College Curriculum Committee Meeting Agenda
Tuesday, November 15, 2022
2:00 p.m. – 3:00 p.m.
Administrative Conference Room 1901; virtual option via Zoom
Masks required for all in-person attendees

Item	Time*	Action	Attachment(s)	Presenter(s)
1. Minutes: November 1, 2022	2:00	Action	#11/15/22-1	Kuehnl
2. Report Out from Division Reps	2:02	Discussion		All
3. Public Comment on Items Not on Agenda (CCC cannot discuss or take action)	2:12	Information		
4. Announcements a. Notification of Proposed Requisites	2:17	Information	#11/15/22-2	CCC Team
5. New Degree Proposal: Social Work ADT	2:20	Action	#11/15/22-3	Kuehnl
6. New Certificate Application: Community Health Worker	2:25	2nd Read/ Action	#11/15/22-4	Kuehnl
7. Stand Alone Applications: PHOT 404A, 404B, 404C, 405, 472, 474A, 474B, 474C	2:30	2nd Read/ Action	#11/15/22-5-12	Kuehnl
8. Certificate Deactivation: CPA Examination Preparation	2:35	1st Read	#11/15/22-13	Kuehnl
9. Stand Alone Applications: AATA 101A, 101B, 102A, 102B, 103A, 103B, 104A, 104B, 105A, 105B, 105C, 105R	2:40	1st Read	#11/15/22-14-27	Kuehnl
10. Stand Alone Applications: LINC 60C, 60E, 77, 97B	2:47	1st Read	#11/15/22-28-32	Kuehnl
11. Stand Alone Applications: NCP 404A, 404B, 404C	2:52	1st Read	#11/15/22-33-35	Kuehnl
12. Good of the Order	2:57			Kuehnl
13. Adjournment	3:00			Kuehnl

**Times listed are approximate*

Attachments:

#11/15/22-1	Draft Minutes: November 1, 2022
#11/15/22-2	CCC Notification of Proposed Requisites
#11/15/22-3	New Degree Proposal: Social Work ADT
#11/15/22-4	New Certificate Application: Community Health Worker (updated)
#11/15/22-5-12	Stand Alone Applications: PHOT 404A, 404B, 404C, 405, 472, 474A, 474B, 474C
#11/15/22-13	Certificate Deactivation: CPA Examination Preparation
#11/15/22-14-25	Stand Alone Applications: AATA 101A, 101B, 102A, 102B, 103A, 103B, 104A, 104B, 105A, 105B, 105C, 105R
#11/15/22-26	Centers of Excellence Program Endorsement Brief: 0956.80/Industrial Quality Control
#11/15/22-27	PQNDT Salary Survey 2019
#11/15/22-28-31	Stand Alone Applications: LINC 60C, 60E, 77, 97B
#11/15/22-32	Online and Blended Instruction Occupations LMI Report
#11/15/22-33-35	Stand Alone Applications: NCP 404A, 404B, 404C

2022-2023 Curriculum Committee Meetings:

Fall 2022 Quarter	Winter 2023 Quarter	Spring 2023 Quarter
~~10/4/22~~	1/24/23	4/25/23
~~10/18/22~~	2/7/23	5/9/23
~~11/1/22~~	2/21/23	5/23/23
11/15/22	3/7/23	6/6/23
11/29/22	3/21/23	6/20/23

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

2022-2023 Curriculum Deadlines:

12/1/22	Deadline to submit courses to CSU for CSU GE approval (Articulation Office).
12/1/22	Deadline to submit courses to UC/CSU for IGETC approval (Articulation Office).
TBD	Deadline to submit curriculum sheet updates for 2023-24 catalog (Faculty/Divisions).
TBD	Deadline to submit new/revised courses to UCOP for UC transferability (Articulation Office).
TBD	Deadline to submit course updates and local GE applications for 2024-25 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 (LRC), Chris Allen (Dean, APPR), Ben Armerding (LA), Rachelle Campbell (HSH), Anthony Cervantes (Dean, Enrollment Services), Kelly Edwards (KA), Lisa Eshman (HSH), Valerie Fong (Dean, LA), Evan Gilstrap (Articulation Officer), Hilary Gomes (FA), Kurt Hueg (Interim VP Instruction), Julie Jenkins (BSS), Ben Kaupp (SRC), Eric Kuehnl (Faculty Co-Chair), Andy Lee (CNSL), Don Mac Neil (KA), Ana Maravilla (CNSL), Allison Meezan (BSS), Patrick Morriss (STEM), Brian Murphy (APPR), Tim Myres (APPR), Teresa Ong (AVP Workforce), Ron Painter (STEM), Sarah Parikh (STEM), Amy Sarver (LA), Lisa Schultheis (STEM), JP Schumacher (Dean, SRC), Ram Subramaniam (Administrator Co-Chair), Mary Vanatta (Curriculum Coordinator), Voltaire Villanueva (AS President)

