone Approval if there is demonstrable need for the course in the college service area. Please provide evidence of the need or demand for your course, such as ASSIST documentation for transfer courses or Labor Market Information for workforce/CTE courses (if LMI is unavailable, advisory board minutes or employer surveys may be submitted). For basic skills courses, assessment-related data or information may be provided.

Evidence may be attached to this form or provided in the box below.

U.S. Bureau of Labor Statistics

<https://www.bls.gov/ooh/construction-and-extraction/sheet-metal-workers.htm>

U.S. Bureau Of Labor Statistics- Santa Clara County

<https://www.bls.gov/oes/current/oes472211.htm>

Criteria C. Curriculum Standards (please initial as appropriate)

BM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5

Faculty Requestor: Tim Myers **Date:** 5/18/20

Division Curriculum Representative: Brian Murphy **Date:** 5/18/20

Date of Approval by Division Curriculum Committee: 5/15/20

College Curriculum Co-Chairperson: _____ **Date:** _____

Foothill College

Approved Course Outlines

For Faculty and Staff use only

Apprenticeship

APSM 123 SMQ-23 RESIDENTIAL SHEET METAL

Summer 2016

40 hours total: 18 hours lecture, 22 hours laboratory.

2 Units

Total Contact Hours: 0 (Total of All Lecture and Lab hours X 12)

Total Student Learning Hours: 0 (Total of All Lecture, Lab hours and Out of Class X 12)

Lecture Hours:

Lab Hours:

Weekly Out of Class Hours:

Note: If Lab hours are specified, the *item 10. Lab Content* field must be completed.

Repeatability -

Statement: Not Repeatable.

Status -

Course Status: Active

Grading:

Letter Grade with P/NP option

Degree Status: Applicable

Credit Status:

Credit

Degree or Certificate Requirement: Certificate of Achievement, AS Degree

GE Status: Non-GE

Articulation Office Information -

C.I.D. Notation:

Transferability:

Validation: 11-16-09

Division Dean Information -

Seat Count:
999

Load Factor:
.060

FOAP Code:
115000142215095640

Instruction Office Information -

FSA Code:

Distance Learning: no

Stand Alone Designation: no

Program Title: Apprenticeship - Sheet Metal

Program TOPs Code: 095640

Program Unique Code: 11830

Content Review Date:

Former ID:

1. Description -

Introduction to sheet metal work specific to residential construction including: the various types of residential heating, ventilation and air conditioning systems, combustion theory, basic air distribution, furnace construction, filters, humidifiers, installation techniques, maintenance procedures and roof drainage system requirements.

Prerequisite: Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal

2. Course Objectives -

The student will be able to:

- A. Identify various types of sheet metal work specific to residential construction
- B. Name and identify the structural components of residential construction
- C. Identify common types of residential HVAC systems
- D. Identify buy-out items used in residential duct and roof drainage systems
- E. Identify common residential HVAC equipment and typical applications
- F. Properly install furnaces, thermostats, flues, vents, and air conditioning components per code requirements
- G. Compare new construction to retrofit installation

3. Special Facilities and/or Equipment -

- A. Laboratory with sheet metal tools
- B. Personal protective equipment

4. Course Content (Body of knowledge) -

- A. Identify various types of sheet metal work specific to residential construction
 - 1. Kitchen and bath exhaust
 - 2. Heating and cooling systems
 - 3. Architectural sheet metal
 - 4. Drainage and moisture control systems
- B. Name and identify the structural components of residential construction
 - 1. Residential framing nomenclature
 - 2. Bearing and shear walls
 - 3. Foundation and framing allowances for sheet metal work
- C. Identify common types of residential HVAC systems
 - 1. Split or package systems
 - 2. Basic or zone control systems
- D. Identify buy-out items used in residential duct and roof drainage systems
 - 1. Duct components
 - 2. Roof drainage and moisture control components
- E. Identify common residential HVAC equipment and typical applications
 - 1. Furnaces
 - 2. Air conditioning equipment
 - 3. Filtration equipment
 - 4. Humidification and de-humidification equipment
 - 5. Controls
- F. Properly install furnaces, thermostats, flues, vents, and air conditioning components per code and manufacturer requirements
- G. Compare new construction to retrofit installation
 - 1. Applicable codes and standards

5. Repeatability - Moved to header area.

6. Methods of Evaluation -

- A. Results of written quizzes and tests
- B. Shop participation
- C. Comprehensive written final examination
- D. Comprehensive final project
- E. Evaluation of progress by weekly assignments

7. Representative Text(s) -

International Training Institute, Residential HVAC Finish Installer, International Training Institute for the Sheet Metal and Air Conditioning Industry, (Student Manual and Workbook), Alexandria, VA: International Training Institute for the Sheet Metal and Air Conditioning Industry, 2007.

International Training Institute, Residential HVAC New Construction Installer, International Training Institute for the Sheet Metal and Air Conditioning Industry, (Student Manual and Workbook), Alexandria, VA: International Training Institute for the Sheet Metal and Air Conditioning Industry, 2007.

International Training Institute, Residential HVAC Retrofit Technician, International Training Institute for the Sheet

Metal and Air Conditioning Industry (Student Manual and Workbook), Alexandria, VA: International Training Institute for the Sheet Metal and Air Conditioning Industry, 2007.

NOTE: These are the standard Sheet Metal textbooks/workbooks used for this course. Although one or more may not be within 5 years of the required published date, they are the most current books used when teaching this course.

8. Disciplines -

Sheet Metal

9. Method of Instruction -

- A. Discussion
- B. Laboratory instruction
- C. Demonstration

10. Lab Content -

Students will work together in teams and individually. Lab content includes:

- A. Hands-on experience of techniques specific to residential sheet metal installation
- B. Students practice gas-piping and fabrication of residential duct fittings
- C. Students learn how to calculate for the installation of furnaces and flues and practice installation

11. Honors Description - No longer used. Integrated into main description section.

12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Reading assignment:
 - 1. Read Module 3, Unit 2, HVAC System Components
- B. Writing assignment:
 - 1. Complete Module 3, Unit 2 "Knowledge Check" review sheets, pages 1.22 and 1.23

13. Need/Justification -

This course is a required core course for the Associate in Science degree and Certificate of Achievement in Sheet Metal Building Trades. This course prepares students to work in various building construction industries as state-registered apprentices.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE Stand-Alone Course Approval Request

If a Foothill credit course is **NOT** part of a State approved associate's degree, certificate of achievement or the Foothill College GE Pattern, it is considered by the State to be a "Stand Alone Course." Per Title 5, local curriculum committees must review and approve proposed stand-alone courses to ensure that they are consistent with credit course standards (§55002), the community college mission and there is sufficient need and resources for the course. To be compliant with State regulations, there must be a completed, approved Stand Alone Form on file in the Office of Instruction.

Per our local process, the same process of review and approval is used for noncredit Stand Alone courses.

Stand Alone Course Approval Requests should be completed and forwarded to your Division Curriculum Committee to begin the approval process.

Course #: ART 15D

Course Title: DIGITAL ILLUSTRATION FOR FILM & ANIMATION

Credit Status:

- Credit course
 Noncredit course

Catalog Description:

Advanced instruction using computers, digital tablets and software to produce digital illustrations, sketches, images, and drawings for artistic expression and design focused for live-action film and feature film animation media. Emphasis on skills and concepts related to human anatomy, gesture drawing, character design, and basic illustration, visual development, and composition principles.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?

- The course will be **permanently** Stand Alone; there are no plans to add it to a State approved degree or certificate, nor to the Foothill GE pattern
 The course will be Stand Alone **temporarily**, and it will be incorporated into a new degree or certificate that is not yet State approved. In this case, identify the degree/certificate to which the course will be added:

- What is the specific timeline for program application/approval? (e.g., is your program application locally approved, or is it still in development and if so, what is your anticipated submission date?)

NOTE: *If you have not submitted your program application to the State by the end of the current academic year, you must reapply for permanent Stand Alone approval.*

The Curriculum Committee must evaluate this application based on the following criteria:

Criteria A. Appropriateness to Mission

The Foothill College Mission states: Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability. Foothill College offers associate degrees and certificates in multiple disciplines, and a baccalaureate degree in dental hygiene.

Please indicate how your course supports the Foothill College Mission (select all that apply):

- Transfer
- Workforce/CTE
- Basic Skills

Criteria B. Need

A course may only be granted Stand Alone Approval if there is demonstrable need for the course in the college service area. Please provide evidence of the need or demand for your course, such as ASSIST documentation for transfer courses or Labor Market Information for workforce/CTE courses (if LMI is unavailable, advisory board minutes or employer surveys may be submitted). For basic skills courses, assessment-related data or information may be provided.

Evidence may be attached to this form or provided in the box below.

This course supports the college mission and service area by providing tangible opportunities for student success to develop foundational skills in an applied practice of the subject area, one with employment potential, and is transferable towards degree credit at most institutions.

Criteria C. Curriculum Standards (please initial as appropriate)

The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5

Faculty Requestor: Jordan C. Fong **Date:** 05/21/2020

Division Curriculum Representative: Hilary Gomes & Che Meneses **Date:** 5/22/20

Date of Approval by Division Curriculum Committee: 05/22/20

College Curriculum Co-Chairperson: _____ **Date:** _____

Foothill College

Approved Course Outlines

For Faculty and Staff use only

Fine Arts and Communication

ART 15D DIGITAL ILLUSTRATION FOR FILM & ANIMATION

Summer 2018

3 hours lecture, 3 hours laboratory.

4 Units

Total Contact Hours: 72 (Total of All Lecture and Lab hours X 12)

Total Student Learning Hours: 144 (Total of All Lecture, Lab hours and Out of Class X 12)

Lecture Hours: 3 Lab Hours: 3 Weekly Out of Class Hours: 6

Note: If Lab hours are specified, the *item 10. Lab Content* field must be completed.

Repeatability -

Statement: Not Repeatable.

Status -

Course Status: Active

Grading:

Letter Grade with P/NP option

Degree Status: Applicable

Credit Status:

Credit

Degree or Certificate Requirement: AA Degree

GE Status: Non-GE

Articulation Office Information -

C.I.D. Notation:

Transferability: UC/CSU

Validation: 07/01/2013;10/13;5/2017

Division Dean Information -

Seat Count: 40

Load Factor:
.115

FOAP Code:
114000143011100210

Instruction Office Information -

FSA Code: 0140 - ART

Distance Learning: yes

Stand Alone Designation: no

Program Title:

Program TOPs Code:

Program Unique Code:

Content Review Date:

Former ID:

1. Description -

Advanced instruction using computers, digital tablets and software to produce digital illustrations, sketches, images, and drawings for artistic expression and design focused for live-action film and feature film animation media. Emphasis on skills and concepts related to human anatomy, gesture drawing, character design, and basic illustration, visual development, and composition principles.

Prerequisite: ART 15A.

Advisory: GID 37; familiarity with current interface operations for desktop computers, laptops and digital tablets.

2. Course Objectives -

The student will be able to:

- A. create concept art that communicates the story content narrative of a live-action film or feature film animation.
- B. demonstrate an awareness of basic principles of visual storytelling and scene composition.
- C. effectively use digital painting and digital drawing tools to visually communicate ideas and information.
- D. compare and contrast styles of contemporary electronic illustrators with illustrators using traditional media.
- E. create hard copy prints for class critique and portfolio presentation.
- F. recognize and appreciate the contributions made in this field by people from diverse cultures and backgrounds.
- G. share through class discussions the cultural and personal strengths of their work.

3. Special Facilities and/or Equipment -

- A. Lecture/lab room with high-resolution color graphics terminals, plotter or ink-jet printers, current computer drawing and painting software, and hardware as required when taught on campus.
- B. When taught via Foothill Global Access: on-going access to computer, digital tablets, and other interface methods with email software and capabilities; email address; JavaScript enabled internet browsing software.

4. Course Content (Body of knowledge) -

- A. Overview of illustration for film and animation
 1. History and development of film and animation styles (Lec)
 2. Artistic contributions by individuals from diverse cultural backgrounds (Lec)
 3. Narrative structure and visual communication (Lec)
 4. Artistic styles using digital media (Lec)
 5. Use of tools and media (Lec)
- B. Software demonstrations and techniques
 1. Vector graphics drawing software (Lab)
 2. Bitmapped painting software (Lec)
 3. Image editing software (Lec)
 4. Technological contributions by individuals from diverse cultural backgrounds (Lec)
- C. Hardware
 1. CPU, monitors, drawing tablets (Lec)
 2. Scanners and digital cameras (Lec)
 3. Printers and color management (Lec)
 4. Principles of form and content
 5. Principles of composition (Lec)
 6. Visual communication (Lec)
 7. Creative problem solving (Lec)
- D. Image creation
 1. Subject matter, content, form (composition), context and technique (Lab)
 2. Research and planning (Lab)
 3. Developing individual styles and interpretations (Lab)
 4. Applying techniques, special effects and short cuts (Lab)
 5. Exploring solutions for achieving visual awareness, mood, dramatic emphasis and professional standards (Lab)
 6. Exploring solutions for achieving visual story, pacing, narrative, and art direction (Lab)
 - a. Visual development (Lab)
 - b. Color scripting (Lab)
 7. The business of digital illustration for film and animation job opportunities (Lec)
 8. Reproduction and digital technology (Lec)
 9. Rendering digital illustrations for film and animation
 - a. Rendering of digital illustrations for film and animation (Lab)
 - b. Rendering of digital illustrations for film and animation that employ emotional expression, clarity of ideas and a definite point of view (Lab)
 - c. Rendering of digital illustrations for film and animation demonstrate facility with hand tools and rendering surfaces (Lab)
 - d. Rendering of digital illustrations for film and animation that utilize contemporary style trends (Lab)
 - e. Rendering of digital illustrations for film and animation that show a sensitivity in response to themes, pop culture, and humanities of multi-cultural populations (Lab)
 10. Ethics of electronic image making (Lec)
 - a. Image appropriation (Lec)

- b. Copyright issues (Lec)
- E. Critique and presentation
 - 1. Presenting works of art for peer review (Lab)
 - a. Artwork preparation (Lab)
 - b. Best practices and portfolio presentations (Lab)
 - 2. Evaluation of content, context, form and technique (Lab)

5. **Repeatability** - Moved to header area.

6. Methods of Evaluation -

- A. Instructor's review and grading of assigned course work.
- B. Evaluation of digital illustrations for film and animation produced. Evaluation of each project is determined by how completely it fulfills the parameters and goals of the assignment.
- C. Participation in group discussions and critiques.
- D. Reading, research and writing assignments.

7. Representative Text(s) -

Bacher, Hans. Dream Worlds: Production Design for Animation. Focal Press, 2013.

8. Disciplines -

Art or Graphic Arts

9. Method of Instruction -

- A. Lecture
- B. Discussion
- C. Electronic discussions/chat
- D. Laboratory
- E. Demonstration

10. Lab Content -

- A. Using complex digital drawing and painting software and computer operations.
- B. Developing, manipulating, and editing images, drawing, painting in digital formats.
- C. Developing, revising, and editing original live-action film and feature film animation scripts.
- D. Digital painting using software, tablets, computers.
- E. Creating preliminary conceptual sketches in preparation for live-action film and feature film animation pre-production phase.
- F. Completion of multiple digital drawing and digital painting assignments.
- G. Compilation of a digital portfolio inclusive of digital drawing and digital painting assignments.

11. **Honors Description** - No longer used. Integrated into main description section.

12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Create multiple versions of digital art work, such as color scripts, color keys, key frames, film and animation stills, expressionistic artwork, and illustrations using drawing and painting software programs
- B. Interface exploration through eight (8) specific painting assignments, using digital tools and techniques to learn how to cut, copy, paste, use layers, use multiple digital paintbrushes and use digital papers and textures
- C. Practice using new technique with digital tablets, iPads, and computers in creating digital artwork using Adobe Photoshop, Adobe Illustrator, and Corel Painter software
- D. Exploring traditional drawing and painting techniques using digital tools such as computers to create no less than eight (8) examples of digital artwork
- E. Reading materials for careers in live-action film and feature film animation
- F. Digital art in cultural contexts
- G. Researching live-action film and feature film animation as part of the course online web-based research
- H. Reading textbook lessons on methods to create art using oil, watercolor, acrylic, and pastel digital painting methods

13. Need/Justification -

This course is a restricted support course for the AA degree and certificate of achievement in Art.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE Stand-Alone Course Approval Request

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Per our local process, the same process of review and approval is used for noncredit Stand Alone courses.

Stand Alone Course Approval Requests should be completed and forwarded to your Division Curriculum Committee to begin the approval process.

Course #: LINC 82B

Course Title: Developing Instructional Materials

Credit Status:

- Credit course
 Noncredit course

Catalog Description:

This instructional design and development course builds on the coursework of LINC 82A and focuses on refining the skills needed for making digital media for education or business learning contexts. Students interested in the study of instructional design will rapidly design, develop, and evaluate presentations, infographics, posters, digital resources, multimedia, and web sites for particular learning styles. Special emphasis is given for using collaborative tools to facilitate and manage group projects. This course is part of the Instructional Design & Technology program sequence.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?

- The course will be **permanently** Stand Alone; there are no plans to add it to a State approved degree or certificate, nor to the Foothill GE pattern
 The course will be Stand Alone **temporarily**, and it will be incorporated into a new degree or certificate that is not yet State approved. In this case, identify the degree/certificate to which the course will be added:

- What is the specific timeline for program application/approval? (e.g., is your program application locally approved, or is it still in development and if so, what is your anticipated submission date?)

***NOTE:** If you have not submitted your program application to the State by the end of the current academic year, you must reapply for permanent Stand Alone approval.*

The Curriculum Committee must evaluate this application based on the following criteria:

Criteria A. Appropriateness to Mission

The Foothill College Mission states: Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability.

Foothill College offers associate degrees and certificates in multiple disciplines, and a baccalaureate degree in dental hygiene.

Please indicate how your course supports the Foothill College Mission (select all that apply):

- Transfer
 Workforce/CTE
 Basic Skills

Criteria B. Need

A course may only be granted Stand Alone Approval if there is demonstrable need for the course in the college service area. Please provide evidence of the need or demand for your course, such as ASSIST documentation for transfer courses or Labor Market Information for workforce/CTE courses (if LMI is unavailable, advisory board minutes or employer surveys may be submitted). For basic skills courses, assessment-related data or information may be provided.

Evidence may be attached to this form or provided in the box below.

Given that the primary audience for LINC classes is teachers in elementary, middle, and secondary classrooms, the labor market analysis data focuses on this occupational sector. The Employment Development Department for the state of California shows projected growth change of 20.6% and 22.4% in teacher employment in the San Jose and San Mateo areas by 2026. (Source: <https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>)

In the 19-20 school year, school districts in Santa Clara county hired 1143 new teachers, while districts in San Mateo county hired 464. These new teachers are joining an existing workforce of 13,048 teachers in Santa Clara County and 5,123 in San Mateo County (Source: <https://www.dq.cde.ca.gov>). New teachers will need the educational technology knowledge and skills the KCI offers through LINC classes and existing teachers will need to refresh or upgrade as technological advances occur regularly.

Please also see attached Labor Market Information documents specific to Instructional Design and Technology occupations and Online and Blended Instruction occupations.