CC: Interpreters

Updated 11/14/22

COLLEGE CURRICULUM COMMITTEE

Committee Members – 2022-23

Meeting Date: 11/15/22

Co-Chairs (2)

✔*	Eric Kuehnl	7479	Vice President, Academic Senate (tiebreaker vote only)	kuehnleric@fhda.edu
✔*	Ram Subramaniam	7179	Acting Associate Vice President of Instruction	subramaniamram@fhda.edu

Voting Membership (1 vote per division)

✔*	Micaela Agyare	7086	LRC	agyaremicaela@fhda.edu
✔*	Ben Armerding	7453	LA	armerdingbenjamin@fhda.edu
	Rachelle Campbell	7469	HSH	campbellrachelle@fhda.edu
✔	Kelly Edwards	7327	KA	edwardskelly@fhda.edu
✔*	Lisa Eshman	7203	HSH	eshmanlisa@fhda.edu
✔	Valerie Fong	7135	Dean—LA	fongvalerie@fhda.edu
✔*	Evan Gilstrap	7675	Articulation	gilstrapevan@fhda.edu
✔	Hilary Gomes	7585	FA	gomeshilary@fhda.edu
	Tom Gough	7130	FA	goughtom@fhda.edu
✔*	Julie Jenkins		BSS	jenkinsjulie@fhda.edu
✔*	Ben Kaupp		SRC	kauppben@fhda.edu
✔*	Andy Lee	7783	CNSL	leeandrew@fhda.edu
✔	Don Mac Neil	7248	KA	macneildon@fhda.edu
✔*	Ana Maravilla		CNSL	maravillaana@fhda.edu
✔*	Allison Meezan	7166	BSS	meezankaren@fhda.edu
	Patrick Morriss	7548	STEM	morrisspatrick@fhda.edu
✔	Brian Murphy		APPR	brian@pttc.edu
✔	Tim Myres		APPR	timm@smw104jatc.org
✔*	Ron Painter		STEM	painterron@fhda.edu
✔*	Sarah Parikh	7748	STEM	parikhsarah@fhda.edu
✔	Crissy Penate		LRC	penatechrisanthy@fhda.edu
	Amy Sarver	7459	LA	sarveramy@fhda.edu
✔*	Lisa Schultheis	7780	STEM	schultheislisa@fhda.edu
✔	JP Schumacher	7549	Dean—SRC	schumacherjp@fhda.edu

Non-Voting Membership (4)

			ASFC Rep.	
✔*	Mary Vanatta	7439	Curr. Coordinator	vanattamary@fhda.edu
			Evaluations	
			SLO Coordinator	

Visitors

Chris Allen*, Phuong Tran

** Indicates in-person attendance*

College Curriculum Committee
Meeting Minutes
Tuesday, November 1, 2022
2:00 p.m. – 3:30 p.m.
Administrative Conference Room 1901; virtual option via Zoom

Item	Discussion
1. Minutes: October 18, 2022	**Approved by consensus.**
2. Report Out from Division Reps	**Speaker: All** STEM: Schultheis reported that first division CC meeting coming up on Thursday—will discuss minor COR updates re: UC transferability, DL addenda, possible new courses. LRC: Agyare reported the Library working on comprehensive Program Review template and will be meeting with inquiry team. Penate reported revising some language on 2023-24 COR submissions. Kinesiology: No updates to report. Language Arts: Armerding reported division holding a curriculum retreat this year, focusing primarily on SLOs. Also shared that Study Abroad program hosting fundraising bake sale event! HSH: No updates to report. Fine Arts: Gomes reported that new ART course being added to course family. SRC: Kaupp reported that division working with Business dept. re: new program; division CC meeting tomorrow. Counseling: No updates to report. BSS: No updates to report. Apprenticeship: Murphy reported that first division CC meeting took place; working with newest partner (Aerospace) on new Stand Alone courses.
3. Public Comment on Items Not on Agenda	Eshman shared discussion w/ co-rep Rachelle Campbell—Campbell on Academic Senate (AS), which has had a lot of discussion re: Distance Learning and what constitutes as regular and substantive interaction with students (RSI), and wondered how CCC would define such. Kuehnl believes this would be a question for the COOL Committee, also a subcommittee of AS. Meezan (who is on COOL Committee) noted that group drafted the definition. Eshman asked if CCC should weigh in—Kuehnl noted that AS has delegated the topic to COOL, so although CCC could be involved it has not been determined to be something CCC is in charge of. Subramaniam noted that RSI delegated to COOL but that at some point CCC might need to be involved, as when we're evaluating our DL forms the definition of RSI will be important when ensuring faculty engaging in interaction with students. Parikh noted that when one group puts something together it can still be valuable to include other groups in discussions, even if the topic has been delegated. Kuehnl noted that since COOL subcommittee of AS, the next level discussion (and approval) takes place at AS; doesn't mean CCC cannot agendize the

	topic, but broader discussion would occur at AS. We could ask COOL reps to present at CCC, if we're interested in doing so.
4. Announcements a. New Minimum Qualifications Handbook (AKA Disciplines List) b. CCCCO Memo Re: New BDP Cycle	**Speakers: CCC Team** Vanatta shared that the CCCCO recently published a new edition of the MQ handbook, which is the list we use to select disciplines on CORs; has updated the link to the handbook on the CCC website to this new edition. No disciplines have been removed or revised, but there are three new additions: Asian American Studies, Nanotechnology, and Native American/American Indian Studies. Kuehnl shared there's a new open period to propose a new bachelor degree program. Deadline for submission to CCCCO is Jan. 13, 2023. Eshman asked if Respiratory Care submission has been approved—Gilstrap responded it has conditional approval. Also noted that program cannot be a degree that is offered by a CSU (in general, not just within service area).
5. New Certificate Proposal: Commercial Photography	**Speaker: Eric Kuehnl** Proposal for new Commercial Photography Certificate of Achievement. *See item 9 for comments and motion/approval details.*
6. New Certificate Proposal: Digital Photography Techniques	**Speaker: Eric Kuehnl** Proposal for new Digital Photography Techniques Certificate of Achievement. *See item 9 for comments and motion/approval details.*
7. New Certificate Proposal: Photography Criticism	**Speaker: Eric Kuehnl** Proposal for new Photography Criticism Certificate of Achievement. *See item 9 for comments and motion/approval details.*
8. New Certificate Proposal: Commercial Photography (noncredit)	**Speaker: Eric Kuehnl** Proposal for new Commercial Photography noncredit certificate. *See item 9 for comments and motion/approval details.*
9. New Certificate Proposal: Photography (noncredit)	**Speaker: Eric Kuehnl** Proposal for new Photography noncredit certificate. Schultheis made general comment that a few proposals mention they already have BACCC approval and LMI data, which usually come much later in our degree/cert. creation process. Likely the case that these were in development while our new process being created—Vanatta noted that this is the case. Schultheis wants to ensure folks aren't misled into thinking that BACCC and LMI should be taken care of at this early point in the process. Parikh noted that a few of these are noncredit certificates and a few are certificates of achievement, and asked about the difference—Kuehnl noted that creating noncredit certs. is a newer endeavor. Parikh asked if college receives different funding for students who complete noncredit certs. (vs. credit)—Subramaniam unsure if funding is the same. Gomes commented that some of the intent of these specific noncredit certs. is that students who are already in the field can take these courses/certs to hone/increase their skills in the discipline. Subramaniam later followed-up to let the group know that noncredit certs. don't count in Student Centered Funding Formula (courses do count, but not certs.). Group agreed to vote on items 5-9 as one motion. Motion to approve items 5-9 **M/S** (Schultheis, Kaupp). **Approved.**

10. Stand Alone Application: ALCB 470Y	**Speaker: Eric Kuehnl** Second read of Stand Alone Approval Request for ALCB 470Y. No comments. Motion to approve **M/S** (Armerding, Eshman). **Approved.**
11. New Certificate Application: Community Health Worker	**Speaker: Eric Kuehnl** First read of new Community Health Worker Certificate of Achievement. Ryan noted that dept. would like to make some verbiage changes to the narrative, and asked if okay to do so ahead of second read—Kuehnl responded, yes. Second read and possible action will occur at next meeting.
12. Stand Alone Applications: PHOT 404A, 404B, 404C, 405, 472, 474A, 474B, 474C	**Speaker: Eric Kuehnl** First read of Stand Alone Approval Requests for PHOT 404A, 404B, 404C, 405, 472, 474A, 474B & 474C. Each will be temporarily Stand Alone and included in a new noncredit certificate. No comments. Second read and possible action will occur at next meeting.
13. Stand Alone Application: THTR 48A	**Speaker: Eric Kuehnl** First read of Stand Alone Approval Request for THTR 48A. Will be permanently Stand Alone. Meezan noted that course is transferable, and wondered why a transferable course wouldn't be included on a degree—Vanatta noted this is an existing course which used to be included on the Theatre Arts degree but was removed, which is why the course needs Stand Alone approval. Discussion occurred re: possible reasons for the course to not be included as a support course for the degree (note no Theatre Arts faculty present for discussion). Discussion also occurred re: pros and cons of still offering a course which has been removed from a degree. Reps asked for more information re: reasons for removing course from the degree instead of including it as support course; Kuehnl asked Gomes to follow up with Theatre Arts dept. faculty for more information to bring to next meeting. Gilstrap noted that we do have some articulation agreements in place for the course. Second read and possible action will occur at next meeting.
14. Equity in the COR—Representative Texts/Materials & Types/Examples of Required Reading, Writing, and Outside of Class Assignments	**Speaker: Eric Kuehnl** Continuing discussion on general topic of equity in the COR, and holding breakout groups to discuss specific sections of the COR. Today's breakout groups will discuss two sections—Representative Texts and Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments—to come up with ideas related to imbuing equity into these specific sections. Plan is for today to be the final round of breakout groups; we will then switch gears to writing what will be our guidelines document, with that info also incorporated into CourseLeaf help pop-ups. CCC members broke out into small groups of 3-4 (online and in person) for 40 minutes. The full group then reconvened and shared out ideas from their small groups. Gomes shared their group discussed that for skills-based courses, which don't necessarily use textbooks, videos can be a great resource (noting the importance of closed-captioning and accessibility). Group members teach diverse courses, so for assignments "one size fits all" doesn't work; noted example of using internships and e-portfolios for courses in the trades. Sarver shared their group discussed the use of Open Educational Resources (OER), used frequently the TLC. Sarver noted the ESLL