Criteria C. Curriculum Standards (please initial as appropriate)

The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5

Faculty Requestor: Cassandra Pereira **Date:** 5/13/20

Division Curriculum Representative: K. Allison Lenkeit Meezan **Date:** 5/21/2020

Date of Approval by Division Curriculum Committee: 5/21/20

College Curriculum Co-Chairperson: _____ **Date:** _____



Instructional Design & Technology

Occupation Report For Santa Clara County

March 2016

This occupation report focuses on two occupational codes: Training and Development Specialists (SOC code 13-1151) and Instructional Coordinators/Instructional Designers and Technologists (SOC 25-9031). For purposes of this report, these occupational groupings will be combined into one occupation, Instructional Design and Technology. The occupation summary data predicts there will be ongoing job growth in this area through 2020 (10%). In Santa Clara County, there were 3,533 full- and part-time jobs in 2015, most of these occupations are accounted for by Training and Development Specialists (2,703). It is projected that Santa Clara County will add 362 Instructional Design and Technology jobs by 2020 (10% or 3,895).

Occupation Summary for Industrial Design and Technology

3,533 Jobs (2015) 23% above National average	10.2% % Change (2015-2020) Nation: 8.0%	\$40.50/hr Median Hourly Earnings Nation: \$28.83/hr
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Occupation	2015 Jobs	2020 Jobs	Change	% Change
Training and Development Specialists (13-1151)	2,703	2,962	259	10%
Instructional Coordinators (25-9031)	830	933	103	12%

The range in earnings in Santa Clara County among Industrial Design and Technology show that while the median earnings are \$40.50/hr, the top earning quartile earns \$16.63 more an hour while the lowest quartile earns \$10.12 less an hour. These data show that the range of earnings among Training and Development Specialists is higher than Instructional Coordinators/Instructional Designers and Technologists.

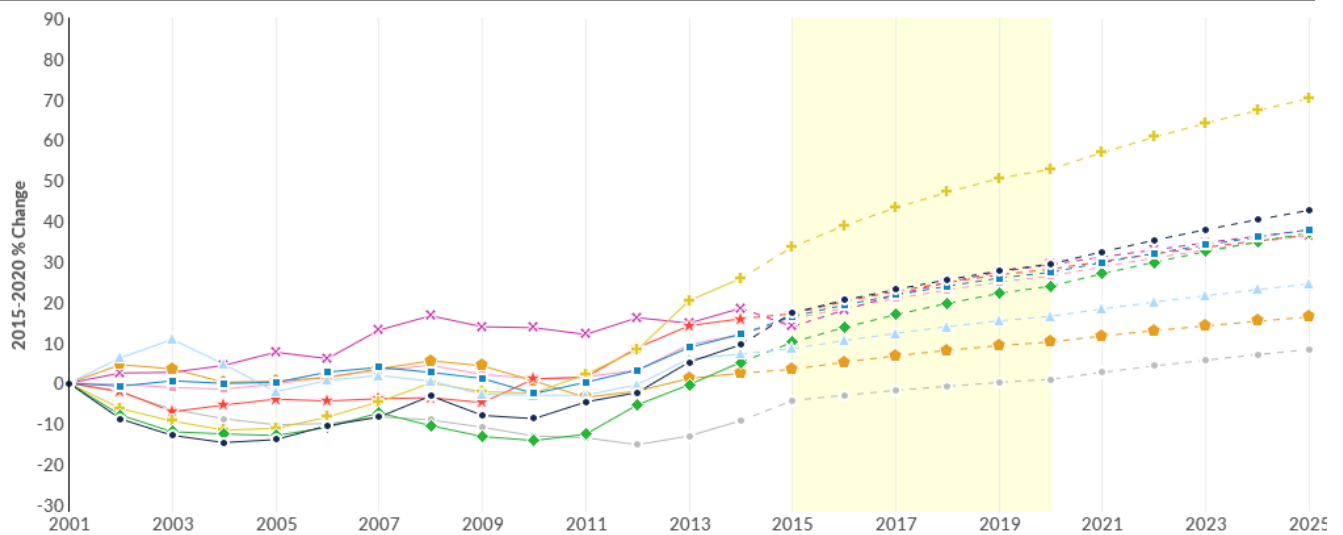
Industrial Design and Technology Percentile Earnings

\$30.38/hr 25th Percentile Earnings	\$40.50/hr Median Earnings	\$57.13/hr 75th Percentile Earnings	
Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings

Training and Development Specialists (13-1151)	\$31.60	\$42.60	\$59.34
Instructional Coordinators (25-9031)	\$26.52	\$33.86	\$50.10

An examination of the projected job growth among the nine counties in the Greater Bay Area region and at the state-level indicates the largest percentage rate change will be the highest In Santa Francisco County (14%), Napa (14%), San Mateo County (13%) and Santa Clara County (10%). Santa Clara County is projected to increase the most number of jobs by 2020 (362), followed by San Francisco (352), Alameda (210) and San Mateo (143) Counties.

Industrial Design and Technology Occupation Change Projections

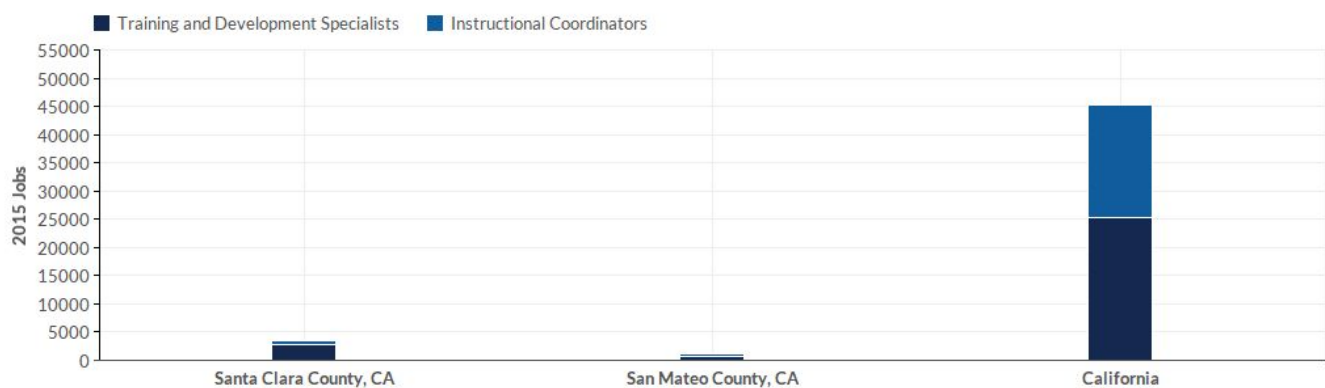


	Region	2015 Jobs	2020 Jobs	Change	% Change	Median Hourly Earnings
●	Santa Clara County, CA	3,533	3,895	362	10%	\$40.50
●	Alameda County, CA	2,246	2,456	210	9%	\$37.61
●	Contra Costa County, CA	1,004	1,077	73	7%	\$36.76
●	San Mateo County, CA	1,140	1,283	143	13%	\$35.47
●	San Francisco County, CA	2,447	2,799	352	14%	\$35.16

●	Marin County, CA	402	439	37	9%	\$33.04
●	Solano County, CA	360	383	23	6%	\$32.27
●	Napa County, CA	162	184	22	14%	\$31.69
●	Sonoma County, CA	460	485	25	5%	\$31.63
●	California	45,261	49,397	4,136	9%	\$33.43

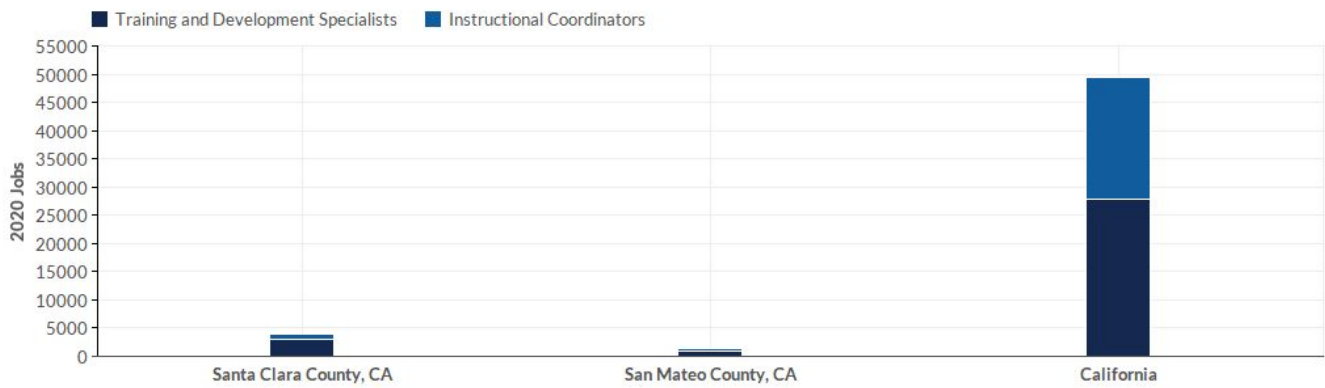
The data and accompanying tables below show the number of jobs between 2015 and 2020, disaggregated by Santa Clara and San Mateo Counties.

Industrial Design and Technology Occupation Breakdown - 2015 Jobs



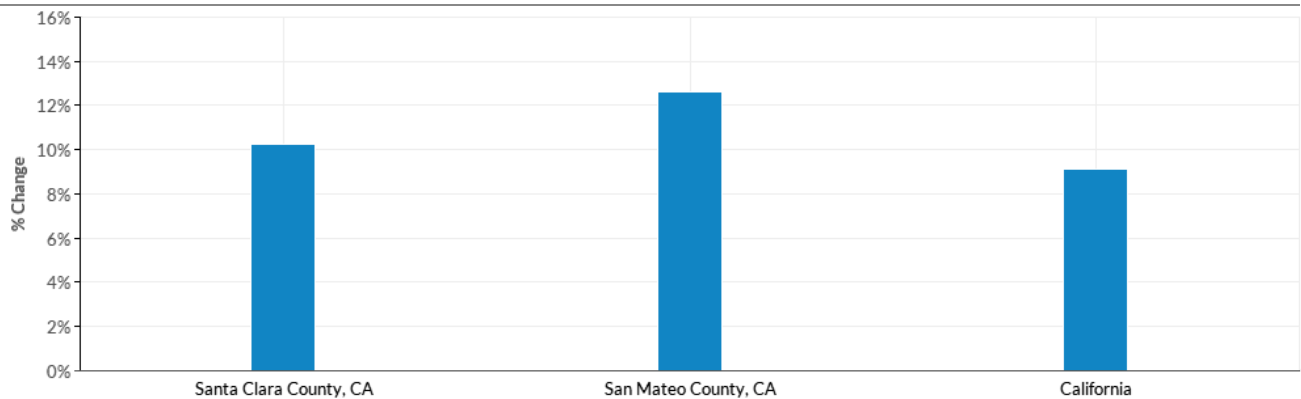
Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	2,703	778	25,267
25-9031	Instructional Coordinators	830	362	19,994
	Total	3,533	1,140	45,261

Industrial Design and Technology Occupation Breakdown - 2020 Jobs



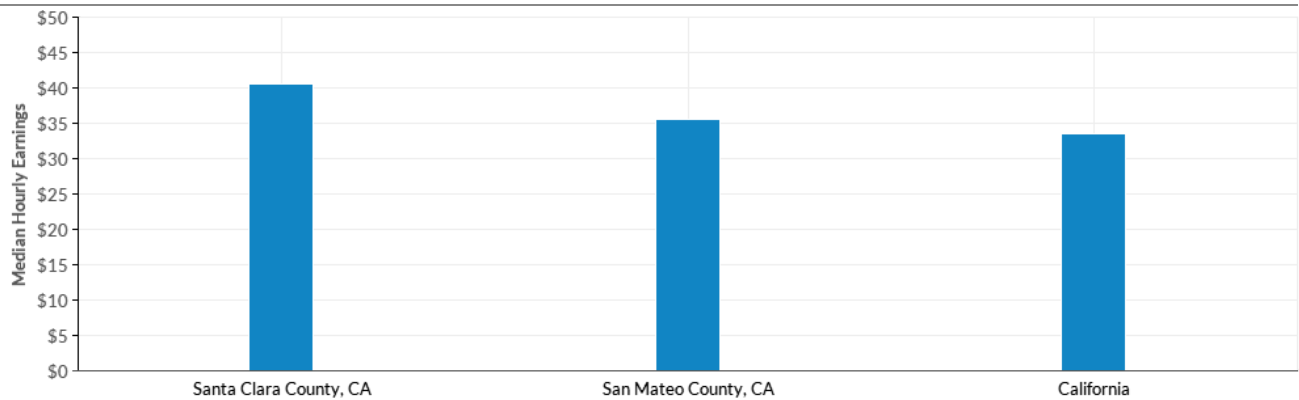
Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	2,962	882	27,881
25-9031	Instructional Coordinators	933	402	21,515
	Total	3,895	1,283	49,397

Occupation Breakdown - % Change



Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
25-9031	Instructional Coordinators	12%	11%	8%
13-1151	Training and Development Specialists	10%	13%	10%
	Total	10%	13%	9%

Occupation Breakdown - Median Hourly Earnings



Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	\$42.60	\$37.05	\$31.71
25-9031	Instructional Coordinators	\$33.86	\$32.20	\$35.54
	Total	\$40.50	\$35.47	\$33.43

Target Occupations Demographics

The demographics among those employed in Industrial Design and Technology occupations in Santa Clara County for 2015 show that a majority are female (64%) and about three-fourths are between the ages of 25-54 (73%) and White (59%).

Occupation Gender Breakdown

Gender	2015 Jobs	2015 Percent
Males	1,279	36.2%
Females	2,253	63.8%

Occupation Age Breakdown

Age	2015 Jobs	2015 Percent	
14-18	9	0.2%	
19-24	140	4.0%	■
25-34	785	22.2%	■
35-44	987	27.9%	■
45-54	837	23.7%	■
55-64	606	17.2%	■
65+	169	4.8%	■

Occupation Race/Ethnicity Breakdown

Race/Ethnicity	2015 Jobs	2015 Percent	
White	2,093	59.2%	■
Asian	606	17.2%	■
Hispanic or Latino	516	14.6%	■
Black or African American	206	5.8%	■
Two or More Races	84	2.4%	■
Native Hawaiian or Other Pacific Islander	14	0.4%	
American Indian or Alaska Native	14	0.4%	

Industries Employing Industrial Design and Technology Occupations

A number of industries in Santa Clara County employ those trained in Industrial Design and Technology occupations. The following table represents a regional industry breakdown of the number of Industrial Design and Technology positions employed, the percentage of Industrial Design and Technology employed by industry and the percentage Industrial Design and Technology jobs represent within all jobs by each industry. While top five industries employed 28% of all regional Industrial Design and Technology positions in 2015, Industrial Design and Technology compose a minority of all jobs in that industry (3%).

Top Industries Employing Industrial Design and Technology Occupations

Industry	Occupation Group Jobs in Industry (2015)	% of Occupation Group in Industry (2015)	% of Total Jobs in Industry (2015)
Custom Computer Programming Services	242	6.9%	0.6%
Elementary and Secondary Schools (Local Government)	214	6.1%	0.7%
Colleges, Universities, and Professional Schools	190	5.4%	0.6%
Internet Publishing and Broadcasting and Web Search Portals	190	5.4%	0.5%
Computer Systems Design Services	178	5.0%	0.6%

* *Inverse Staffing Patterns - Settings*

Data Sources and Calculations

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department

Federal Data Sources

This report uses federal data from the following agencies: Quarterly Census of Employment and Wages (QCEW) from the Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA).



Online and Blended Instruction Occupations Labor Market Information Report Foothill College

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
May 2020

Recommendation

Based on all available data, there appears to be an undersupply of Online and Blended Instruction workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County). There is a projected annual gap of about 2,330 students in the Bay region and 620 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0860.00 - Educational Technology in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

Introduction

This report profiles Online and Blended Instruction Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01), therefore, the data shown in Tables 1 and 2 is for Education Administrators, All Other (at the six digit SOC level) and likely overstates demand for Distance Learning Coordinators. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01).

- **Education Administrators, All Other (SOC 11-9039):** All education administrators not listed separately.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 12%
- **Training and Development Managers (SOC 11-3131):** Plan, direct, or coordinate the training and development activities and staff of an organization.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
- **Training and Development Specialists (SOC 13-1151):** Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 31%

- **Instructional Coordinators (SOC 25-9031):** Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

Entry-Level Educational Requirement: Master's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 11%

Occupational Demand

Table 1. Employment Outlook for Online and Blended Instruction Occupations in Bay Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	2,800	2,990	190	7%	1,320	264	\$25.20	\$35.36
Training and Development Managers	1,787	1,909	122	7%	941	188	\$47.43	\$68.57
Training and Development Specialists	9,676	10,802	1,126	12%	6,600	1,320	\$26.00	\$37.83
Instructional Coordinators	5,042	5,427	385	8%	2,815	563	\$24.52	\$32.84
TOTAL	19,304	21,128	1,823	9%	11,676	2,335	\$27.48	\$39.01

Source: EMSI 2020.1

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Online and Blended Instruction Occupations in Silicon Valley Sub-Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	483	533	50	10%	248	50	\$26.78	\$41.57
Training and Development Managers	515	555	40	8%	276	55	\$61.55	\$76.42
Training and Development Specialists	2,848	3,219	372	13%	1,993	399	\$24.80	\$35.92
Instructional Coordinators	961	1,074	113	12%	584	117	\$27.24	\$33.54
TOTAL	4,805	5,381	575	12%	3,101	620	\$29.42	\$40.35

Source: EMSI 2020.1

Silicon Valley Sub-Region includes Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (April 2019 - March 2020)

Occupation	Bay Region	Silicon Valley
Training and Development Specialists	2,485	788
Training and Development Managers	963	251

Instructional Designers and Technologists	781	353
Distance Learning Coordinators	42	8
TOTAL	4,271	1,400

Source: Burning Glass

Table 4a. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Bay Region

Common Title	Bay	Common Title	Bay
Instructional Designer	652	Learning Development Specialist	33
Training Coordinator	343	Sales Training Manager	27
Training Specialist	337	Director, Learning, Development	27
Training Manager	296	Developer	25
Technical Trainer	149	Machine Learning Developer	21
Development Coordinator	110	Operations Specialist	20
Trainer	106	Field Trainer	20
Development Specialist	69	Curriculum Designer	19
Director, Staff Development	63	Machine Learning Specialist	18
Sales Trainer	54	Supervisor, Training	17
Education Specialist	52	Sales Training Specialist	17
Learning Specialist	41	Director of Sales	17
Development Trainer	38	Head, Development	16
Training Developer	34	Behavior Technician, Training	16

Table 4b. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Silicon Valley Sub-Region

Common Title	Silicon Valley	Common Title	Silicon Valley
Instructional Designer	327	Developer	11
Training Coordinator	145	Program Analyst	8
Training Specialist	94	Learning Development Specialist	8
Training Manager	92	Staff Assistant	7
Technical Trainer	65	Machine Learning Specialist	7
Trainer	29	Learning Specialist	7
Development Coordinator	23	Field Training Officer	7
Director, Staff Development	18	Education Specialist	7
Sales Trainer	17	Development Trainer	7
Machine Learning Developer	17	Commercial Learning Trainer	7
Training Developer	15	Product Trainer	6
Development Specialist	14	Management Training Program	6
Sales Training Manager	11	Learning Technology Specialist	6
Principal Epic Trainer, Billing, Healthcare Industry	11	Director, Development	6