	dept. relies heavily on textbooks from publishers, which offer few OER materials; many hours of searching resulted in finding just one or two OER resources to use for ESL. Agyare shared their group also discussed OER, as well as using language to nudge faculty to consider other text options. Fong noted the group broached topic in two ways: related to access and related to decolonizing. The group discussed addressing biases within discipline, bringing in counter-narratives, and including students' voices to hopefully help them see themselves in the discipline. Kaupp shared their group discussed the idea of having an faculty-led wiki, to provide examples of online/alternative resources to help save time for others. The group noted that although CORs are current when they're created, pedagogy and other things change, and some CORs have clearly not been updated meaningfully in many years. Also discussed encouraging faculty to put good thought into the texts they're listing—will they really be used? Armerding mentioned the use of "seminal text" language on many CORs with older textbooks listed, wondering if perhaps better language can be used. Kuehnl shared their group discussed whether info/language on COR written for just colleagues or also for students—is the language welcoming to students? Also discussed possible issue of part-time faculty not having same level of training as full-time faculty, re: revising CORs with equity lens—Jenkins commented to share the observation that part-timers are frequently the majority of attendees at Professional Development workshops. Parikh noted gender disparity issues in certain disciplines; discouraged the use of "buzzwords," which may single out certain folks or groups, and suggested using language which can apply to all students but still have equity impacts. Kuehnl thanked the group for their great work during these breakouts; will begin working on draft of guidelines document to bring for discussion. Goal is to have document approved by CCC and forwarded to Academic Senate by end of March.
15. Good of the Order	
16. Adjournment	**3:36 PM**

Attendees: Micaela Agyare* (LRC), Chris Allen (Dean, APPR), Ben Armerding* (LA), Kelly Edwards (KA), Lisa Eshman* (HSH), Valerie Fong* (Dean, LA), Evan Gilstrap* (Articulation Officer), Hilary Gomes (FA), Julie Jenkins* (BSS), Ben Kaupp* (SRC), Eric Kuehnl* (Faculty Co-Chair), Andy Lee* (CNSL), Don Mac Neil (KA), Ana Maravilla (CNSL), Allison Meezan* (BSS), Brian Murphy (APPR), Tim Myres (APPR), Sarah Parikh* (STEM), Crissy Penate (LRC), Rebecca Ryan (HSH), Amy Sarver (LA), Lisa Schultheis* (STEM), Ram Subramaniam (Administrator Co-Chair), Mary Vanatta* (Curriculum Coordinator)
** Indicates in-person attendance*

Minutes Recorded by: M. Vanatta

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
PHYS 12 INTRODUCTION TO MODERN PHYSICS	N/A (prereq required by UC TCA)	Prereq: Intermediate Algebra or equivalent.	New requisite for 2023-24
PHYS 12H HONORS INTRODUCTION TO MODERN PHYSICS	N/A (prereq required by UC TCA)	Prereq: Intermediate Algebra or equivalent.	New requisite for 2023-24

FOOTHILL COLLEGE

New Degree or Certificate Proposal

Faculty Author(s):	PATRICIA GIBBS
Division:	Business & Social Sciences
Proposed Title of Degree/Certificate:	SOCIAL WORK AD-T
Type of Award:	AA-T/AS-T Degree (ADT)
Workforce/CTE Program:	No
Which academic departments will be involved in the creation of this new degree/ certificate? Are any new departments being created?	Sociology No.
Does De Anza offer a similar degree or certificate?	No.
What is the educational need for this new degree/ certificate?	Prepares students for transfer and work in the social work and human services field. Social work and human services is an applied behavioral science that emphasizes the application of behavioral science principles in a variety of cultural contexts. Social work and human services students are expected to think critically and scientifically about behavior, apply the principles of the behavioral sciences, and understand the role of values in diverse cultural settings. As a profession, social work and human services focuses on methods for helping people from many different social groups to improve the quality of their lives and societies in general.
How does the degree/ certificate align with Foothill's Strategic Vision for Equity?	Human Services / Social Work is an applied behavioral science and focuses on the essential information for understanding and critically analyzing behavior, social forces, and conditions in diverse environments. Students will gain essential skills and hands-on experience in providing human services, incorporating an equity approach at the individual, cultural and structural levels. The program will enable students to develop an analysis of how social conditions (structural, cultural, and individual change - which as our Equity Statement explains - are collectively known as the Equity-Driven Systems Change model) contribute to inequality and the need for social services.
Comments and other relevant information for discussion:	Just want to let you know that the form is set so that if you click on the "strategic vision" link, it takes you there but when you click back to this form, your work is erased.

Foothill College
Credit Program Narrative
Certificate of Achievement in Community Health Worker

Item 1. Program Goals and Objectives

The Certificate of Achievement in Community Health Worker provides a foundational framework in public health, health education, and entry-level skills needed to bridge the gap between clinical care, patient adherence, and improvement of health outcomes. Upon completion of the certificate program, students will be prepared to enter the public and community health field as community health workers serving as navigators, educators, and informal counselors who connect community members and patients in hard-to-reach populations with clinical and governmental services to improve health outcomes for vulnerable populations. Community health workers are integral components of health care teams often serving as a liaison between clinicians and patients providing informal counseling, case management, and health care system navigation.

As health care shifts towards patient-centered and cost-effective care, community health workers ensure that clients receive culturally relevant health care reducing both emergency departments visits and hospitalizations while increasing the use of preventive and primary care services. Recently, Medi-Cal began reimbursing hospitals and clinics for community health worker services thus expanding the opportunities and need for community health workers. This certificate program will provide opportunities to improve health disparities and health outcomes within vulnerable populations through coursework and field work. Additionally, the certificate will serve as a route to employment opportunities for individuals typically underrepresented in the health care industry. The vocational goals include a direct pathway into a career serving as a community health worker within an array of organizations, including local government, clinics, insurers, health maintenance organizations, non-profit community-based organizations, etc.

Program Learning Outcomes:

- Students will be able to demonstrate informal counseling and motivational interviewing techniques when communicating with individuals, groups, and communities
- Students will be able to demonstrate the dissemination of culturally competent health education to individuals, groups, and communities
- Students will be able to demonstrate the ability to help patients navigate complex government applications for social services
- Students will be able to demonstrate the ability to apply written, verbal, and active listening communication strategies that are professional, courteous, and culturally competent

Item 2. Catalog Description

Community Health Workers (CHWs) are essential health care workers who serve as navigators, educators, and informal counselors who connect community members and patients in hard-to-reach populations with clinical and governmental services to improve health outcomes for vulnerable populations. CHWs often share similar life experiences, values, and language with the populations they serve, which in turn develops relationships based on a foundation of trust and connection. The Certificate of Achievement in Community Health Worker trains students to be frontline agents of change who serve as advocates for issues related to social determinants of health to reduce health disparities within the communities they serve. Students will learn skills required to help individuals and communities adopt

healthy behaviors, access resources, and navigate complex governmental systems.

Item 3. Program Requirements

Requirements	Course #	Title	Units	Sequence
Core Courses (14 units)	HLTH 21	Contemporary Health Concerns	4	Yr 1, Fall
	HLTH 101	Introduction to Community Health Work	5	Yr 1, Winter
	ITRN 50	Internship	1	Yr 1, Spring
	CNSL 6	Exploring Leadership	4	Yr 1, Any Quarter

TOTAL UNITS: 14 units

Proposed Sequence:
Year 1, Fall (or any) = 4 units
Year 1, Winter = 5 units
Year 1, Spring = 1 unit
Year 1, Spring (or any) = 4 units
TOTAL UNITS: 14 units

Item 4. Master Planning
The Certificate of Achievement in Community Health Worker aligns directly with the vision of Foothill College in valuing service for both diverse and vulnerable populations. Further, the certificate program offers students a career path with opportunities in clinics, hospitals, community-based organizations, and health maintenance organizations. The certificate program does not compete with any other local Bay Area community colleges, as the only other opportunities for an exclusive Community Health Worker certificate are in San Francisco and Berkeley. Further, advisory board members from government and community-based organizations are incredibly supportive of the certificate program, especially for students who are trusted members of their community without previous higher education experience, who have fluency in languages such as Vietnamese, Chinese, Spanish, and Tagalog. In vulnerable communities surrounding Foothill College, including Mountain View, Sunnyvale, and San Mateo, establishing a community health worker certificate program will help to reduce the health disparities in marginalized populations while increasing both individual and community capacity for those communities through the one-on-one work provided by community health workers.