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Online and Blended Instruction Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2022)	% Change (2019-24)	% Occupation Group in Industry (2019)
Elementary and Secondary Schools (Local Government) (903611)	1,625	1,686	4%	8%
Corporate, Subsidiary, and Regional Managing Offices (551114)	824	864	5%	4%
Internet Publishing and Broadcasting and Web Search Portals (519130)	800	1,042	30%	4%
Colleges, Universities, and Professional Schools (State Government) (902612)	725	695	-4%	4%
Educational Support Services (611710)	719	842	17%	4%
Custom Computer Programming Services (541511)	715	914	28%	4%
Colleges, Universities, and Professional Schools (611310)	665	731	10%	3%
Local Government, Excluding Education and Hospitals (903999)	622	649	4%	3%
Elementary and Secondary Schools (611110)	520	550	6%	3%
Software Publishers (511210)	514	646	26%	3%
Computer Systems Design Services (541512)	404	495	23%	2%
Sports and Recreation Instruction (611620)	316	356	13%	2%
Administrative Management and General Management Consulting Services (541611)	312	383	23%	2%
Exam Preparation and Tutoring (611691)	306	347	13%	2%
State Government, Excluding Education and Hospitals (902999)	294	312	6%	2%
Colleges, Universities, and Professional Schools (Local Government) (903612)	277	261	-6%	1%
Federal Government, Military (901200)	270	261	-3%	1%

Source: EMSI 2020.1

Table 6. Top Employers Posting Online and Blended Instruction Occupations in Bay Region and Silicon Valley Sub-Region (April 2019 - March 2020)

Employer	Bay	Employer	Bay	Employer	Silicon Valley
UC Berkeley	34	Microsoft Corporation	18	Apple Inc.	27
Facebook	33	Workday, Inc	17	Intuitive Surgical Inc	21
Google Inc.	30	US Army	16	Google Inc.	21
Reynolds & Reynolds	28	Pinterest	16	Stanford University	18
Apple Inc.	27	Agiloft	16	Servicenow, Inc	12
Amazon	26	UC San Francisco	15	Reynolds & Reynolds	10
Anthem Blue Cross	25	Medtronic	14	Core Group Technologies Inc	10
Walmart / Sam's	23	Genentech	14	Microsoft Corporation	9
Stanford University	22	Abbott Laboratories	14	Applied Materials	9
Milestone Technologies Inc	21	Servicenow, Inc	13	Anthem Blue Cross	9
Intuitive Surgical Inc	21	Advance Behavioral Therapies	12	Comerica	8
Envision	21	Lucile Packard Childrens Hospital	11	Servicenow	7
Visa	20	Linkedin Limited	11	Abbott Laboratories	7
Kaiser Permanente	20	Health Services Llc	11	Walmart / Sam's	6
University California	19	Tti Incorporated	10	Palo Alto Networks	6
Core Group Technologies Inc	19	GP Strategies Corporation	10	Linkedin Limited	6

Pacific Gas and Electric Co	18	Falcon Cct	10	Intellipro Incorporated	6
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Source: Burning Glass

Educational Supply

There is one (1) community college in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no colleges in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

There is one (1) Other Educational Institution in the Bay Region issuing two (2) Bachelor's Degrees on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no Other Educational Institutions in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

Table 7a. Awards on TOP 0860.00 - Educational Technology in Bay Region

College	Sub-Region	Certificate Low Unit	Total
Merritt	East Bay	3	3
Total Bay Region		3	3
Total Silicon Valley Sub-Region		0	0

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

Table 7b. Other Educational Institutions - Bachelor's Degree Awards on TOP 0860.00 - Educational Technology Bay Region

College	Sub-Region	Bachelor's Degree
Academy of Art University	Mid-Peninsula	2
Total Bay Region		2
Total Silicon Valley Sub-Region		0

Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,335 annual openings for the Online and Blended Instruction occupational cluster and 5 annual (3-year average) awards for an annual undersupply of 2,330 students. In the Silicon Valley Sub-Region, there is also a gap with 620 annual openings and no annual (3-year average) awards for an annual undersupply of 620 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0860.00-Educational Technology

2015-16	Bay (All CTE Programs)	Foothill College (All CTE Programs)	State (0860.00)	Bay (0860.00)	Silicon Valley (0860.00)	Foothill College (0860.00)
% Employed Four Quarters After Exit	74%	77%	81%	81%	77%	77%
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$15,301	\$20,325	\$22,242	\$20,549	\$20,549

Median % Change in Earnings	46%	82%	32%	30%	25%	25%
% of Students Earning a Living Wage	63%	76%	83%	88%	86%	86%

Source: Launchboard Pipeline (version available on 5/6/20)

Skills, Certifications and Education

Table 9. Top Skills for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Skill	Postings	Skill	Postings	Skill	Postings
Training Programs	941	Curriculum Development	264	Multimedia	178
Project Management	903	Needs Assessment	258	Adobe Creative Suite	177
Instructional Design	881	Staff Management	224	Talent Management	174
Training Materials	758	Staff Development	222	Course Development	168
Scheduling	638	Change Management	215	Content Management	167
Teaching	581	Leadership Development	215	Employee Training	166
Customer Service	485	Adobe Acrobat	213	Training Activities	156
Onboarding	455	Organizational Development	209	Technical Writing / Editing	154
Learning Management System	405	Adobe Indesign	196	Software as a Service (SaaS)	153
Technical Training	388	Project Planning and Development Skills	194	Performance Management	152
Budgeting	376	Sales Training	193	Quality Assurance and Control	152
Adobe Captivate	332	Graphic Design	191	New Hire Orientation	151
Sales	308	Stakeholder Management	186	Adobe Illustrator	146
Content Development	296	Technical Support	184	Psychology	136
Adobe Photoshop	286	Salesforce	179	Public Speaking	136

Source: Burning Glass

Table 10. Certifications for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Note: 80% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
Driver's License	314	Basic Life Saving (BLS)	16
Licensed Vocational Nurse (LVN)	75	Microsoft Certified Trainer (MCT)	15

First Aid CPR AED	74	Medical Examiner's License	14
Epic Certification	67	Lean Six Sigma Certification	14
Project Management Certification	59	Six Sigma Yellow Belt	13
Security Clearance	56	Certified Teacher	13
Registered Nurse	39	Adult Learning Certificate	12
Project Management Professional (PMP)	28	Professional in Human Resources	11
Registered Behavior Technician	26	Licensed Practical Nurse (LPN)	10
Hearing Aid Dealers	20	Special Education Certification	9
Board Certified Behavior Analyst (BCBA)	18	ServSafe	9
IT Infrastructure Library (ITIL) Certification	16	Psychologist License	9

Source: Burning Glass

Table 11. Education Requirements for Online and Blended Instruction Occupations in Bay Region

Note: 36% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	444	17%
Associate Degree	92	4%
Bachelor's Degree or Higher	2,004	79%

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

For more information, please contact:

- Doreen O'Donovan, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544

Foothill College

Approved Course Outlines

For Faculty and Staff use only

Business and Social Sciences

LINC 82B DEVELOPING INSTRUCTIONAL MATERIALS

Summer 2016

3 hours lecture.

3 Units

Total Contact Hours: 36 (Total of All Lecture and Lab hours X 12)

Total Student Learning Hours: 108 (Total of All Lecture, Lab hours and Out of Class X 12)

Lecture Hours: 3 **Lab Hours:** **Weekly Out of Class Hours:** 6

Note: If Lab hours are specified, the *item 10. Lab Content* field must be completed.

Repeatability -

Statement: Not Repeatable.

Status -

Course Status: Active

Grading:

Letter Grade with P/NP option

Degree Status: Applicable

Credit Status:

Credit

Degree or Certificate Requirement: Stand Alone Course

GE Status: Non-GE

Articulation Office Information -

C.I.D. Notation:

Transferability: CSU

Validation: 5/22/15

Division Dean Information -

Seat Count: 37

Load Factor: .067

FOAP Code:

114000151011086000

Instruction Office Information -

FSA Code:

Distance Learning: yes

Stand Alone Designation: yes

Program Title:

Program TOPs Code:

Program Unique Code:

Content Review Date: 0000-00-00

Former ID:

1. Description -

This instructional design and development course builds on the coursework of LINC 82A and focuses on refining the skills needed for making digital media for education or business learning contexts. Students interested in the study of instructional design will rapidly design, develop, and evaluate presentations, infographics, posters, digital resources,

multimedia, and web sites for particular learning styles. Special emphasis is given for using collaborative tools to facilitate and manage group projects. This course is part of the Instructional Design & Technology program sequence.

Advisory: It is advised, but not required that students have the background knowledge and skill taught in LINC 82A; basic skills using standard computer systems and internet-based technologies.

2. Course Objectives -

The student will be able to:

- A. Apply Instructional Systems Design [ISD] principles to design and development of instructional resources
- B. Analyze examples of effective instructional resources used in classroom and training settings
- C. Ensure project alignment between objectives, instructor activity, learner activity, and assessment
- D. Compare print, online, and computer media projects
- E. Identify online instructional resources
- F. Develop a variety of instructional print resources
- G. Develop a variety of computer media instructional resources
- H. Match learner profile with instructional project features
- I. Develop project to align with objectives, activities, and assessment

3. Special Facilities and/or Equipment -

- A. When offered on/off campus: Lecture room equipped with computer projector system, whiteboard, and internet connectivity. Computer laboratories with internet connectivity and computers or internet enabled devices running standard operating systems (e.g., iOS, MacOS, Windows, Android, Linux)
- B. When taught online via Foothill Global Access students must have current e-mail accounts and/or ongoing access to computers with e-mail and web browsing capability

4. Course Content (Body of knowledge) -

- A. Instructional resource design
 1. Revise existing materials or create new materials
 2. Method of delivery
 3. Best media to match instructional objectives
- B. Effective instructional resources
 1. Best practices
 2. Examples of print and non-print materials
 3. Online resources
- C. Alignment
 1. Learning objectives
 2. Instructor and learner activities
 3. Assessment
- D. Comparison of print, online, and computer media resources
 1. Best media type for particular objectives and learning environments
- E. Online instructional resources.
 1. Online resources already available
 2. Online tools for creation of online resources
- F. Develop print resources.
 1. Job aids
 2. Handouts
 3. Manuals
- G. Develop computer media resources
 1. Multimedia (infographics, posters)
 2. Video (screen casting)
 3. Web sites (interactive, information, survey)
- H. Match learner needs with project features
 1. Which collaboration tools to use?
 2. Which web sites provide appropriate information?
 3. How do you build collaboration among students?
 4. Which forms of video are most effective?
 5. How might interactive components facilitate learning?
- I. Develop project alignment
 1. Learner needs
 2. Learning objectives
 3. Learning environment

5. Repeatability - Moved to header area.

6. Methods of Evaluation -

- A. Designing and developing an instructional project that includes collaboration
- B. Presenting the product or project to peers, capturing feedback, and using it to revise the product or project
- C. Making constructive contributions to class discussions and peer review feedback

7. Representative Text(s) -

Bean, Cammy, The Accidental Instructional Designer, Alexandria, VA, American Society for Training & Development (ASTD), 2014.

Hagen, Rebecca, and Kim Golombisky, *WSINYE: White Space Is Not Your Enemy: A Beginner's Guide to Communicating Visually through Graphic, Web & Multimedia Design*, New York, NY, Focal, 2013.

Vaughn, Tay, Multimedia: Making It Work, 9th ed. New York, McGraw-Hill, 2014.

8. Disciplines -

Instructional Design & Technology

9. Method of Instruction -

- A. Writing notes, listening, and participating in lecture presentation
- B. Observing an instructor-led demonstration and/or actively practicing the demonstrated skills
- C. Presenting and communicating their ideas in discussion and/or participating in peer reviews

10. Lab Content -

Not applicable.

11. Honors Description - No longer used. Integrated into main description section.

12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Writing assignments include a major course project and multiple developmental projects, online discussion response, and critical analysis of peer's educational projects.
- B. Outside assignments include conducting project development, writing the instructional plan, reading, and developing the project through an iterative process.
- C. When taught online these methods may take the form of video, audio, animation and web page presentations. Writing assignments are completed online.

13. Need/Justification -

This Workforce Education course provides specialized training in instructional design and technology for students, teachers, and those in work transition. The primary target audience include educators from school districts within the FHDA district service area: Mountain View-Whisman, Palo Alto Unified, Sunnyvale Elementary, Mountain View-Los Altos Union HSD, Los Altos Elementary, Fremont Union HSD, and Cupertino Union and secondary regions of San Mateo, Santa Clara, Santa Cruz, and Alameda counties. The course is relevant for current and future adult educators in university, community-college, and adult-education settings, as well as government and business trainers, consultants, and human-resource professionals.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE Stand-Alone Course Approval Request

If a Foothill credit course is **NOT** part of a State approved associate's degree, certificate of achievement or the Foothill College GE Pattern, it is considered by the State to be a "Stand Alone Course." Per Title 5, local curriculum committees must review and approve proposed stand-alone courses to ensure that they are consistent with credit course standards (§55002), the community college mission and there is sufficient need and resources for the course. To be compliant with State regulations, there must be a completed, approved Stand Alone Form on file in the Office of Instruction.

Per our local process, the same process of review and approval is used for noncredit Stand Alone courses.

Stand Alone Course Approval Requests should be completed and forwarded to your Division Curriculum Committee to begin the approval process.

Course #: LINC 82C

Course Title: Creating Interactive Media for Instruction

Credit Status:

- Credit course
 Noncredit course

Catalog Description:

This advanced course in creating interactive media for instruction continues the coursework of LINC 82A and LINC 82B and provides the depth of skills and knowledge needed for making online learning media that includes interactive components, such as instructional video, multimedia, game-based learning, graphical user interface design, interactive tutorials, embedding collaborative elements in web sites or learning management systems. Students interested in the study of instructional design and technology will develop a project for either education or business learning contexts. This course is part of the Instructional Design & Technology program sequence.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?

- The course will be **permanently** Stand Alone; there are no plans to add it to a State approved degree or certificate, nor to the Foothill GE pattern
 The course will be Stand Alone **temporarily**, and it will be incorporated into a new degree or certificate that is not yet State approved. In this case, identify the degree/certificate to which the course will be added:

- What is the specific timeline for program application/approval? (e.g., is your program application locally approved, or is it still in development and if so, what is your anticipated submission date?)

NOTE: *If you have not submitted your program application to the State by the end of the current academic year, you must reapply for permanent Stand Alone approval.*

The Curriculum Committee must evaluate this application based on the following criteria:

Criteria A. Appropriateness to Mission

The Foothill College Mission states: Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability.

Foothill College offers associate degrees and certificates in multiple disciplines, and a baccalaureate degree in dental hygiene.

Please indicate how your course supports the Foothill College Mission (select all that apply):

- Transfer
- Workforce/CTE
- Basic Skills

Criteria B. Need

A course may only be granted Stand Alone Approval if there is demonstrable need for the course in the college service area. Please provide evidence of the need or demand for your course, such as ASSIST documentation for transfer courses or Labor Market Information for workforce/CTE courses (if LMI is unavailable, advisory board minutes or employer surveys may be submitted). For basic skills courses, assessment-related data or information may be provided.

Evidence may be attached to this form or provided in the box below.

Given that the primary audience for LINC classes is teachers in elementary, middle, and secondary classrooms, the labor market analysis data focuses on this occupational sector. The Employment Development Department for the state of California shows projected growth change of 20.6% and 22.4% in teacher employment in the San Jose and San Mateo areas by 2026. (Source: <https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>)

In the 19-20 school year, school districts in Santa Clara county hired 1143 new teachers, while districts in San Mateo county hired 464. These new teachers are joining an existing workforce of 13,048 teachers in Santa Clara County and 5,123 in San Mateo County (Source: <https://www.dq.cde.ca.gov>). New teachers will need the educational technology knowledge and skills the KCI offers through LINC classes and existing teachers will need to refresh or upgrade as technological advances occur regularly.

Please also see attached Labor Market Information documents specific to Instructional Design and Technology occupations and Online and Blended Instruction occupations.

Criteria C. Curriculum Standards (please initial as appropriate)

- The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5

Faculty Requestor: Cassandra Pereira **Date:** 5/13/20

Division Curriculum Representative: K. Allison Lenkeit Meezan **Date:** 5/21/2020

Date of Approval by Division Curriculum Committee: 5/21/20

College Curriculum Co-Chairperson: _____ **Date:** _____



Instructional Design & Technology

Occupation Report For Santa Clara County

March 2016

This occupation report focuses on two occupational codes: Training and Development Specialists (SOC code 13-1151) and Instructional Coordinators/Instructional Designers and Technologists (SOC 25-9031). For purposes of this report, these occupational groupings will be combined into one occupation, Instructional Design and Technology. The occupation summary data predicts there will be ongoing job growth in this area through 2020 (10%). In Santa Clara County, there were 3,533 full- and part-time jobs in 2015, most of these occupations are accounted for by Training and Development Specialists (2,703). It is projected that Santa Clara County will add 362 Instructional Design and Technology jobs by 2020 (10% or 3,895).

Occupation Summary for Industrial Design and Technology

3,533 Jobs (2015) 23% above National average	10.2% % Change (2015-2020) Nation: 8.0%	\$40.50/hr Median Hourly Earnings Nation: \$28.83/hr
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Occupation	2015 Jobs	2020 Jobs	Change	% Change
Training and Development Specialists (13-1151)	2,703	2,962	259	10%
Instructional Coordinators (25-9031)	830	933	103	12%

The range in earnings in Santa Clara County among Industrial Design and Technology show that while the median earnings are \$40.50/hr, the top earning quartile earns \$16.63 more an hour while the lowest quartile earns \$10.12 less an hour. These data show that the range of earnings among Training and Development Specialists is higher than Instructional Coordinators/Instructional Designers and Technologists.

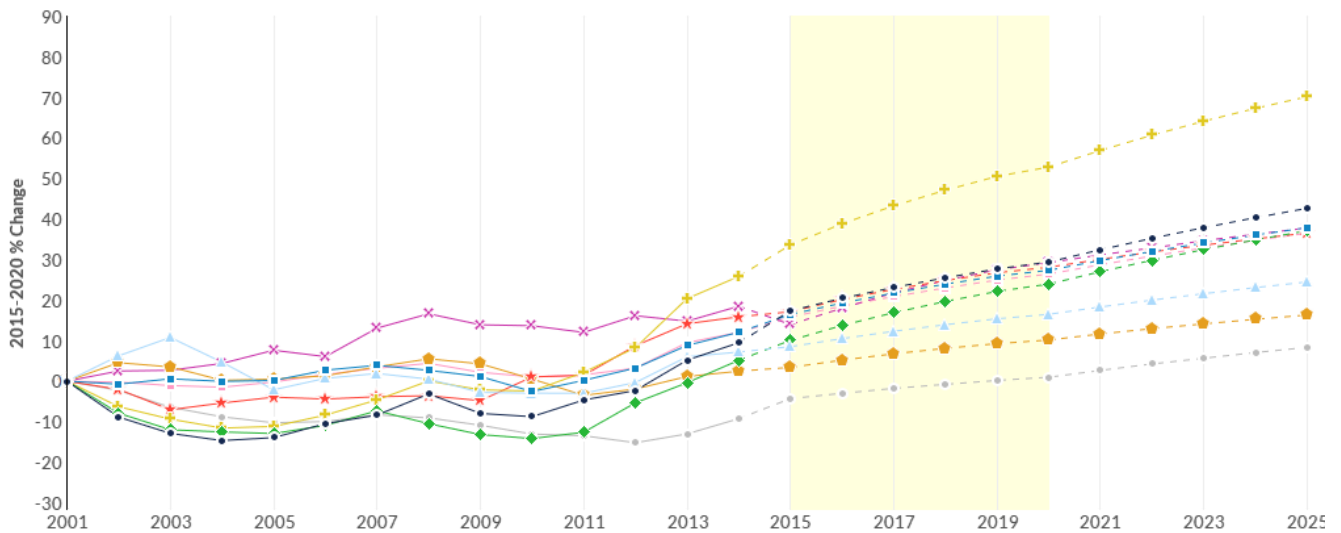
Industrial Design and Technology Percentile Earnings

\$30.38/hr 25th Percentile Earnings	\$40.50/hr Median Earnings	\$57.13/hr 75th Percentile Earnings	
Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings

Training and Development Specialists (13-1151)	\$31.60	\$42.60	\$59.34
Instructional Coordinators (25-9031)	\$26.52	\$33.86	\$50.10

An examination of the projected job growth among the nine counties in the Greater Bay Area region and at the state-level indicates the largest percentage rate change will be the highest In Santa Francisco County (14%), Napa (14%), San Mateo County (13%) and Santa Clara County (10%). Santa Clara County is projected to increase the most number of jobs by 2020 (362), followed by San Francisco (352), Alameda (210) and San Mateo (143) Counties.

Industrial Design and Technology Occupation Change Projections

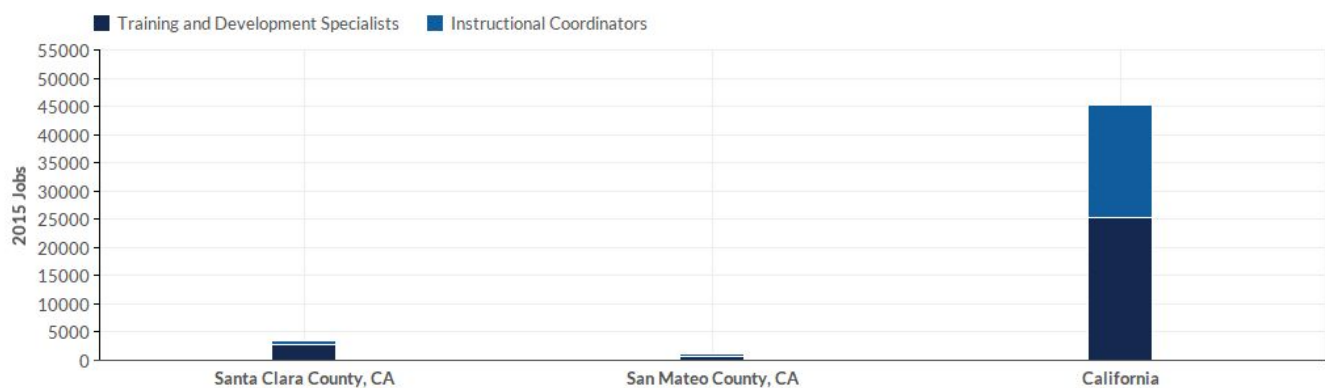


	Region	2015 Jobs	2020 Jobs	Change	% Change	Median Hourly Earnings
●	Santa Clara County, CA	3,533	3,895	362	10%	\$40.50
●	Alameda County, CA	2,246	2,456	210	9%	\$37.61
●	Contra Costa County, CA	1,004	1,077	73	7%	\$36.76
●	San Mateo County, CA	1,140	1,283	143	13%	\$35.47
●	San Francisco County, CA	2,447	2,799	352	14%	\$35.16

●	Marin County, CA	402	439	37	9%	\$33.04
●	Solano County, CA	360	383	23	6%	\$32.27
●	Napa County, CA	162	184	22	14%	\$31.69
●	Sonoma County, CA	460	485	25	5%	\$31.63
●	California	45,261	49,397	4,136	9%	\$33.43

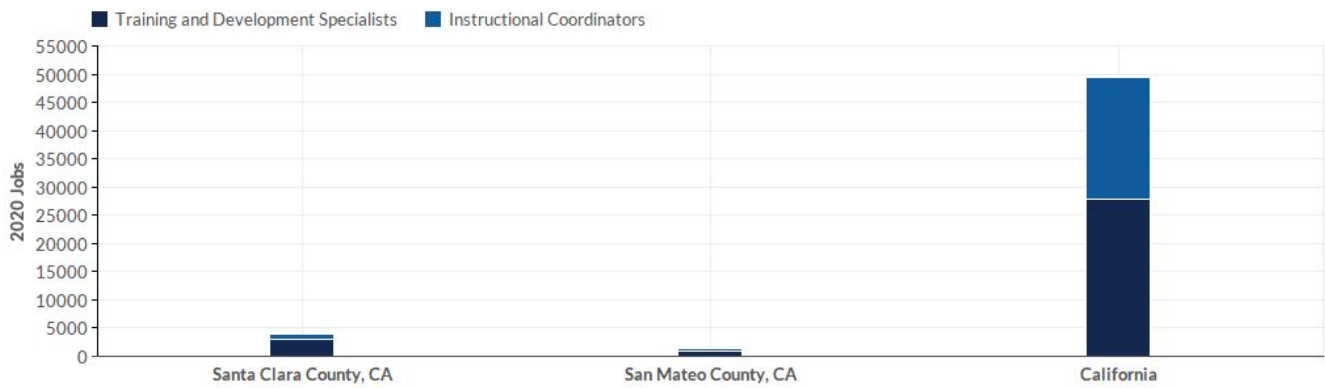
The data and accompanying tables below show the number of jobs between 2015 and 2020, disaggregated by Santa Clara and San Mateo Counties.

Industrial Design and Technology Occupation Breakdown - 2015 Jobs



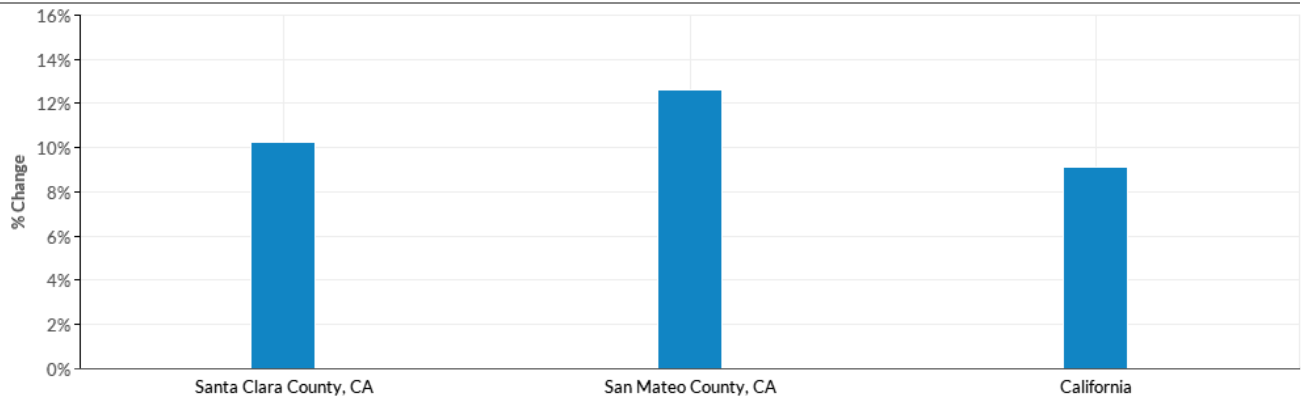
Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	2,703	778	25,267
25-9031	Instructional Coordinators	830	362	19,994
	Total	3,533	1,140	45,261

Industrial Design and Technology Occupation Breakdown - 2020 Jobs



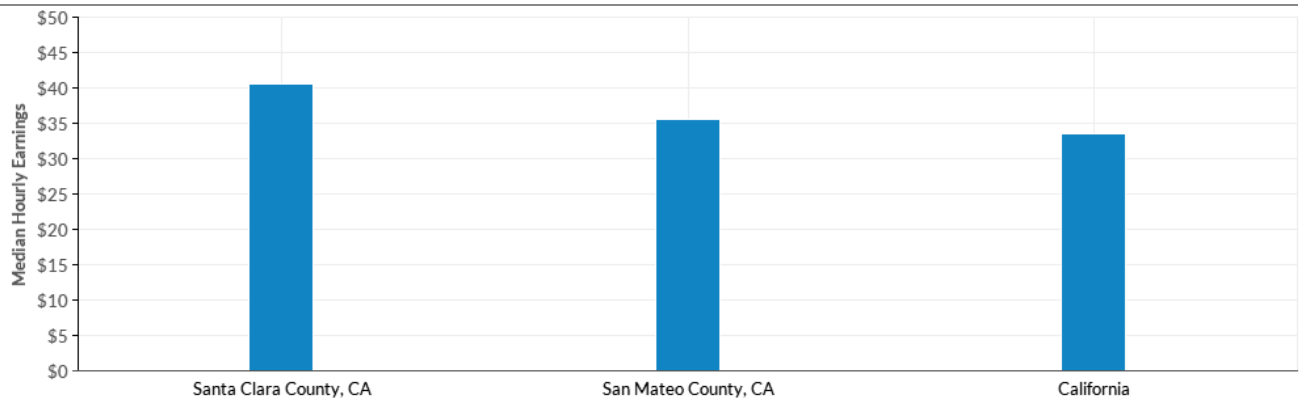
Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	2,962	882	27,881
25-9031	Instructional Coordinators	933	402	21,515
	Total	3,895	1,283	49,397

Occupation Breakdown - % Change



Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
25-9031	Instructional Coordinators	12%	11%	8%
13-1151	Training and Development Specialists	10%	13%	10%
	Total	10%	13%	9%

Occupation Breakdown - Median Hourly Earnings



Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	\$42.60	\$37.05	\$31.71
25-9031	Instructional Coordinators	\$33.86	\$32.20	\$35.54
	Total	\$40.50	\$35.47	\$33.43

Target Occupations Demographics

The demographics among those employed in Industrial Design and Technology occupations in Santa Clara County for 2015 show that a majority are female (64%) and about three-fourths are between the ages of 25-54 (73%) and White (59%).

Occupation Gender Breakdown

Gender	2015 Jobs	2015 Percent
Males	1,279	36.2%
Females	2,253	63.8%

Occupation Age Breakdown

Age	2015 Jobs	2015 Percent	
14-18	9	0.2%	
19-24	140	4.0%	■
25-34	785	22.2%	■
35-44	987	27.9%	■
45-54	837	23.7%	■
55-64	606	17.2%	■
65+	169	4.8%	■

Occupation Race/Ethnicity Breakdown

Race/Ethnicity	2015 Jobs	2015 Percent	
White	2,093	59.2%	■
Asian	606	17.2%	■
Hispanic or Latino	516	14.6%	■
Black or African American	206	5.8%	■
Two or More Races	84	2.4%	■
Native Hawaiian or Other Pacific Islander	14	0.4%	
American Indian or Alaska Native	14	0.4%	

Industries Employing Industrial Design and Technology Occupations

A number of industries in Santa Clara County employ those trained in Industrial Design and Technology occupations. The following table represents a regional industry breakdown of the number of Industrial Design and Technology positions employed, the percentage of Industrial Design and Technology employed by industry and the percentage Industrial Design and Technology jobs represent within all jobs by each industry. While top five industries employed 28% of all regional Industrial Design and Technology positions in 2015, Industrial Design and Technology compose a minority of all jobs in that industry (3%).

Top Industries Employing Industrial Design and Technology Occupations

Industry	Occupation Group Jobs in Industry (2015)	% of Occupation Group in Industry (2015)	% of Total Jobs in Industry (2015)
Custom Computer Programming Services	242	6.9%	0.6%
Elementary and Secondary Schools (Local Government)	214	6.1%	0.7%
Colleges, Universities, and Professional Schools	190	5.4%	0.6%
Internet Publishing and Broadcasting and Web Search Portals	190	5.4%	0.5%
Computer Systems Design Services	178	5.0%	0.6%

* *Inverse Staffing Patterns - Settings*

Data Sources and Calculations

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department

Federal Data Sources

This report uses federal data from the following agencies: Quarterly Census of Employment and Wages (QCEW) from the Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA).



Online and Blended Instruction Occupations Labor Market Information Report Foothill College

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
May 2020

Recommendation

Based on all available data, there appears to be an undersupply of Online and Blended Instruction workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County). There is a projected annual gap of about 2,330 students in the Bay region and 620 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0860.00 - Educational Technology in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

Introduction

This report profiles Online and Blended Instruction Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01), therefore, the data shown in Tables 1 and 2 is for Education Administrators, All Other (at the six digit SOC level) and likely overstates demand for Distance Learning Coordinators. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01).

- **Education Administrators, All Other (SOC 11-9039):** All education administrators not listed separately.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 12%
- **Training and Development Managers (SOC 11-3131):** Plan, direct, or coordinate the training and development activities and staff of an organization.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
- **Training and Development Specialists (SOC 13-1151):** Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 31%

- **Instructional Coordinators (SOC 25-9031):** Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

Entry-Level Educational Requirement: Master's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 11%

Occupational Demand

Table 1. Employment Outlook for Online and Blended Instruction Occupations in Bay Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	2,800	2,990	190	7%	1,320	264	\$25.20	\$35.36
Training and Development Managers	1,787	1,909	122	7%	941	188	\$47.43	\$68.57
Training and Development Specialists	9,676	10,802	1,126	12%	6,600	1,320	\$26.00	\$37.83
Instructional Coordinators	5,042	5,427	385	8%	2,815	563	\$24.52	\$32.84
TOTAL	19,304	21,128	1,823	9%	11,676	2,335	\$27.48	\$39.01

Source: EMSI 2020.1

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Online and Blended Instruction Occupations in Silicon Valley Sub-Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	483	533	50	10%	248	50	\$26.78	\$41.57
Training and Development Managers	515	555	40	8%	276	55	\$61.55	\$76.42
Training and Development Specialists	2,848	3,219	372	13%	1,993	399	\$24.80	\$35.92
Instructional Coordinators	961	1,074	113	12%	584	117	\$27.24	\$33.54
TOTAL	4,805	5,381	575	12%	3,101	620	\$29.42	\$40.35

Source: EMSI 2020.1

Silicon Valley Sub-Region includes Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (April 2019 - March 2020)

Occupation	Bay Region	Silicon Valley
Training and Development Specialists	2,485	788
Training and Development Managers	963	251

Instructional Designers and Technologists	781	353
Distance Learning Coordinators	42	8
TOTAL	4,271	1,400

Source: Burning Glass

Table 4a. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Bay Region

Common Title	Bay	Common Title	Bay
Instructional Designer	652	Learning Development Specialist	33
Training Coordinator	343	Sales Training Manager	27
Training Specialist	337	Director, Learning, Development	27
Training Manager	296	Developer	25
Technical Trainer	149	Machine Learning Developer	21
Development Coordinator	110	Operations Specialist	20
Trainer	106	Field Trainer	20
Development Specialist	69	Curriculum Designer	19
Director, Staff Development	63	Machine Learning Specialist	18
Sales Trainer	54	Supervisor, Training	17
Education Specialist	52	Sales Training Specialist	17
Learning Specialist	41	Director of Sales	17
Development Trainer	38	Head, Development	16
Training Developer	34	Behavior Technician, Training	16

Table 4b. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Silicon Valley Sub-Region

Common Title	Silicon Valley	Common Title	Silicon Valley
Instructional Designer	327	Developer	11
Training Coordinator	145	Program Analyst	8
Training Specialist	94	Learning Development Specialist	8
Training Manager	92	Staff Assistant	7
Technical Trainer	65	Machine Learning Specialist	7
Trainer	29	Learning Specialist	7
Development Coordinator	23	Field Training Officer	7
Director, Staff Development	18	Education Specialist	7
Sales Trainer	17	Development Trainer	7
Machine Learning Developer	17	Commercial Learning Trainer	7
Training Developer	15	Product Trainer	6
Development Specialist	14	Management Training Program	6
Sales Training Manager	11	Learning Technology Specialist	6
Principal Epic Trainer, Billing, Healthcare Industry	11	Director, Development	6

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Online and Blended Instruction Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2022)	% Change (2019-24)	% Occupation Group in Industry (2019)
Elementary and Secondary Schools (Local Government) (903611)	1,625	1,686	4%	8%
Corporate, Subsidiary, and Regional Managing Offices (551114)	824	864	5%	4%
Internet Publishing and Broadcasting and Web Search Portals (519130)	800	1,042	30%	4%
Colleges, Universities, and Professional Schools (State Government) (902612)	725	695	-4%	4%
Educational Support Services (611710)	719	842	17%	4%
Custom Computer Programming Services (541511)	715	914	28%	4%
Colleges, Universities, and Professional Schools (611310)	665	731	10%	3%
Local Government, Excluding Education and Hospitals (903999)	622	649	4%	3%
Elementary and Secondary Schools (611110)	520	550	6%	3%
Software Publishers (511210)	514	646	26%	3%
Computer Systems Design Services (541512)	404	495	23%	2%
Sports and Recreation Instruction (611620)	316	356	13%	2%
Administrative Management and General Management Consulting Services (541611)	312	383	23%	2%
Exam Preparation and Tutoring (611691)	306	347	13%	2%
State Government, Excluding Education and Hospitals (902999)	294	312	6%	2%
Colleges, Universities, and Professional Schools (Local Government) (903612)	277	261	-6%	1%
Federal Government, Military (901200)	270	261	-3%	1%

Source: EMSI 2020.1

Table 6. Top Employers Posting Online and Blended Instruction Occupations in Bay Region and Silicon Valley Sub-Region (April 2019 - March 2020)

Employer	Bay	Employer	Bay	Employer	Silicon Valley
UC Berkeley	34	Microsoft Corporation	18	Apple Inc.	27
Facebook	33	Workday, Inc	17	Intuitive Surgical Inc	21
Google Inc.	30	US Army	16	Google Inc.	21
Reynolds & Reynolds	28	Pinterest	16	Stanford University	18
Apple Inc.	27	Agiloft	16	Servicenow, Inc	12
Amazon	26	UC San Francisco	15	Reynolds & Reynolds	10
Anthem Blue Cross	25	Medtronic	14	Core Group Technologies Inc	10
Walmart / Sam's	23	Genentech	14	Microsoft Corporation	9
Stanford University	22	Abbott Laboratories	14	Applied Materials	9
Milestone Technologies Inc	21	Servicenow, Inc	13	Anthem Blue Cross	9
Intuitive Surgical Inc	21	Advance Behavioral Therapies	12	Comerica	8
Envision	21	Lucile Packard Childrens Hospital	11	Servicenow	7
Visa	20	Linkedin Limited	11	Abbott Laboratories	7
Kaiser Permanente	20	Health Services Llc	11	Walmart / Sam's	6
University California	19	Tti Incorporated	10	Palo Alto Networks	6
Core Group Technologies Inc	19	GP Strategies Corporation	10	Linkedin Limited	6