Partnerships have been developed with the faculty members who teach the CNSL 6 course and the ITRN 50 course for use of these courses within the certificate program. Further, Foothill College's Dean of Counseling is part of the CHW Certificate Advisory Board.

Item 5. Enrollment and Completer Projections
The HLTH 21 course averages 41 students per course offering. Aiming for 15 students to complete the first year but it is reasonable that the first year will have an annual completion of eight students, with an increase in subsequent years, especially if students who are already completing their Associate in Science

in Public Health Science for Transfer degree also complete the Certificate of Achievement in Community Health Worker. This figure may be higher if interest in the certificate program exists for students already in the Associate in Science in Public Health Science for Transfer degree program. Recruitment in vulnerable communities is required as the ideal community health worker is already an established and trusted member of their community.

		Year 1 (2020-2021)		Year 2 (2021-2022)	
Course #	**Course Title**	**Annual Sections**	**Annual Enrollment**	**Annual Sections**	**Annual Enrollment**
HLTH 21	Contemporary Health Concerns	11	474	11	439
HLTH 101	Introduction to Community Health Work	N/A	N/A	N/A	N/A
ITRN 50	Internship	13	120	14	137
CNSL 6	Exploring Leadership	2	49	3	98

Item 6. Place of Program in Curriculum/Similar Programs

Although Foothill College currently offers an Associate in Science in Public Health Science for Transfer degree, no other certificate options or course offerings exist in community health work. This certificate may appeal to both students earning their Associate Degree for Transfer in Public Health Science and students who have a trajectory to earn their certificate for direct employment as a community health worker. Further, this program fulfills a need for community health workers as noted in the Labor Market Information report and especially with the addition of community health worker certificate requirement for clinics to use the Medi-Cal benefit that began on July 1, 2022.

Item 7. Similar Programs at Other Colleges in Service Area

Within Foothill College's service area, Community Health Worker programs are not offered. For example, both Canada College and Mission College previously had Community Health Worker certificate programs but no longer provide them due to staffing issues. Mission College in particular had their CHW program as part of the greater nursing program and could not get staffing. San Jose City College allows students already enrolled in the Medical Assisting program to also complete a Community Health Worker designation, though they do not offer a singular Community Health Worker course. Evergreen Valley College offers a Patient Community Navigator certificate with courses focused on technology skills, medical coding, and medical billing; however, they do not offer a Community Health Worker course. Outside of Foothill's service area, community colleges with Community Health Worker programs include City College of San Francisco, Berkeley City College, and Cabrillo College.

Outside of the service area, Community Health Worker certificate programs are successful. Such colleges include City College of San Francisco which serves as a guiding model for most colleges in the state, Cabrillo College, and Chaffey College, to name a few.

Additional Information Required for State Submission:

TOP Code: 1261.00 - Community Health Care Worker

Annual Completers: 15

Net Annual Labor Demand: 235

Faculty Workload: 0.545

New Faculty Positions: Adjunct instructor to teach HLTH 101 1-2x/year; Program Coordinator

New Equipment: $0

New/Remodeled Facilities: $0

Library Acquisitions: $750 for copies of both the HLTH 21 textbooks and HLTH 101 textbooks to be ordered and available on reserve.

Gainful Employment: Yes

Program Review Date: Fall, 2027

Distance Education: 50-99%

Labor Market Analysis for Program Recommendation
Community Health Worker Occupations
Foothill College

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

August 2022

Recommendation

Based on all available data, there appears to be an "undersupply" of Community Health 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 166 students in the Bay region and 46 students in the Silicon Valley Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 1261.00 Community Health Care Worker programs 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.

This report profiles Community Health Worker Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College.

- **Community Health Workers (21-1094):** Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. Excludes "Health Educators" (21-1091).
  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: 24%

Occupational Demand

Table 1. Employment Outlook for Community Health Worker Occupations in Bay Region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Community Health Workers	1,641	1,914	273	17%	1,176	235	$19	$26
Total	**1,641**	**1,914**	**273**	**17%**	**1,176**	**235**	**$19**	**$26**

Source: EMSI 2022.1

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 Community Health Worker Occupations in Silicon Valley Sub-region

Occupation	2020 Jobs	2025 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Community Health Workers	321	382	61	19%	240	48	$25	$29
Total	**321**	**382**	**61**	**19%**	**240**	**48**	**$25**	**$29**

Source: EMSI 2022.1

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 (Aug 2021 - July 2022)

Occupation	Bay Region	Silicon Valley
Community Health Workers	362	65

Source: Burning Glass

Table 4a. Top Job Titles for Community Health Worker Occupations for latest 12 months (Aug 2021 - July 2022) Bay Region