Pacific Gas and Electric Co	18	Falcon Cct	10	Intellipro Incorporated	6
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Source: Burning Glass

Educational Supply

There is one (1) community college in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no colleges in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

There is one (1) Other Educational Institution in the Bay Region issuing two (2) Bachelor's Degrees on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no Other Educational Institutions in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

Table 7a. Awards on TOP 0860.00 - Educational Technology in Bay Region

College	Sub-Region	Certificate Low Unit	Total
Merritt	East Bay	3	3
Total Bay Region		3	3
Total Silicon Valley Sub-Region		0	0

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

Table 7b. Other Educational Institutions - Bachelor's Degree Awards on TOP 0860.00 - Educational Technology Bay Region

College	Sub-Region	Bachelor's Degree
Academy of Art University	Mid-Peninsula	2
Total Bay Region		2
Total Silicon Valley Sub-Region		0

Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,335 annual openings for the Online and Blended Instruction occupational cluster and 5 annual (3-year average) awards for an annual undersupply of 2,330 students. In the Silicon Valley Sub-Region, there is also a gap with 620 annual openings and no annual (3-year average) awards for an annual undersupply of 620 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0860.00-Educational Technology

2015-16	Bay (All CTE Programs)	Foothill College (All CTE Programs)	State (0860.00)	Bay (0860.00)	Silicon Valley (0860.00)	Foothill College (0860.00)
% Employed Four Quarters After Exit	74%	77%	81%	81%	77%	77%
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$15,301	\$20,325	\$22,242	\$20,549	\$20,549

Median % Change in Earnings	46%	82%	32%	30%	25%	25%
% of Students Earning a Living Wage	63%	76%	83%	88%	86%	86%

Source: Launchboard Pipeline (version available on 5/6/20)

Skills, Certifications and Education

Table 9. Top Skills for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Skill	Postings	Skill	Postings	Skill	Postings
Training Programs	941	Curriculum Development	264	Multimedia	178
Project Management	903	Needs Assessment	258	Adobe Creative Suite	177
Instructional Design	881	Staff Management	224	Talent Management	174
Training Materials	758	Staff Development	222	Course Development	168
Scheduling	638	Change Management	215	Content Management	167
Teaching	581	Leadership Development	215	Employee Training	166
Customer Service	485	Adobe Acrobat	213	Training Activities	156
Onboarding	455	Organizational Development	209	Technical Writing / Editing	154
Learning Management System	405	Adobe Indesign	196	Software as a Service (SaaS)	153
Technical Training	388	Project Planning and Development Skills	194	Performance Management	152
Budgeting	376	Sales Training	193	Quality Assurance and Control	152
Adobe Captivate	332	Graphic Design	191	New Hire Orientation	151
Sales	308	Stakeholder Management	186	Adobe Illustrator	146
Content Development	296	Technical Support	184	Psychology	136
Adobe Photoshop	286	Salesforce	179	Public Speaking	136

Source: Burning Glass

Table 10. Certifications for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Note: 80% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
Driver's License	314	Basic Life Saving (BLS)	16
Licensed Vocational Nurse (LVN)	75	Microsoft Certified Trainer (MCT)	15

First Aid CPR AED	74	Medical Examiner's License	14
Epic Certification	67	Lean Six Sigma Certification	14
Project Management Certification	59	Six Sigma Yellow Belt	13
Security Clearance	56	Certified Teacher	13
Registered Nurse	39	Adult Learning Certificate	12
Project Management Professional (PMP)	28	Professional in Human Resources	11
Registered Behavior Technician	26	Licensed Practical Nurse (LPN)	10
Hearing Aid Dealers	20	Special Education Certification	9
Board Certified Behavior Analyst (BCBA)	18	ServSafe	9
IT Infrastructure Library (ITIL) Certification	16	Psychologist License	9

Source: Burning Glass

Table 11. Education Requirements for Online and Blended Instruction Occupations in Bay Region

Note: 36% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	444	17%
Associate Degree	92	4%
Bachelor's Degree or Higher	2,004	79%

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCC Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

For more information, please contact:

- Doreen O'Donovan, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544

Foothill College

Approved Course Outlines

For Faculty and Staff use only

Business and Social Sciences

LINC 82C CREATING INTERACTIVE MEDIA FOR INSTRUCTION

Summer 2016

3 hours lecture.

3 Units

Total Contact Hours: 36 (Total of All Lecture and Lab hours X 12)

Total Student Learning Hours: 108 (Total of All Lecture, Lab hours and Out of Class X 12)

Lecture Hours: 3 **Lab Hours:** **Weekly Out of Class Hours:** 6

Note: If Lab hours are specified, the *item 10. Lab Content* field must be completed.

Repeatability -

Statement: Not Repeatable.

Status -

Course Status: Active

Grading:

Letter Grade with P/NP option

Degree Status: Applicable

Credit Status:

Credit

Degree or Certificate Requirement: Stand Alone Course

GE Status: Non-GE

Articulation Office Information -

C.I.D. Notation:

Transferability: CSU

Validation: 5/22/15

Division Dean Information -

Seat Count: 37

Load Factor: .067

FOAP Code: 114000151011086000

Instruction Office Information -

FSA Code:

Distance Learning: yes

Stand Alone Designation: yes

Program Title:

Program TOPs Code:

Program Unique Code:

Content Review Date: 1/12/16; review for 2021-22

Former ID:

1. Description -

This advanced course in creating interactive media for instruction continues the coursework of LINC 82A and LINC 82B and provides the depth of skills and knowledge needed for making online learning media that includes interactive components, such as instructional video, multimedia, game-based learning, graphical user interface design, interactive tutorials, embedding collaborative elements in web sites or learning management systems. Students interested in the

study of instructional design and technology will develop a project for either education or business learning contexts. This course is part of the Instructional Design & Technology program sequence.

Prerequisite: LINC 82A or 82B.

Advisory: Basic skills using standard computer systems and internet-based technologies.

2. Course Objectives -

The students will be able to:

- A. Define levels of instructional interaction
- B. Create online interactive games and activities for learners
- C. Create online interactive assessments for learners
- D. Utilize instructional design principles to create an instructional video
- E. Apply the concept of flipped learning
- F. Create a plan for flipped learning environment in the classroom
- G. Embed interactive media in a website and collaborative online documents
- H. Embed interactive media for use by learners in a learning management system
 - I. Explore the pedagogy behind game-based learning
 - J. Explore several tools for game-based learning

3. Special Facilities and/or Equipment -

- A. When offered on/off campus: Lecture room equipped with computer projector system, whiteboard, and internet connectivity. Computer laboratories with internet connectivity and computers or internet enabled devices running standard operating systems (e.g., iOS, MacOS, Windows, Android, Linux)
- B. When taught online via Foothill Global Access students must have current e-mail accounts and/or ongoing access to computers with e-mail and web browsing capability

4. Course Content (Body of knowledge) -

- A. Levels of instructional interaction
 1. Level 1 Passive-no interaction
 2. Level 2 Limited interaction
 3. Level 3 Moderate interaction
 4. Level 4 Simulation and game-based learning
- B. Online interactive games and activities
 1. Learner objectives
 2. Format
 3. Content
 4. Online tools - Flash, HTML5, other
 5. Hosting platform
- C. Online interactive assessments
 1. Learner objectives
 2. Reliability and validity
 3. Format
 4. Content
 5. Online tool
 6. Hosting platform
- D. Instructional video
 1. Learner objectives
 2. Instructional sequence of content
 3. Format
 4. Screencasting
 5. Screen shots and images
 6. Video
 7. Hosting platform and embedding
- E. Understand flipped learning
 1. Individualized/personalized learning
 2. Interactive learning environment
- F. Plan for flipped learning
 1. Flexible environment
 2. Instructor and student roles
 3. Use of time
 4. Technology
 5. Instructional content
 6. Ongoing assessment

- G. Embed interactive media - website and documents
 - 1. Enhanced instruction
 - 2. Personalized learning
 - 3. Technical aspects
- H. Embed interactive media - learning management system
 - 1. Enhanced instruction
 - 2. Personalized learning
 - 3. Technical aspects
- I. Game-based learning - pedagogy
 - 1. Collaborative problem-solving
 - 2. Divergent thinking
 - 3. Creativity
- J. Game-based learning - tools
 - 1. Print-based
 - 2. Electronic
 - 3. Online

5. **Repeatability** - Moved to header area.

6. Methods of Evaluation -

- A. Designing and developing an interactive online instructional project
- B. Presenting the product or project to peers, capturing feedback, and using it to revise the product or project
- C. Making constructive contributions to class discussions and peer review feedback

7. Representative Text(s) -

Bean, Cammy, [The Accidental Instructional Designer](#), Alexandria, VA, American Society for Training & Development (ASTD), 2014.
 Hagen, Rebecca, and Kim Golombisky, [WSINYE: White Space Is Not Your Enemy: A Beginner's Guide to Communicating Visually through Graphic, Web & Multimedia Design](#), New York, NY, Focal, 2013.
 Vaughn, Tay, [Multimedia: Making It Work](#), 9th ed. New York, McGraw-Hill, 2014.

8. Disciplines -

Instructional Design & Technology

9. Method of Instruction -

- A. Writing notes, listening, and participating in lecture presentation
- B. Observing an instructor-led demonstration and/or actively practicing the demonstrated skills
- C. Presenting and communicating their ideas in discussion and/or participating in peer reviews

10. Lab Content -

Not applicable.

11. **Honors Description** - No longer used. Integrated into main description section.

12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Writing assignments include a major course project and multiple developmental projects, online discussion response, and critical analysis of peer's educational projects.
- B. Outside assignments include conducting project development, writing the instructional plan, reading, and developing the project through an iterative process.
- C. When taught online these methods may take the form of video, audio, animation and web page presentations. Writing assignments are completed online.

13. Need/Justification -

This Workforce Education course provides specialized training in instructional design and technology for students, teachers, and those in work transition. The primary target audience include educators from school districts within the FHDA district service area: Mountain View-Whisman, Palo Alto Unified, Sunnyvale Elementary, Mountain View-Los Altos Union HSD, Los Altos Elementary, Fremont Union HSD, and Cupertino Union and secondary regions of San Mateo, Santa Clara, Santa Cruz, and Alameda counties. The course is relevant for current and future adult educators

in university, community-college, and adult-education settings, as well as government and business trainers, consultants, and human-resource professionals.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE Stand-Alone Course Approval Request

If a Foothill credit course is **NOT** part of a State approved associate's degree, certificate of achievement or the Foothill College GE Pattern, it is considered by the State to be a "Stand Alone Course." Per Title 5, local curriculum committees must review and approve proposed stand-alone courses to ensure that they are consistent with credit course standards (§55002), the community college mission and there is sufficient need and resources for the course. To be compliant with State regulations, there must be a completed, approved Stand Alone Form on file in the Office of Instruction.

Per our local process, the same process of review and approval is used for noncredit Stand Alone courses.

Stand Alone Course Approval Requests should be completed and forwarded to your Division Curriculum Committee to begin the approval process.

Course #: LINC 87

Course Title: Seminar in Teaching with Educational Technology

Credit Status:

Credit course
 Noncredit course

Catalog Description:

This seminar is for educators at all levels to develop student-centered learning projects and teaching practices; apply practical educational technology tools and resources; and participate in a collaborative professional development experience. Participants learn to use innovative technologies in their own curriculum content area and best practices for teaching and learning that positively impacts student achievement. Topics include 21st Century skills for teaching and learning, visual literacy, media literacy, free online tools and resources for education, educational software training, open education resources, professional learning networks, integrating technology into the curriculum, integrating science and mathematics into any curriculum, assessment strategies for complex learning outcomes, and student-centered learning.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?

The course will be **permanently** Stand Alone; there are no plans to add it to a State approved degree or certificate, nor to the Foothill GE pattern
 The course will be Stand Alone **temporarily**, and it will be incorporated into a new degree or certificate that is not yet State approved. In this case, identify the degree/certificate to which the course will be added:

- What is the specific timeline for program application/approval? (e.g., is your program application locally approved, or is it still in development and if so, what is your anticipated submission date?)

***NOTE:** If you have not submitted your program application to the State by the end of the current academic year, you must reapply for permanent Stand Alone approval.*

The Curriculum Committee must evaluate this application based on the following criteria:

Criteria A. Appropriateness to Mission

The Foothill College Mission states: Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to

obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability. Foothill College offers associate degrees and certificates in multiple disciplines, and a baccalaureate degree in dental hygiene.

Please indicate how your course supports the Foothill College Mission (select all that apply):

- Transfer
 Workforce/CTE
 Basic Skills

Criteria B. Need

A course may only be granted Stand Alone Approval if there is demonstrable need for the course in the college service area. Please provide evidence of the need or demand for your course, such as ASSIST documentation for transfer courses or Labor Market Information for workforce/CTE courses (if LMI is unavailable, advisory board minutes or employer surveys may be submitted). For basic skills courses, assessment-related data or information may be provided.

Evidence may be attached to this form or provided in the box below.

Given that the primary audience for LINC classes is teachers in elementary, middle, and secondary classrooms, the labor market analysis data focuses on this occupational sector. The Employment Development Department for the state of California shows projected growth change of 20.6% and 22.4% in teacher employment in the San Jose and San Mateo areas by 2026. (Source: <https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>)

In the 19-20 school year, school districts in Santa Clara county hired 1143 new teachers, while districts in San Mateo county hired 464. These new teachers are joining an existing workforce of 13,048 teachers in Santa Clara County and 5,123 in San Mateo County (Source: <https://www.dq.cde.ca.gov>). New teachers will need the educational technology knowledge and skills the KCI offers through LINC classes and existing teachers will need to refresh or upgrade as technological advances occur regularly.

Please also see attached Labor Market Information documents specific to Instructional Design and Technology occupations and Online and Blended Instruction occupations.

Criteria C. Curriculum Standards (please initial as appropriate)

The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5

Faculty Requestor: Cassandra Pereira **Date:** 5/13/20

Division Curriculum Representative: K. Allison Lenkeit Meezan **Date:** 5/21/2020

Date of Approval by Division Curriculum Committee: 5/21/20

College Curriculum Co-Chairperson: _____ **Date:** _____



Instructional Design & Technology

Occupation Report For Santa Clara County

March 2016

This occupation report focuses on two occupational codes: Training and Development Specialists (SOC code 13-1151) and Instructional Coordinators/Instructional Designers and Technologists (SOC 25-9031). For purposes of this report, these occupational groupings will be combined into one occupation, Instructional Design and Technology. The occupation summary data predicts there will be ongoing job growth in this area through 2020 (10%). In Santa Clara County, there were 3,533 full- and part-time jobs in 2015, most of these occupations are accounted for by Training and Development Specialists (2,703). It is projected that Santa Clara County will add 362 Instructional Design and Technology jobs by 2020 (10% or 3,895).

Occupation Summary for Industrial Design and Technology

3,533 Jobs (2015) 23% above National average	10.2% % Change (2015-2020) Nation: 8.0%	\$40.50/hr Median Hourly Earnings Nation: \$28.83/hr
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Occupation	2015 Jobs	2020 Jobs	Change	% Change
Training and Development Specialists (13-1151)	2,703	2,962	259	10%
Instructional Coordinators (25-9031)	830	933	103	12%

The range in earnings in Santa Clara County among Industrial Design and Technology show that while the median earnings are \$40.50/hr, the top earning quartile earns \$16.63 more an hour while the lowest quartile earns \$10.12 less an hour. These data show that the range of earnings among Training and Development Specialists is higher than Instructional Coordinators/Instructional Designers and Technologists.

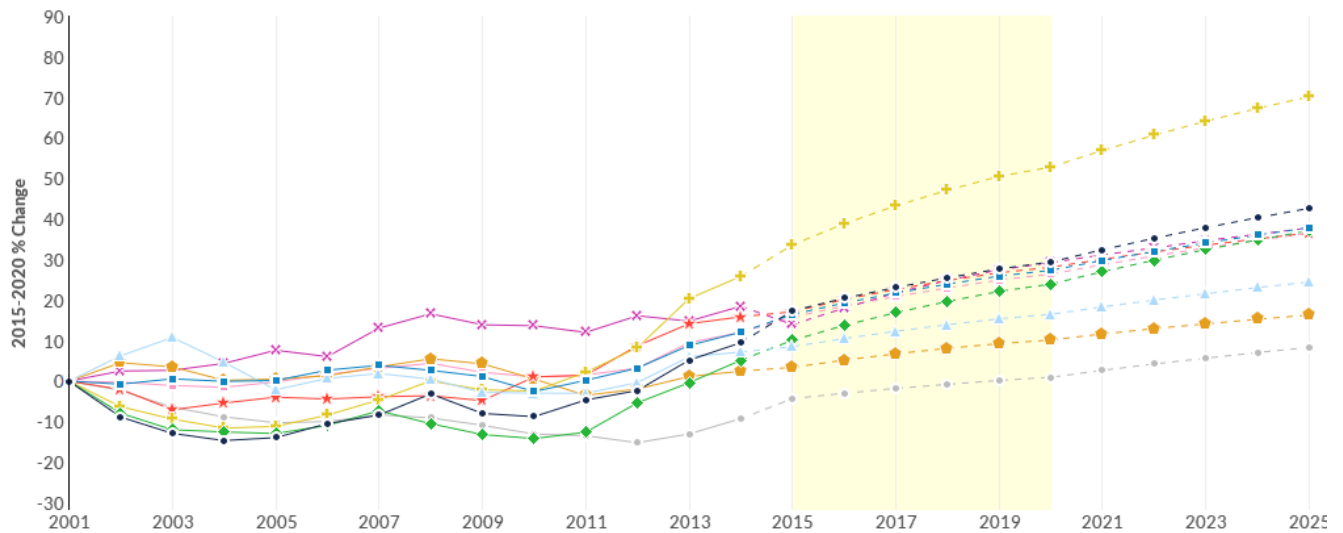
Industrial Design and Technology Percentile Earnings

\$30.38/hr 25th Percentile Earnings	\$40.50/hr Median Earnings	\$57.13/hr 75th Percentile Earnings	
Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings

Training and Development Specialists (13-1151)	\$31.60	\$42.60	\$59.34
Instructional Coordinators (25-9031)	\$26.52	\$33.86	\$50.10

An examination of the projected job growth among the nine counties in the Greater Bay Area region and at the state-level indicates the largest percentage rate change will be the highest In Santa Francisco County (14%), Napa (14%), San Mateo County (13%) and Santa Clara County (10%). Santa Clara County is projected to increase the most number of jobs by 2020 (362), followed by San Francisco (352), Alameda (210) and San Mateo (143) Counties.