Title	Bay	Title	Bay
Community Liaison	30	Guest Advocate Target Hire	7
Community Lead	20	Health Advocate	7
Health Navigator	12	Covid Contact Tracer	6
Peer Navigator	12	Community Living Instructor Direct Support Professional Bay Areas	5
Community Health Advocate	10	Community Navigator	5
Community Health Navigator	8	Covid - Contact Tracer	5
Community Health Advocate Coordinator	7	Outreach Benefits Navigator	5
Community Living Instructor Dsp	7	Community Living Instructor/Direct Support Professional	4
Contact Tracer	7	Digital Peer Navigator	4

Source: Burning Glass

Table 4b. Top Job Titles for Community Health Worker Occupations for latest 12 months (Aug 2021 - July 2022) Silicon Valley Sub-Region

Title	Silicon Valley	Title	Silicon Valley
Peer Navigator	9	Contact Tracer	2
Community Lead	5	Contact Tracing And Immunization	2

Title	Silicon Valley	Title	Silicon Valley
Community Liaison	5	Contact Tracing Coordinator	2
Covid Contact Tracer	3	Family Health Navigator	2
Outreach Advisor	3	Health Navigator	2
Community Engagement Lead	2	Health Navigator - Family	2
Community Navigator	2	Pridenet Lgbtq Community Engagement Lead	2

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Community Health Workers in Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2020)	Jobs in Industry (2025)	% Change (2020-25)	% Occupation Group in Industry (2020)
Local Government, Excluding Education and Hospitals	280	314	12%	18%
HMO Medical Centers	131	193	48%	9%
Other Individual and Family Services	139	182	31%	8%
Services for the Elderly and Persons with Disabilities	135	118	-12%	5%
Child and Youth Services	61	71	16%	4%
Temporary Help Services	12	59	393%	3%
General Medical and Surgical Hospitals	62	55	-12%	3%
Religious Organizations	50	52	3%	3%
Direct Health and Medical Insurance Carriers	43	59	37%	3%
Hospitals (Local Government)	38	55	42%	3%

Source: EMSI 2022.1

Table 6. Top Employers Posting Community Health Worker Occupations in Bay Region and Silicon Valley Sub-Region (Aug 2021 - July 2022)

Employer	Bay	Employer	Silicon Valley
Toolworks	23	Roots Community Health Center	6
Roots Community Health Center	15	Stanford University	3
University Of California	12	University Of Silicon Valley	2
Wework	9	Unity Care Group	2
Asian Health Services	9	Target	2
Target	7	San Jose/Evergreen Community College District	2

Employer	Bay	Employer	Silicon Valley
Heluna Health	7	Ro Health Pr Derek	2
Rcf Connects	6	Heluna Health	2
Medzed, Llc	6	Crossover Health	2
Center For Human Development	6	A Caring Life Home Health	2

Source: Burning Glass

Educational Supply

There are five (5) community colleges in the Bay Region issuing 69 awards on average annually (last 3 years ending 2018-19) on TOP 1261.00 Community Health Care Worker. In the Silicon Valley Sub-Region, there are two (2) community colleges that issued two (2) awards on average annually (last 3 years) on this TOP code.

Table 7. Community College Awards on TOP 1261.00 Community Health Care Worker in Bay Region

College	Subregion	Associate Degree	Award < 1 academic yr	Total
Canada College	Mid-Peninsula	0	2	2
City College of San Francisco	Mid-Peninsula	0	62	62
Mission College	Silicon Valley	1	0	1
San Jose City College	Silicon Valley	0	1	1
Santa Rosa Junior College	North Bay	1	2	3
Total		**2**	**67**	**69**

Note: The annual average for awards is 2017-18 to 2019-20.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 235 annual openings for the Community Health Worker occupational cluster and 69 annual (3-year average) awards for an annual undersupply of 166 students. In the Silicon Valley Sub-Region, there is also a gap with 48 annual openings and 2 annual (3-year average) awards for an annual undersupply of 46 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1261.00 Community Health Care Worker

Metric Outcomes	Bay All CTE Programs	Foothill All CTE Program	State 1261.00	Bay 1261.00	Silicon Valley 1261.00	Foothill 1261.00
Students with a Job Closely Related to Their Field of Study	74%	91%	85%	85%	N/A	N/A
Median Annual Earnings for SWP Exiting Students	$47,419	$66,288	$41,009	$41,229	N/A	N/A
Median Change in Earnings for SWP Exiting Students	23%	43%	5%	4%	N/A	N/A

Metric Outcomes	Bay All CTE Programs	Foothill All CTE Program	State 1261.00	Bay 1261.00	Silicon Valley 1261.00	Foothill 1261.00
Exiting Students Who Attained the Living Wage	52%	64%	32%	32%	N/A	N/A

Source: Launchboard Strong Workforce Program Median of 2017 to 2020.