Industrial Design and Technology Occupation Change Projections

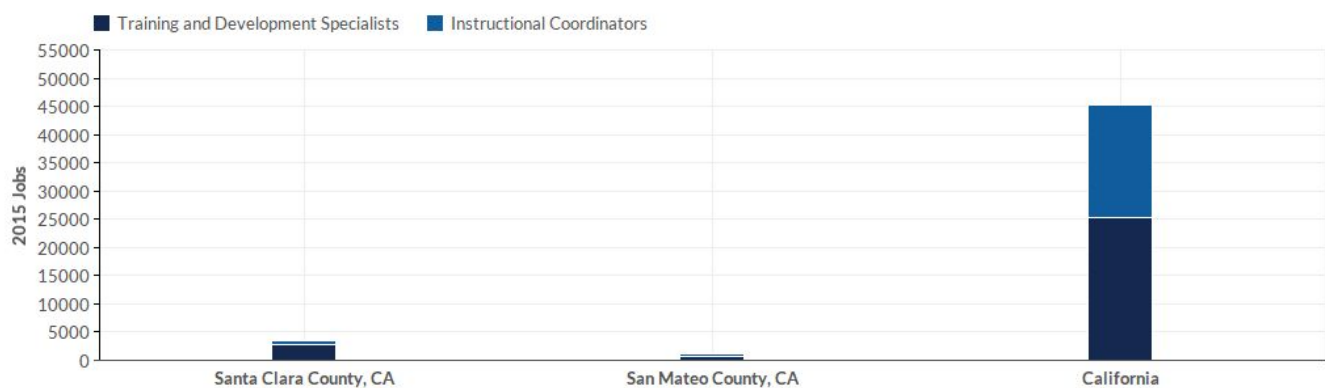


	Region	2015 Jobs	2020 Jobs	Change	% Change	Median Hourly Earnings
●	Santa Clara County, CA	3,533	3,895	362	10%	\$40.50
●	Alameda County, CA	2,246	2,456	210	9%	\$37.61
●	Contra Costa County, CA	1,004	1,077	73	7%	\$36.76
●	San Mateo County, CA	1,140	1,283	143	13%	\$35.47
●	San Francisco County, CA	2,447	2,799	352	14%	\$35.16

●	Marin County, CA	402	439	37	9%	\$33.04
●	Solano County, CA	360	383	23	6%	\$32.27
●	Napa County, CA	162	184	22	14%	\$31.69
●	Sonoma County, CA	460	485	25	5%	\$31.63
●	California	45,261	49,397	4,136	9%	\$33.43

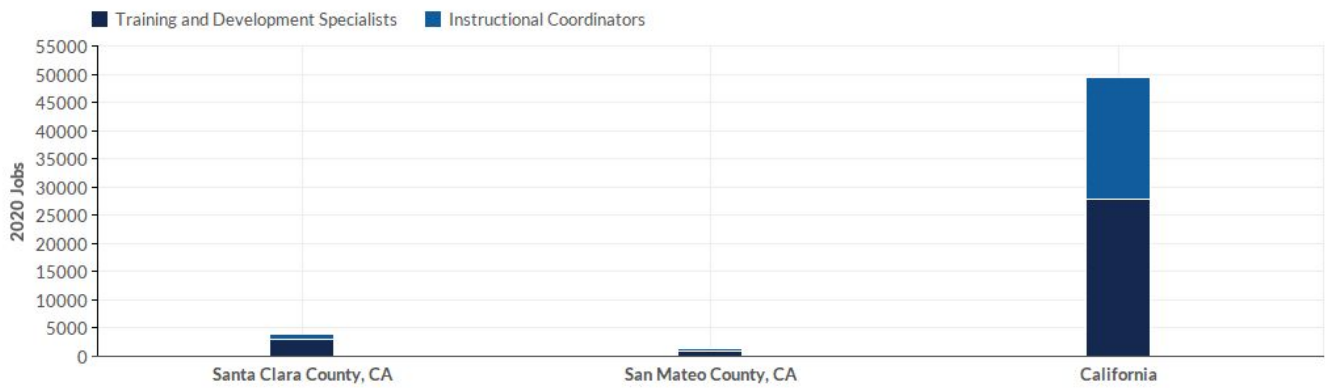
The data and accompanying tables below show the number of jobs between 2015 and 2020, disaggregated by Santa Clara and San Mateo Counties.

Industrial Design and Technology Occupation Breakdown - 2015 Jobs



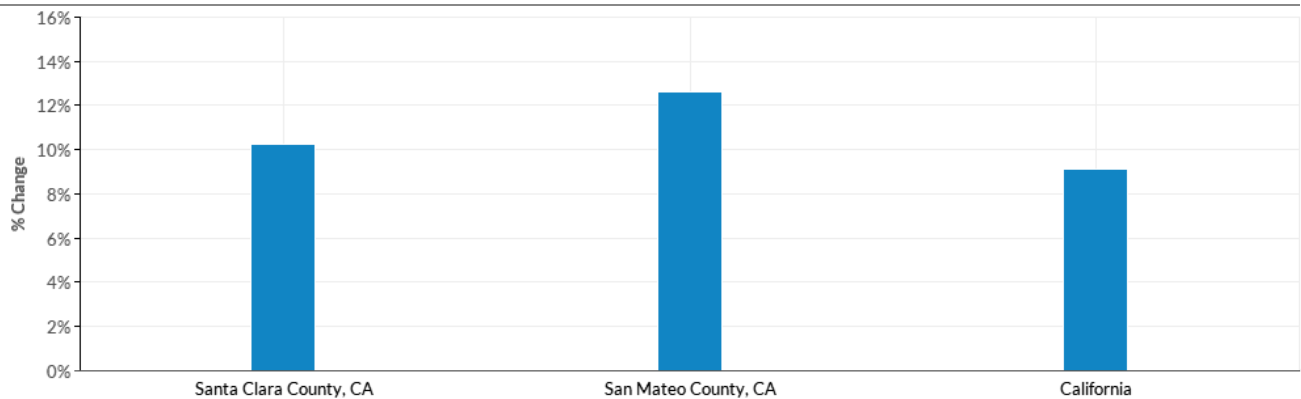
Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	2,703	778	25,267
25-9031	Instructional Coordinators	830	362	19,994
	Total	3,533	1,140	45,261

Industrial Design and Technology Occupation Breakdown - 2020 Jobs



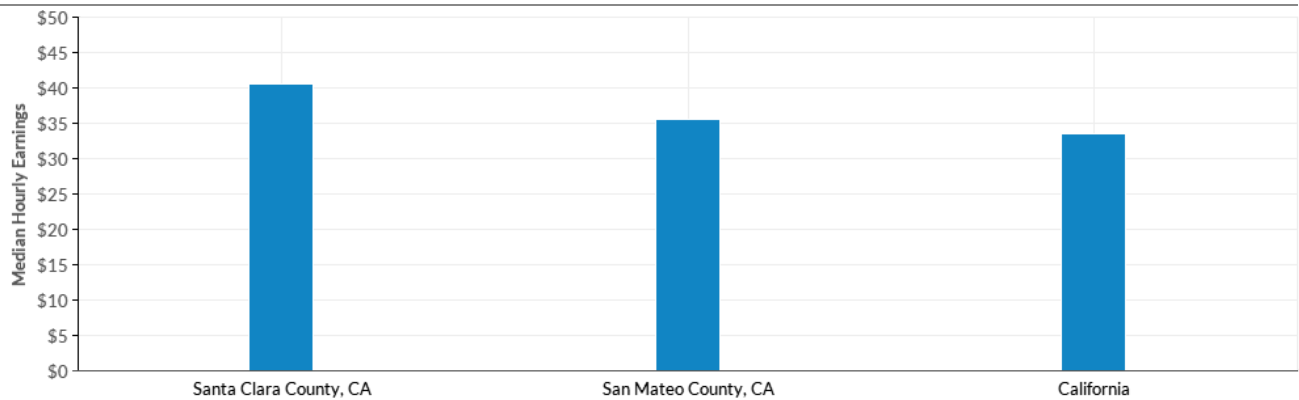
Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	2,962	882	27,881
25-9031	Instructional Coordinators	933	402	21,515
	Total	3,895	1,283	49,397

Occupation Breakdown - % Change



Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
25-9031	Instructional Coordinators	12%	11%	8%
13-1151	Training and Development Specialists	10%	13%	10%
	Total	10%	13%	9%

Occupation Breakdown - Median Hourly Earnings



Occupation	Description	Santa Clara County, CA	San Mateo County, CA	California
13-1151	Training and Development Specialists	\$42.60	\$37.05	\$31.71
25-9031	Instructional Coordinators	\$33.86	\$32.20	\$35.54
	Total	\$40.50	\$35.47	\$33.43

Target Occupations Demographics

The demographics among those employed in Industrial Design and Technology occupations in Santa Clara County for 2015 show that a majority are female (64%) and about three-fourths are between the ages of 25-54 (73%) and White (59%).

Occupation Gender Breakdown

Gender	2015 Jobs	2015 Percent
Males	1,279	36.2%
Females	2,253	63.8%

Occupation Age Breakdown

Age	2015 Jobs	2015 Percent	
14-18	9	0.2%	
19-24	140	4.0%	■
25-34	785	22.2%	■
35-44	987	27.9%	■
45-54	837	23.7%	■
55-64	606	17.2%	■
65+	169	4.8%	■

Occupation Race/Ethnicity Breakdown

Race/Ethnicity	2015 Jobs	2015 Percent	
White	2,093	59.2%	■
Asian	606	17.2%	■
Hispanic or Latino	516	14.6%	■
Black or African American	206	5.8%	■
Two or More Races	84	2.4%	■
Native Hawaiian or Other Pacific Islander	14	0.4%	
American Indian or Alaska Native	14	0.4%	

Industries Employing Industrial Design and Technology Occupations

A number of industries in Santa Clara County employ those trained in Industrial Design and Technology occupations. The following table represents a regional industry breakdown of the number of Industrial Design and Technology positions employed, the percentage of Industrial Design and Technology employed by industry and the percentage Industrial Design and Technology jobs represent within all jobs by each industry. While top five industries employed 28% of all regional Industrial Design and Technology positions in 2015, Industrial Design and Technology compose a minority of all jobs in that industry (3%).

Top Industries Employing Industrial Design and Technology Occupations

Industry	Occupation Group Jobs in Industry (2015)	% of Occupation Group in Industry (2015)	% of Total Jobs in Industry (2015)
Custom Computer Programming Services	242	6.9%	0.6%
Elementary and Secondary Schools (Local Government)	214	6.1%	0.7%
Colleges, Universities, and Professional Schools	190	5.4%	0.6%
Internet Publishing and Broadcasting and Web Search Portals	190	5.4%	0.5%
Computer Systems Design Services	178	5.0%	0.6%

* *Inverse Staffing Patterns - Settings*

Data Sources and Calculations

Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department

Federal Data Sources

This report uses federal data from the following agencies: Quarterly Census of Employment and Wages (QCEW) from the Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA).



Online and Blended Instruction Occupations Labor Market Information Report Foothill College

Prepared by the San Francisco Bay Center of Excellence
for Labor Market Research
May 2020

Recommendation

Based on all available data, there appears to be an undersupply of Online and Blended Instruction workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County). There is a projected annual gap of about 2,330 students in the Bay region and 620 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 0860.00 - Educational Technology in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

Introduction

This report profiles Online and Blended Instruction Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01), therefore, the data shown in Tables 1 and 2 is for Education Administrators, All Other (at the six digit SOC level) and likely overstates demand for Distance Learning Coordinators. Tables 3, 4, 6, 9, 10 and 11 use job postings data from Burning Glass at the eight-digit SOC Code level for Distance Learning Coordinators (11-9039.01).

- **Education Administrators, All Other (SOC 11-9039):** All education administrators not listed separately.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 12%
- **Training and Development Managers (SOC 11-3131):** Plan, direct, or coordinate the training and development activities and staff of an organization.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
- **Training and Development Specialists (SOC 13-1151):** Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.
Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 31%

- **Instructional Coordinators (SOC 25-9031):** Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

Entry-Level Educational Requirement: Master's degree

Training Requirement: None

Percentage of Community College Award Holders or Some Postsecondary Coursework: 11%

Occupational Demand

Table 1. Employment Outlook for Online and Blended Instruction Occupations in Bay Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	2,800	2,990	190	7%	1,320	264	\$25.20	\$35.36
Training and Development Managers	1,787	1,909	122	7%	941	188	\$47.43	\$68.57
Training and Development Specialists	9,676	10,802	1,126	12%	6,600	1,320	\$26.00	\$37.83
Instructional Coordinators	5,042	5,427	385	8%	2,815	563	\$24.52	\$32.84
TOTAL	19,304	21,128	1,823	9%	11,676	2,335	\$27.48	\$39.01

Source: EMSI 2020.1

Bay Region includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Online and Blended Instruction Occupations in Silicon Valley Sub-Region

Occupation	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	5-Yr Open-ings	Average Annual Open-ings	25% Hourly Wage	Median Hourly Wage
Education Administrators, All Other	483	533	50	10%	248	50	\$26.78	\$41.57
Training and Development Managers	515	555	40	8%	276	55	\$61.55	\$76.42
Training and Development Specialists	2,848	3,219	372	13%	1,993	399	\$24.80	\$35.92
Instructional Coordinators	961	1,074	113	12%	584	117	\$27.24	\$33.54
TOTAL	4,805	5,381	575	12%	3,101	620	\$29.42	\$40.35

Source: EMSI 2020.1

Silicon Valley Sub-Region includes Santa Clara County

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (April 2019 - March 2020)

Occupation	Bay Region	Silicon Valley
Training and Development Specialists	2,485	788
Training and Development Managers	963	251

Instructional Designers and Technologists	781	353
Distance Learning Coordinators	42	8
TOTAL	4,271	1,400

Source: Burning Glass

Table 4a. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Bay Region

Common Title	Bay	Common Title	Bay
Instructional Designer	652	Learning Development Specialist	33
Training Coordinator	343	Sales Training Manager	27
Training Specialist	337	Director, Learning, Development	27
Training Manager	296	Developer	25
Technical Trainer	149	Machine Learning Developer	21
Development Coordinator	110	Operations Specialist	20
Trainer	106	Field Trainer	20
Development Specialist	69	Curriculum Designer	19
Director, Staff Development	63	Machine Learning Specialist	18
Sales Trainer	54	Supervisor, Training	17
Education Specialist	52	Sales Training Specialist	17
Learning Specialist	41	Director of Sales	17
Development Trainer	38	Head, Development	16
Training Developer	34	Behavior Technician, Training	16

Table 4b. Top Job Titles for Online and Blended Instruction Occupations for latest 12 months (April 2019 - March 2020) Silicon Valley Sub-Region

Common Title	Silicon Valley	Common Title	Silicon Valley
Instructional Designer	327	Developer	11
Training Coordinator	145	Program Analyst	8
Training Specialist	94	Learning Development Specialist	8
Training Manager	92	Staff Assistant	7
Technical Trainer	65	Machine Learning Specialist	7
Trainer	29	Learning Specialist	7
Development Coordinator	23	Field Training Officer	7
Director, Staff Development	18	Education Specialist	7
Sales Trainer	17	Development Trainer	7
Machine Learning Developer	17	Commercial Learning Trainer	7
Training Developer	15	Product Trainer	6
Development Specialist	14	Management Training Program	6
Sales Training Manager	11	Learning Technology Specialist	6
Principal Epic Trainer, Billing, Healthcare Industry	11	Director, Development	6

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Online and Blended Instruction Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2022)	% Change (2019-24)	% Occupation Group in Industry (2019)
Elementary and Secondary Schools (Local Government) (903611)	1,625	1,686	4%	8%
Corporate, Subsidiary, and Regional Managing Offices (551114)	824	864	5%	4%
Internet Publishing and Broadcasting and Web Search Portals (519130)	800	1,042	30%	4%
Colleges, Universities, and Professional Schools (State Government) (902612)	725	695	-4%	4%
Educational Support Services (611710)	719	842	17%	4%
Custom Computer Programming Services (541511)	715	914	28%	4%
Colleges, Universities, and Professional Schools (611310)	665	731	10%	3%
Local Government, Excluding Education and Hospitals (903999)	622	649	4%	3%
Elementary and Secondary Schools (611110)	520	550	6%	3%
Software Publishers (511210)	514	646	26%	3%
Computer Systems Design Services (541512)	404	495	23%	2%
Sports and Recreation Instruction (611620)	316	356	13%	2%
Administrative Management and General Management Consulting Services (541611)	312	383	23%	2%
Exam Preparation and Tutoring (611691)	306	347	13%	2%
State Government, Excluding Education and Hospitals (902999)	294	312	6%	2%
Colleges, Universities, and Professional Schools (Local Government) (903612)	277	261	-6%	1%
Federal Government, Military (901200)	270	261	-3%	1%

Source: EMSI 2020.1

Table 6. Top Employers Posting Online and Blended Instruction Occupations in Bay Region and Silicon Valley Sub-Region (April 2019 - March 2020)

Employer	Bay	Employer	Bay	Employer	Silicon Valley
UC Berkeley	34	Microsoft Corporation	18	Apple Inc.	27
Facebook	33	Workday, Inc	17	Intuitive Surgical Inc	21
Google Inc.	30	US Army	16	Google Inc.	21
Reynolds & Reynolds	28	Pinterest	16	Stanford University	18
Apple Inc.	27	Agiloft	16	Servicenow, Inc	12
Amazon	26	UC San Francisco	15	Reynolds & Reynolds	10
Anthem Blue Cross	25	Medtronic	14	Core Group Technologies Inc	10
Walmart / Sam's	23	Genentech	14	Microsoft Corporation	9
Stanford University	22	Abbott Laboratories	14	Applied Materials	9
Milestone Technologies Inc	21	Servicenow, Inc	13	Anthem Blue Cross	9
Intuitive Surgical Inc	21	Advance Behavioral Therapies	12	Comerica	8
Envision	21	Lucile Packard Childrens Hospital	11	Servicenow	7
Visa	20	Linkedin Limited	11	Abbott Laboratories	7
Kaiser Permanente	20	Health Services Llc	11	Walmart / Sam's	6
University California	19	Tti Incorporated	10	Palo Alto Networks	6
Core Group Technologies Inc	19	GP Strategies Corporation	10	Linkedin Limited	6

Pacific Gas and Electric Co	18	Falcon Cct	10	Intellipro Incorporated	6
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Source: Burning Glass

Educational Supply

There is one (1) community college in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no colleges in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

There is one (1) Other Educational Institution in the Bay Region issuing two (2) Bachelor's Degrees on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. There are no Other Educational Institutions in the Silicon Valley Sub-Region issuing awards on average annually (last 3 years) on this TOP code.

Table 7a. Awards on TOP 0860.00 - Educational Technology in Bay Region

College	Sub-Region	Certificate Low Unit	Total
Merritt	East Bay	3	3
Total Bay Region		3	3
Total Silicon Valley Sub-Region		0	0

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

Table 7b. Other Educational Institutions - Bachelor's Degree Awards on TOP 0860.00 - Educational Technology Bay Region

College	Sub-Region	Bachelor's Degree
Academy of Art University	Mid-Peninsula	2
Total Bay Region		2
Total Silicon Valley Sub-Region		0

Source: Data Mart

Note: The annual average for awards is 2014-15 to 2016-17.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,335 annual openings for the Online and Blended Instruction occupational cluster and 5 annual (3-year average) awards for an annual undersupply of 2,330 students. In the Silicon Valley Sub-Region, there is also a gap with 620 annual openings and no annual (3-year average) awards for an annual undersupply of 620 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0860.00-Educational Technology

2015-16	Bay (All CTE Programs)	Foothill College (All CTE Programs)	State (0860.00)	Bay (0860.00)	Silicon Valley (0860.00)	Foothill College (0860.00)
% Employed Four Quarters After Exit	74%	77%	81%	81%	77%	77%
Median Quarterly Earnings Two Quarters After Exit	\$10,550	\$15,301	\$20,325	\$22,242	\$20,549	\$20,549

Median % Change in Earnings	46%	82%	32%	30%	25%	25%
% of Students Earning a Living Wage	63%	76%	83%	88%	86%	86%

Source: Launchboard Pipeline (version available on 5/6/20)

Skills, Certifications and Education

Table 9. Top Skills for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Skill	Postings	Skill	Postings	Skill	Postings
Training Programs	941	Curriculum Development	264	Multimedia	178
Project Management	903	Needs Assessment	258	Adobe Creative Suite	177
Instructional Design	881	Staff Management	224	Talent Management	174
Training Materials	758	Staff Development	222	Course Development	168
Scheduling	638	Change Management	215	Content Management	167
Teaching	581	Leadership Development	215	Employee Training	166
Customer Service	485	Adobe Acrobat	213	Training Activities	156
Onboarding	455	Organizational Development	209	Technical Writing / Editing	154
Learning Management System	405	Adobe Indesign	196	Software as a Service (SaaS)	153
Technical Training	388	Project Planning and Development Skills	194	Performance Management	152
Budgeting	376	Sales Training	193	Quality Assurance and Control	152
Adobe Captivate	332	Graphic Design	191	New Hire Orientation	151
Sales	308	Stakeholder Management	186	Adobe Illustrator	146
Content Development	296	Technical Support	184	Psychology	136
Adobe Photoshop	286	Salesforce	179	Public Speaking	136

Source: Burning Glass

Table 10. Certifications for Online and Blended Instruction Occupations in Bay Region (April 2019 - March 2020)

Note: 80% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Certification	Postings	Certification	Postings
Driver's License	314	Basic Life Saving (BLS)	16
Licensed Vocational Nurse (LVN)	75	Microsoft Certified Trainer (MCT)	15

First Aid CPR AED	74	Medical Examiner's License	14
Epic Certification	67	Lean Six Sigma Certification	14
Project Management Certification	59	Six Sigma Yellow Belt	13
Security Clearance	56	Certified Teacher	13
Registered Nurse	39	Adult Learning Certificate	12
Project Management Professional (PMP)	28	Professional in Human Resources	11
Registered Behavior Technician	26	Licensed Practical Nurse (LPN)	10
Hearing Aid Dealers	20	Special Education Certification	9
Board Certified Behavior Analyst (BCBA)	18	ServSafe	9
IT Infrastructure Library (ITIL) Certification	16	Psychologist License	9

Source: Burning Glass

Table 11. Education Requirements for Online and Blended Instruction Occupations in Bay Region

Note: 36% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	444	17%
Associate Degree	92	4%
Bachelor's Degree or Higher	2,004	79%

Source: Burning Glass

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCC Data Mart.

Sources

O*Net Online
 Labor Insight/Jobs (Burning Glass)
 Economic Modeling Specialists International (EMSI)
 CTE LaunchBoard www.calpassplus.org/Launchboard/
 Statewide CTE Outcomes Survey
 Employment Development Department Unemployment Insurance Dataset
 Living Insight Center for Community Economic Development
 Chancellor's Office MIS system

Contacts

For more information, please contact:

- Doreen O'Donovan, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), doreen@baccc.net or (831) 479-6481
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544

Foothill College

Approved Course Outlines

For Faculty and Staff use only

Business and Social Sciences

LINC 87 SEMINAR IN TEACHING WITH EDUCATIONAL TECHNOLOGY

Summer 2018

5 hours lecture.

5 Units

Total Contact Hours: 60 (Total of All Lecture and Lab hours X 12)

Total Student Learning Hours: 180 (Total of All Lecture, Lab hours and Out of Class X 12)

Lecture Hours: 5 **Lab Hours:** **Weekly Out of Class Hours:** 10

Note: If Lab hours are specified, the *item 10. Lab Content* field must be completed.

Repeatability -

Statement: Not Repeatable.

Status -

Course Status: Active

Grading:

Letter Grade with P/NP option

Degree Status: Applicable

Credit Status:

Credit

Degree or Certificate Requirement: Certificate of Achievement

GE Status: Non-GE

Articulation Office Information -

C.I.D. Notation:

Transferability: CSU

Validation: 12/6/12; 6/2/17

Division Dean Information -

Seat Count: 35

Load Factor: .111

FOAP Code: 114000151011086000

Instruction Office Information -

FSA Code:

Distance Learning: yes

Stand Alone Designation: no

Program Title:

Program TOPs Code:

Program Unique Code:

Content Review Date:

Former ID:

1. Description -

This seminar is for educators at all levels to develop student-centered learning projects and teaching practices; apply practical educational technology tools and resources; and participate in a collaborative professional development experience. Participants learn to use innovative technologies in their own curriculum content area and best practices for teaching and learning that positively impacts student achievement. Topics include 21st Century skills for teaching

and learning, visual literacy, media literacy, free online tools and resources for education, educational software training, open education resources, professional learning networks, integrating technology into the curriculum, integrating science and mathematics into any curriculum, assessment strategies for complex learning outcomes, and student-centered learning.

Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using web browsers, email, bookmarking, searching and downloading.

2. Course Objectives -

The student will be able to:

- A. Create a 21st Century classroom environment that models: a) critical thinking and problem solving, b) communication, c) collaboration, and d) creativity and innovation for all learners.
- B. Integrate innovative technology tools and processes into the learning environment that enhances student engagement and learning.
- C. Design effective and efficient technology-enriched, student-centered learning projects that improve learning outcomes.
- D. Develop assessment strategies for educational technology projects, teaching practices, and learning outcomes.
- E. Evaluate the efficacy of teaching with innovative technologies.

3. Special Facilities and/or Equipment -

- A. When offered on/off campus: Lecture room equipped with LCD projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with online PCs and/or Macintosh computers, network server access, and printers.
- B. When taught via the Internet: Students must have current email accounts and/or ongoing access to computers with email software, web browsing capability, FTP program, and access to the World Wide Web.

4. Course Content (Body of knowledge) -

- A. Analyze 21st Century Teaching and Learning
 1. 21st Century models
 2. Critical thinking and problem solving
 3. Communication
 4. Collaboration
 5. Creativity and innovation
 6. Literacy development: Visual, Information Computing Technologies (ICT)
 7. Developing a peer professional learning network
- B. Integrate Technology into Teaching and Learning
 1. Innovative technology tools and resources online and computer-based
 2. Student engagement
 3. Teaching with technology
 4. Learning with technology
 5. Presenting with technology
 6. Choosing technology for effectiveness and efficiency
 7. Integrating technology into teaching and learning practices
 - a. Mathematics
 - b. Science
 - c. All other disciplines
 8. Integrating mathematics and science into all other disciplines using technology
- C. Create Student-Centered Learning Environments
 1. Classroom environments for student-centered learning
 2. Classroom management and practices for student-centered learning
 3. Collaboration strategies for students
- D. Design Student-Centered Learning Projects
 1. Technology-enriched student project (small, medium, large scale)
 2. Bloom's Taxonomy
 - a. Higher order thinking skills
 3. Planning model for projects
 - a. Analyze
 - b. Design
 - c. Develop
 - d. Implement
 - e. Evaluate
- E. Develop Assessment Strategies
 1. Rubrics for teaching and learning

2. Technology for assessment practices
 3. Quick techniques for assessing students' knowledge or ability
 4. Professional reflection
- F. Evaluate Teaching with Technology
1. Formative assessment strategies for teaching outcomes
 2. Formative assessment strategies for learning outcomes
 3. Analyzing the assessment results
 4. Reporting results

5. **Repeatability** - Moved to header area.

6. Methods of Evaluation -

The student will demonstrate proficiency by:

- A. Developing three student-centered learning projects.
- B. Presenting one project to peers for formative assessment.
- C. Making constructive contributions to class discussions live and online.
- D. Participation in and actively building a professional learning network.

7. Representative Text(s) -

Spector, J. Michael. Foundations of Educational Technology: Integrative Approaches and Interdisciplinary Perspectives. London: Routledge, 2015.
Instructor-assigned notes and materials.

When course is taught online: Additional information, notes, handouts, syllabus, assignments, tests, and other relevant course material will be delivered by email and on the World Wide Web, and discussion may be handled with internet communication tools.

8. Disciplines -

Instructional Design/Technology

9. Method of Instruction -

During periods of instruction the student will be immersed in a student-centered learning environment, where they are:

- A. Listening actively to lecture presentations delivered in a student-centered learning style.
- B. Participating in facilitated discussions of readings or video presentations.
- C. Engaged in collaborative learning using computer-based tools or social media to record notes or reflections and sharing ideas with peers.
- D. Presenting in small group and whole class meetings.

10. Lab Content -

Not applicable.

11. **Honors Description** - No longer used. Integrated into main description section.

12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Writing assignments include an instructional project plan or lesson, reflections, peer evaluations, and critical analysis of educational projects, technology tools, systems, or processes.
- B. Outside assignments include conducting project development, writing the instructional plan, reading, and participating in online peer collaboration activities.
- C. When taught online these methods may take the form of video, audio, animation and web page presentations. Assignments will be submitted online as well.

13. Need/Justification -

This course is a restricted support course for the certificate of achievement in Instructional Design & Technology. Additionally, this Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Ensure you're using the current version of this form by downloading a fresh copy from [the CCC webpage!](#)

FOOTHILL COLLEGE Stand-Alone Course Approval Request

If a Foothill credit course is **NOT** part of a State approved associate's degree, certificate of achievement or the Foothill College GE Pattern, it is considered by the State to be a "Stand Alone Course." Per Title 5, local curriculum committees must review and approve proposed stand-alone courses to ensure that they are consistent with credit course standards (§55002), the community college mission and there is sufficient need and resources for the course. To be compliant with State regulations, there must be a completed, approved Stand Alone Form on file in the Office of Instruction.

Per our local process, the same process of review and approval is used for noncredit Stand Alone courses.

Stand Alone Course Approval Requests should be completed and forwarded to your Division Curriculum Committee to begin the approval process.

Course #: THTR 7

Course Title: INTRODUCTION TO DIRECTING

Credit Status:

- Credit course
 Noncredit course

Catalog Description:

The qualifications of the director; the choice of plays for production; auditions and methods of casting; preparation of the play script; building the rehearsal schedule; fundamentals of composition, movement, stage business and characterization, as applied to the directing of plays.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?

- The course will be **permanently** Stand Alone; there are no plans to add it to a State approved degree or certificate, nor to the Foothill GE pattern
- The course will be Stand Alone **temporarily**, and it will be incorporated into a new degree or certificate that is not yet State approved. In this case, identify the degree/certificate to which the course will be added:

- What is the specific timeline for program application/approval? (e.g., is your program application locally approved, or is it still in development and if so, what is your anticipated submission date?)

NOTE: *If you have not submitted your program application to the State by the end of the current academic year, you must reapply for permanent Stand Alone approval.*

The Curriculum Committee must evaluate this application based on the following criteria:

Criteria A. Appropriateness to Mission

The Foothill College Mission states: Believing a well-educated population is essential to sustaining and enhancing a democratic society, Foothill College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to obtain equity in achievement of student outcomes for all California student populations, and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability. Foothill College offers associate degrees and certificates in multiple disciplines, and a baccalaureate degree in dental hygiene.

Please indicate how your course supports the Foothill College Mission (select all that apply):

- Transfer
- Workforce/CTE
- Basic Skills

Criteria B. Need

A course may only be granted Stand Alone Approval if there is demonstrable need for the course in the college service area. Please provide evidence of the need or demand for your course, such as ASSIST documentation for transfer courses or Labor Market Information for workforce/CTE courses (if LMI is unavailable, advisory board minutes or employer surveys may be submitted). For basic skills courses, assessment-related data or information may be provided.

Evidence may be attached to this form or provided in the box below.

This course supports the college mission and service area by providing tangible opportunities for student success to develop foundational skills in an applied practice of the subject area, one with employment potential, and is transferable towards degree credit at most institutions.

Criteria C. Curriculum Standards (please initial as appropriate)

The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5

Faculty Requestor: TOM GOUGH **Date:** 05/20/20

Division Curriculum Representative: Hilary Gomes **Date:** 5/22/20

Date of Approval by Division Curriculum Committee: 5/22/20

College Curriculum Co-Chairperson: _____ **Date:** _____

Foothill College

Approved Course Outlines

For Faculty and Staff use only

Fine Arts and Communication

THTR 7 INTRODUCTION TO DIRECTING

Summer 2019

3 hours lecture, 3 hours laboratory.

4 Units

Total Contact Hours: 72 (Total of All Lecture and Lab hours X 12)

Total Student Learning Hours: 144 (Total of All Lecture, Lab hours and Out of Class X 12)

Lecture Hours: 3 Lab Hours: 3 Weekly Out of Class Hours: 6

Note: If Lab hours are specified, the *item 10. Lab Content* field must be completed.

Repeatability -

Statement: Not Repeatable.

Status -

Course Status: Active

Grading:

Letter Grade with P/NP option

Degree Status: Applicable

Credit Status:

Credit

Degree or Certificate Requirement: AA Degree

GE Status: Non-GE

Articulation Office Information -

C.I.D. Notation:

Transferability: UC/CSU

Validation: 12/9;12/10;11/12;6/17

Division Dean Information -

Seat Count: 30

Load Factor:
.115

FOAP Code:

114000143101100700

Instruction Office Information -

FSA Code: 1000 - DRAMA/THEATER ARTS

Distance Learning: no

Stand Alone Designation: no

Program Title: THEATRE ARTS

Program TOPs Code: 100700

Program Unique Code: 6047

Content Review Date:

Former ID:

1. Description -

The qualifications of the director; the choice of plays for production; auditions and methods of casting; preparation of the play script; building the rehearsal schedule; fundamentals of composition, movement, stage business and characterization, as applied to the directing of plays.

Advisory: THTR 20A or equivalent beginning-level acting course; not open to students with credit in DRAM 7 or 52.

2. Course Objectives -

The student will be able to:

- A. compare and contrast the role and responsibilities of the director to the other production members, including actors, designers and technicians, offering guidance and insight, and effective stage direction.
- B. survey and identify plays to direct that are appropriate for a given space and a multicultural world.
- C. develop and prepare a script for the direction of a production.
- D. organize an audition and assemble the cast of a play.
- E. demonstrate the direction of a play through recognizing and applying all necessary procedures and requirements from rehearsal to production.

3. Special Facilities and/or Equipment -

- A. Large flat rehearsal area such as the auditorium stage.
- B. Appropriate rehearsal furniture, including chairs and tables.

4. Course Content (Body of knowledge) -

- A. Identify and define the role of a director in a theatrical production.
 1. Study the historical development of the director, analyzing how the role has changed from past to present.
 2. Interpretation and vision.
 3. Responsibilities to the production team in the overall process.
 4. Communication tactics and effective, constructive collaboration.
 5. Individuality of style.
- B. Develop criteria for choosing a play for production.
 1. Analyze elements of technical complications.
 2. Casting demands and community standards.
 3. Emphasis in the importance of selecting scripts that represent a wide range of cultural, social, racial and sexual backgrounds.
- C. Study script analysis and develop the process of script preparation for rehearsal and performance.
 1. Structure, plot, theme interpretation.
 2. Character.
 3. Language and dialogue structure.
 4. Notation and building a prompt book.
- D. Understand efficient audition and casting processes.
 1. Casting of type vs. talent.
 2. Process of auditioning, callbacks and final casting.
 3. Awareness of non-traditional casting (multi-ethnic, cross-age, etc.).
- E. Direct scenes with a focus on the communication of script elements.
 1. Communicate cohesive directorial concept and how it translates into production.
 2. Stage composition.
 3. Stage movement and business.
 4. Unity and style.
 5. Characterization.
 6. Develop and use rehearsal schedules.
 7. Rehearse from a prompt book.
 8. Acquire production experience.

5. Repeatability - Moved to header area.

6. Methods of Evaluation -

- A. Directing projects will be observed and graded.
- B. Auditions, casting, blocking, laboratory rehearsals, performances will be observed and graded.
- C. Lighting, settings, costumes, sound and other technical aspects will be observed and graded.
- D. A midterm and final examination will also be given.

7. Representative Text(s) -

Vaughan, Stuart. The Art and Craft of Directing Plays. New York: Vaughan Press, 2015.
Hodge, Francis, and Michael McClain. Play Directing: Analysis, Communication and Style. 7th ed. Boston: Allyn and Bacon, 2009.

Although one or more of these texts are older than the suggested "5 years or newer" standard, they remain seminal texts in this area of study.

8. Disciplines -

Theater Arts

9. Method of Instruction -

- A. Lecture
- B. Discussion
- C. Cooperative learning exercises
- D. Oral presentations
- E. Laboratory
- F. Demonstration
- G. Field trips

10. Lab Content -

- A. Field research through attending live performance.
- B. Development and rehearsal of student performance presentation projects.

11. Honors Description - No longer used. Integrated into main description section.

12. Examples of Required Reading and Writing and Outside of Class Assignments -

- A. Noted director research oral presentations with supporting written analysis.
- B. Reading quizzes and discussion presentations.
- C. Post performance analysis and summation.
- D. Live performance critique.

13. Need/Justification -

This course is a restricted support course for the AA degree in Theatre Arts.

FOOTHILL COLLEGE
Addendum to the Course Outline of Record
Course Approval Application for Online/Distance Learning Delivery

Course #: _____ Course Title: _____

The above noted course is:

_____ **Currently active, this is a new Distance Learning Application.**

_____ **Currently active, changing the methods of delivery.**

_____ **New course in Submissions.**

_____ Online ONLY

_____ Hybrid ONLY

_____ Both Online and Hybrid

I/We have read the full text of this document (pages 1–3) and have thoughtfully considered the educational value of offering the following course as a distance education course. I/We agree that this course will consistently utilize the following selected method(s) from the list of “Regular, Timely, and Effective Methods of Student/Faculty Contact” as recommended by the Foothill College Academic Senate:

Selected Methods*:

List of Senate Recommended Methods of Regular, Timely, & Effective Student/Faculty Contact (in no particular order)

- Private Messages within the Course Management System
- Personal e-mail outside of the Course Management System
- Telephone Contact
- Weekly Announcements in the Course Management System
- Chat Room within the Course Management System
- Timely feedback and return of student work (tasks, tests, surveys, and discussions) in Course Management System by methods clarified in the syllabus.
- Discussion Forums with appropriate facilitation and/or substantive instructor participationⁱ
- E-Portfolios/Blogs/Wiki for sharing student works in progress; provide feedback from fellow students and faculty in a collaborative manner, and to demonstrate mastery, comprehension, application, and synthesis of a given set of conceptsⁱⁱ
- Group or individual meetings^{iv}
- Orientation and review sessions^{iv}
- Supplemental seminar or study sessions^{iv}
- Library workshops^{iv}
- Field trips^{iv}
- Other (please describe):

**Note: if your method(s) are not already on the list of recommended methods, please also include a description of how the method(s) will be a mechanism of “Regular, Timely and Effective Methods of Student/Faculty Contact”*

Faculty Submitting Application: _____ Date: _____

Division Curr. Comm. Approval: _____ Date: _____

For Office Use Only:

Submitted to Instruction Office: _____

Entered in C3MS: _____

Entered in Banner: _____

Best Practices for Online/Distance Education Courses

In accordance with Title 5, discussions in the Faculty Academic Senate and the College Curriculum Committee, a survey of faculty, online discussions, and a review of the pertinent literature, the Foothill College Academic Senate has formulated the following best practices and guidelines for “Regular, Timely and Effective Student/Faculty Contact” in online/distance education courses:

Best Practices

- 1. Communication:** clear and comprehensive communication regarding online course policies is critical to student success and faculty effectiveness. ⁱⁱⁱ Accordingly, it’s imperative that the following are addressed explicitly in the course syllabus and/or introductory email/announcement.
These communication guidelines are the same for all teachers and are in accordance with J1 Evaluative Material (Section II.A.12) “*Provides students with a written explanation of the evaluation process, expectations and requirements, assignments, course content, relevant dates, and other information.*” and is the same requirement for all teachers. Communication must include but is not limited to:
 - **Relevant Dates, Course Schedule, and Deadlines.**
 - **Faculty Expectations and Requirements** for minimum student participation (quantity and quality) for all sections of the course.
 - **Evaluation Process** including the timeframe for faculty feedback on student works such as discussion posts, and assessments (quizzes, exams, assignments, projects, surveys) so that the student can gauge their progress. Faculty must provide substantive feedback within a reasonable time as outlined in the course syllabus.
 - **Faculty/Student Communication Process** including the timeframe for faculty response to student communications. A response time of 24-48 hours, Monday through Friday is desirable but may vary based on course requirements and extenuating circumstances. It must be clear whether or not the instructor will be available after hours or on weekends and holidays.
 - **Methods of regular, timely, and effective student/faculty contact** that will be employed in the course (as described below)
 - **A Contingency Plan** for when the instructor is unavoidably unavailable for a specific period. Faculty must provide the students with a plan for instances when they may not be available due to personal or technical emergencies. Announcing (in advance if possible) any absence of greater than two working days and providing clear options for students to continue their progress in the class until the instructor returns is essential.
- 2. Effective Student/Faculty Contact:** it has been clearly shown that lack of regular, timely, and effective contact between students and instructors is a major factor in student attrition and poor performance in online courses. Depending on class design and Instructor preference, the faculty shall employ one or more of the following methods of regular, timely, and effective student/faculty contact in all online, hybrid, and web-enhanced courses: (it is recognized that instructors of web-enhanced and Hybrid courses have more in-person contact with their students and would as such rely less on these methods.)
These effective contact guidelines are the same requirements for all teachers and are in accordance with J1.II.A.7: “*Maintains student-faculty relationship conducive to learning,*” as well as the following student evaluation criteria: J2.A. #11 *Motivated student interest and intellectual effort*, #12. *Encouraged students to ask questions and participate in class discussions*, #13. *Encouraged individual thinking and differences of opinion*, and #14. *Used full class time effectively.*”

List of Senate Recommended Methods of Regular, Timely, & Effective Student/Faculty Contact (in no particular order)

- Private Messages within the Course Management System
- Personal e-mail outside of the Course Management System
- Telephone Contact
- Weekly Announcements in the Course Management System
- Chat Room within the Course Management System
- Timely feedback and return of student work (tasks, tests, surveys, and discussions) in Course Management System by methods clarified in the syllabus.
- Discussion Forums with appropriate facilitation and/or substantive instructor participation^{iv}
- E-Portfolios/Blogs/Wiki for sharing student works in progress; provide feedback from fellow students and faculty in a collaborative manner, and to demonstrate mastery, comprehension, application, and synthesis of a given set of concepts.^v
- Group or individual meetings^{iv}
- Orientation and review sessions^{iv}
- Supplemental seminar or study sessions^{iv}
- Field trips^{iv}
- Library workshops^{iv}

If, for whatever reason, a faculty member is unable to comply with the regular, timely, and effective contact guidelines set forth in the Addendum to the Course Outline of Record and the course syllabus, students must be informed via e-mail or high priority announcement as to when they can expect regular, timely, and effective contact to resume.

References:

-
- ⁱ Roblyer, M.D. & Leticia Ekhami (2000, Spring), How Interactive are YOUR Distance Courses? A Rubric for Assessing Interaction in Distance Learning, Online Journal of Distance Learning Administration, Volume III, Number II, Retrieved from the World Wide Web April 4, 2001
<http://www.westga.edu/~distance/roblyer32.html>
- ⁱⁱ Slater, Timothy F. "Classroom Assessment Technique Portfolios." CL-1: Field-tested Learning Assessment Guide (FLAG) for science, math, engineering, and technology instructors. 1998.
<http://www.flaguide.org/cat/portfolios/portfolios7.php>
- ^{iv} Title 5 §55204
- ⁱⁱⁱ Waterhouse, S. & Rogers, R. (2004), The Importance of Policies in E-Learning Instruction, EDUCAUSE Quarterly, Vol. 27, No. 3, pp. 28-39.
- ^{iv} Roblyer, M.D. & Leticia Ekhami (2000, Spring), How Interactive are YOUR Distance Courses? A Rubric for Assessing Interaction in Distance Learning, Online Journal of Distance Learning Administration, Volume III, Number II, Retrieved from the World Wide Web April 4, 2001 <http://www.westga.edu/~distance/roblyer32.html>
- ^v Slater, Timothy F. "Classroom Assessment Technique Portfolios." CL-1: Field-tested Learning Assessment Guide (FLAG) for science, math, engineering, and technology instructors. 1998.
<http://www.flaguide.org/cat/portfolios/portfolios7.php>
- ^{iv} Title 5 §55204

DISTANCE EDUCATION APPROVAL FORM

Course #:

Course Title:

Submitted by:

Date:

1. How will this course be offered?

Check those that apply	Format
<input type="checkbox"/>	The discipline faculty agree that this course will only be offered in a PARTIALLY ONLINE/HYBRID format, where students will have a required in-person component and an online component.
<input type="checkbox"/>	The discipline faculty agree that this course may be effectively delivered through a FULLY ONLINE format. Synchronous and asynchronous remote instruction is considered online instruction.
<input type="checkbox"/>	FULLY ONLINE IN STATE OF EMERGENCY ONLY - The discipline faculty agree that this course will ONLY be offered in the online format in the instance of a State of Emergency as declared by the Ohlone College Board of Trustees.

2. Regular and Effective Contact

Any portion of the course that is taught online requires regular substantive contact. This includes the online portion of hybrid/PO coursework.

Regular and effective/substantive interaction includes timely and documented feedback for student work, as well as methods of student engagement such as regular announcements, discussion boards with appropriate instructor feedback, email, live chat, web conferencing, blogs/wikis, etc

Instructor-to-Student Contact

What tools and strategies will all instructors that teach this course use to initiate interaction with all students?

How many times per week will the instructors that teach this course initiate interaction with all students? 1-2 3-4 5 or more

Student-to-Student Contact

Regular and effective/substantive interaction between students may include discussion boards, web conferencing, live chat rooms, email, blogs/wikis, student groups, student collaborations, study forums, etc.

What tools and strategies will all instructors that teach this course use to facilitate student-to-student interaction?

How many times per week will the instructors that teach this course initiate interaction with all students? 1-2 3-4 5 or more

3. Integrity of Student Work

What methods do all instructors that teach this course use to promote academic honesty and prevent cheating and plagiarism? Examples of plagiarism and cheating deterrents include plagiarism check software like TurnItIn, randomizing quiz and test questions, smaller assignments that allow instructors to identify uniqueness of student's voice, etc.

4. How will the Student Learning Outcomes/Objectives be met through an online format?

All course outcomes identified in the Course Outline of Record must be met in the distance learning environment. Identify any unique challenges related to outcomes in this course specific to the distance education environment. (Examples of potential challenges include educational materials, labs, models, presentations, requirements to present in front of a live audience, field trips, requirements to attend a live performance, or other.)

Please list any uniquely challenging SLO and how it will be achieved in the online format.

Student Learning Outcome or Course Objective	What potential challenge exists in the online format?	How will you meet that challenge?

- Beyond maintaining regular and effective contact and adhering to accessibility requirements, this course does not present any unique challenges to meeting all course outcomes (no explanation needed).

5. Accessibility

In accordance with [Title 5](#) and [AP4105](#), 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).

Accessibility is built into the course using which of the following?

- Simple, logical, uncluttered course design (module structure)
- Use of Header and Paragraph styles on longer pages
- Font formatting, rather than color, for emphasis in text.
- Transcripts of audio clips
- Captions for video clips
- Alt tags on graphics
- Descriptive URL links
- Tables accessible to screen readers (tables should only be used for simple data and have row and column headers and tables should not be used for course layout).
- Directions for accessing support services available for students are clearly posted.
- Other, please specify:

6. Course Quality

As formerly stated, all DE courses are the “virtual equivalent” of the in-person sections of the course. Verify by clicking the box that the online section meets the same standard of course quality as the traditional face-to-face class in the following areas:

- Course objectives and content have not changed.
- Outside assignments and assessments meet the same standard of course quality.
- Method of instruction meets the same standard of course quality.
- Serves manageable number of students per section as determine by faculty in the department.
- Required texts meet the same standard of course quality.
- Specific expectations will be posted for students with respect to a minimum amount of time per week for student and homework assignments (1 unit = 3 hours of class and study time).
- Specific expectations will be posted regarding class policies and procedures, including logging in and completing work.
- Materials and images used in the course will reflect the cultural diversity of Ohlone College students.

7. Additional Resources

State if any additional college resources will be needed and/or additional costs will be incurred to implement Distance Education sections.

Distance Education Committee Comments:

Course Approved or Disapproved

Date forwarded to the Curriculum Committee:

Date of approval by the Curriculum Committee:

DRAFT

FOOTHILL COLLEGE
Addendum to the Course Outline of Record
Course Approval Application for Online/Distance Learning Delivery

Course #: _____ Course Title: _____

The above noted course is:

Currently active, this is a new Distance Learning Application.

Currently active, changing the methods of delivery.

New course in Submissions.

Online ONLY

Hybrid ONLY

Both Online and Hybrid

Online Only in State of Emergency where the Board of Trustees has declared that the physical campus is closed due to a public health emergency or natural disaster, and hybrid otherwise.

Online Only in State of Emergency where the Board of Trustees has declared that the physical campus is closed due to a public health emergency or natural disaster, and in-person otherwise.

Cancelled in State of Emergency where the Board of Trustees has declared that the physical campus is closed due to a public health emergency or natural disaster, and in person otherwise.

Hybrid only in State of Emergency where the Board of Trustees has declared that the physical campus is closed due to a public health emergency or natural disaster, and in-person otherwise. Cancelled if hybrid delivery is not possible during the closure.

Definition of Terms:

Online means either “online-fully asynchronous” (code W) or “fully virtual” (Code V) or “online hybrid” (Code Z) at the discretion of the faculty.

Hybrid means “a combination of on-campus scheduled days and times (with a room number will be held on campus) and asynchronous with online work”

Reference from Instruction Office

Code	Definition	Footnote	Example
W	Online-fully asynchronous (TBA hours)	This is a fully online asynchronous class, allowing the student to work according to their schedule to meet the weekly requirements outlined by the course instructor. After registering, find out how to log in to the course site.	ENGL 001A01W Tba, Tba, room = online
Y (Used Only for the Few Exceptions for Fall) (Allied Health Progs in Fall)	Hybrid – a combination of on-campus scheduled days and times (with a room number will be held on campus) and asynchronous with online work	This is a hybrid class requiring attendance, both on-campus and online. After registering, find out how to log in to the course site.	ENGL 001A01Y MW, 8-9:50am, room = 6505 Tba, Tba, room = online
V	Virtual – entirely synchronous live in-person online during scheduled days and times	This is a fully virtual online class. ALL scheduled meetings are live with the instructor (e.g., zoom) defined on specific days and times, as noted in the class schedule.”	ENGL 001A01V MW, 8-9:50am, room = online F, 8-8:50am, room = online
Z	Online Hybrid – a combination of synchronous live online scheduled days and times and asynchronous online work	This is a fully online hybrid class, with SOME virtual meetings (e.g., by zoom) defined on specific days and times, as noted in the class schedule. The remaining part of the class is online asynchronous, allowing the student to work according to their schedule to meet the weekly requirements outlined by the course instructor. After registering, find out how to log in to the course site.	ENGL 001A01Z MW, 8-9:50am, room=online Tba, Tba, room=online

I/We have read the full text of this document (pages 1–3) and have thoughtfully considered the educational value of offering the following course as a distance education course. I/We agree that this course will consistently utilize the following selected method(s) from the list of “Regular, Timely, and Effective Methods of Student/Faculty Contact” as recommended by the Foothill College Academic Senate:

Selected Methods*:

List of Senate Recommended Methods of Regular, Timely, & Effective Student/Faculty Contact (in no particular order)

- Private Messages within the Course Management System
- Personal e-mail outside of the Course Management System
- Telephone Contact
- Weekly Announcements in the Course Management System
- Chat Room within the Course Management System
- Timely feedback and return of student work (tasks, tests, surveys, and discussions) in Course Management System by methods clarified in the syllabus.
- Discussion Forums with appropriate facilitation and/or substantive instructor participationⁱ
- E-Portfolios/Blogs/Wiki for sharing student works in progress; provide feedback from fellow students and faculty in a collaborative manner, and to demonstrate mastery, comprehension, application, and synthesis of a given set of conceptsⁱⁱ
- Group or individual meetings^{iv}
- Orientation and review sessions^{iv}
- Supplemental seminar or study sessions^{iv}
- Library workshops^{iv}
- Field trips^{iv}
- Other (please describe):

**Note: if your method(s) are not already on the list of recommended methods, please also include a description of how the method(s) will be a mechanism of “Regular, Timely and Effective Methods of Student/Faculty Contact”*

Faculty Submitting Application: _____ Date: _____

Division Curr. Comm. Approval: _____ Date: _____

For Office Use Only:
Submitted to Instruction Office: _____
Entered in C3MS: _____

Entered in Banner: _____

Best Practices for Online/Distance Education Courses

In accordance with Title 5, discussions in the Faculty Academic Senate and the College Curriculum Committee, a survey of faculty, online discussions, and a review of the pertinent literature, the Foothill College Academic Senate has formulated the following best practices and guidelines for “Regular, Timely and Effective Student/Faculty Contact” in online/distance education courses:

Best Practices

- 1. Communication:** clear and comprehensive communication regarding online course policies is critical to student success and faculty effectiveness. ⁱⁱⁱ Accordingly, it’s imperative that the following are addressed explicitly in the course syllabus and/or introductory email/announcement.
These communication guidelines are the same for all teachers and are in accordance with J1 Evaluative Material (Section II.A.12) “*Provides students with a written explanation of the evaluation process, expectations and requirements, assignments, course content, relevant dates, and other information.*” and is the same requirement for all teachers. Communication must include but is not limited to:
 - **Relevant Dates, Course Schedule, and Deadlines.**
 - **Faculty Expectations and Requirements** for minimum student participation (quantity and quality) for all sections of the course.
 - **Evaluation Process** including the timeframe for faculty feedback on student works such as discussion posts, and assessments (quizzes, exams, assignments, projects, surveys) so that the student can gauge their progress. Faculty must provide substantive feedback within a reasonable time as outlined in the course syllabus.
 - **Faculty/Student Communication Process** including the timeframe for faculty response to student communications. A response time of 24-48 hours, Monday through Friday is desirable but may vary based on course requirements and extenuating circumstances. It must be clear whether or not the instructor will be available after hours or on weekends and holidays.
 - **Methods of regular, timely, and effective student/faculty contact** that will be employed in the course (as described below)
 - **A Contingency Plan** for when the instructor is unavoidably unavailable for a specific period. Faculty must provide the students with a plan for instances when they may not be available due to personal or technical emergencies. Announcing (in advance if possible) any absence of greater than two working days and providing clear options for students to continue their progress in the class until the instructor returns is essential.
- 2. Effective Student/Faculty Contact:** it has been clearly shown that lack of regular, timely, and effective contact between students and instructors is a major factor in student attrition and poor performance in online courses. Depending on class design and Instructor preference, the faculty shall employ one or more of the following methods of regular, timely, and effective student/faculty contact in all online, hybrid, and web-enhanced courses: (it is recognized that instructors of web-enhanced and Hybrid courses have more in-person contact with their students and would as such rely less on these methods.)
These effective contact guidelines are the same requirements for all teachers and are in accordance with J1.II.A.7: “*Maintains student-faculty relationship conducive to learning,*” as well as the following student evaluation criteria: J2.A. #11 *Motivated student interest and intellectual effort,* #12. *Encouraged students to ask questions and participate in class discussions,* #13. *Encouraged individual thinking and differences of opinion,* and #14. *Used full class time effectively.*”

List of Senate Recommended Methods of Regular, Timely, & Effective Student/Faculty Contact (in no particular order)

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- Discussion Forums with appropriate facilitation and/or substantive instructor participation^{iv}
- E-Portfolios/Blogs/Wiki for sharing student works in progress; provide feedback from fellow students and faculty in a collaborative manner, and to demonstrate mastery, comprehension, application, and synthesis of a given set of concepts.^v
- Group or individual meetings^{iv}
- Orientation and review sessions^{iv}
- Supplemental seminar or study sessions^{iv}
- Field trips^{iv}
- Library workshops^{iv}

If, for whatever reason, a faculty member is unable to comply with the regular, timely, and effective contact guidelines set forth in the Addendum to the Course Outline of Record and the course syllabus, students must be informed via e-mail or high priority announcement as to when they can expect regular, timely, and effective contact to resume.

References:

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- ⁱ Roblyer, M.D. & Leticia Ekhami (2000, Spring), How Interactive are YOUR Distance Courses? A Rubric for Assessing Interaction in Distance Learning, Online Journal of Distance Learning Administration, Volume III, Number II, Retrieved from the World Wide Web April 4, 2001
<http://www.westga.edu/~distance/roblyer32.html>
- ⁱⁱ Slater, Timothy F. "Classroom Assessment Technique Portfolios." CL-1: Field-tested Learning Assessment Guide (FLAG) for science, math, engineering, and technology instructors. 1998.
<http://www.flaguide.org/cat/portfolios/portfolios7.php>
- ^{iv} Title 5 §55204
- ⁱⁱⁱ Waterhouse, S. & Rogers, R. (2004), The Importance of Policies in E-Learning Instruction, EDUCAUSE Quarterly, Vol. 27, No. 3, pp. 28-39.
- ^{iv} Roblyer, M.D. & Leticia Ekhami (2000, Spring), How Interactive are YOUR Distance Courses? A Rubric for Assessing Interaction in Distance Learning, Online Journal of Distance Learning Administration, Volume III, Number II, Retrieved from the World Wide Web April 4, 2001 <http://www.westga.edu/~distance/roblyer32.html>
- ^v Slater, Timothy F. "Classroom Assessment Technique Portfolios." CL-1: Field-tested Learning Assessment Guide (FLAG) for science, math, engineering, and technology instructors. 1998.
<http://www.flaguide.org/cat/portfolios/portfolios7.php>
- ^{iv} Title 5 §55204