Skills, Certifications and Education

Table 9. Top Skills for Community Health Worker Occupations in Bay Region (Aug 2021 - July 2022)

Skill	Posting	Skill	Posting
Customer Service	93	Primary Care	34
Case Management	89	Project Management	34
Public Health and Safety	85	Appointment Setting	33
Mental Health	81	Customer Contact	32
Community Health	78	Staff Management	32
Social Services	78	Behavioral Health	31
Scheduling	67	Cardiopulmonary Resuscitation (CPR)	30
Health Education	48	Health Insurance Portability and Accountability Act (HIPAA)	27
Data Collection	45	Social Media	27
Data Entry	42	Patient Assistance	26
Budgeting	39	Medical Coding	25
Mental Illness	39	Developmental Disabilities	24
Vaccination	36	Meal Preparation	24
Motivational Interviewing	34	Caregiving	20

Source: Burning Glass

Table 10. Certifications for Community Health Worker Occupations in Bay Region (Aug 2021 - July 2022)

Certification	Posting	Certification	Posting
Driver's License	107	Licensed Alcohol and Drug Counselor	3
First Aid Cpr Aed	27	Certified Alcohol and Drug Abuse Counselor	3
Community Health Certificate	12		
Phlebotomy Certification	4	Basic Cardiac Life Support Certification	3
Basic Life Saving (BLS)	4	Paralegal Certification	2

Certification	Posting	Certification	Posting
Social Work License	3	Licensed Professional Counselor	2
Project Management Professional (PMP)	3	Licensed Clinical Social Worker (LCSW)	2
Project Management Certification	3	Conflict Resolution	2

Source: Burning Glass

Note: 56% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.

Table 11. Education Requirements for Community Health Worker Occupations in Bay Region

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	102	45%
Associate's degree	30	13%
Bachelor's degree and higher	94	42%

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

For more information, please contact:

- Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), leila@baccc.net
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544

PHOT F404A : PHOTOSHOP FOR PHOTOGRAPHERS I

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F404A

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
PHOTOSHOP FOR PHOTOGRAPHERS I

Former ID

Cross Listed

Related Courses
PHOT F004A - PHOTOSHOP FOR PHOTOGRAPHERS I

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a required core course for the noncredit Certificate of Completion in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a required core course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
Introduction to the tools for expressive communication in digital photography using Adobe Photoshop and Adobe Photoshop Lightroom. Development of skills in image capture, enhancement, printing, and web publishing, for both fine art and commercial applications.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: PHOT 5 or 405 or equivalent.

Course Objectives

The student will be able to:

1. Demonstrate ability to use digital imaging software
2. Demonstrate ability to use current computer hardware
3. Create hard copy photographic images for portfolio presentation and web appropriate images for electronic publishing
4. Discuss and describe expanding visual awareness
5. Demonstrate an awareness of basic photographic principles underlying the new technologies and the ability to apply these interdisciplinary principles in the sciences and fine arts
6. Demonstrate understanding of ethics of the new technologies, including the principles of truthfulness in images, copyright, and appropriation
7. Recognize contributors from diverse cultures and backgrounds to contemporary electronic imaging

Course Content

1. Introduction to digital image technology
    1. History of imaging from silver to pixel
    2. Terminology of the digital darkroom

3. Future of imaging and directions in technologies
4. Ethics of digital manipulation, copyright issues, appropriation in modern artistic expression and in commercial applications
5. Contribution from diverse cultures and individuals to the advance of electronic technologies

2. Digital imaging hardware
    1. The computer
        1. Platform choices
        2. Memory requirements for working with images
    2. Digital cameras (brief overview)
    3. Scanners for negatives, prints, objects
    4. Printers (input, output and WYSIWYG)
3. Introduction to the software
    1. File formats and their uses
    2. Digital imaging software menus and tools and their use
        1. The brush tools (healing brush, spot healing brush, patch, clone tool/rubber stamp, paint brush, eraser)
        2. Selection tools (marque, magic wand, lasso, and their modifiers)
        3. Editing tools (cut paste, rotate, scale, crop)
        4. Basic adjustments (levels, curves, brightness/contrast)
    3. Resolution
    4. Color controls
    5. Selection controls
    6. Filters and special effects
    7. History panel
    8. Layers and blending modes
    9. Use of type in Photoshop
    10. Automate menu and actions
4. Organizing and archiving images
    1. Rating systems and methods
    2. Keywords and other metadata
    3. File management
5. Using digital imagery to make artwork of meaning and intention
    1. Effective communication through digital imaging
    2. Truthfulness in digital imaging
    3. Formal and alternative presentation of the digital image

Lab Content

1. Assignments and exercises that practice digital imaging techniques
2. Assignments and exercises that practice the use of digital imaging vocabulary
3. Assignments and exercises that practice the use of printing and other output methods

4. Preparation of professionally presented photographs using both matting framing and digital presentation techniques
5. Visit and review photography exhibitions in museums and galleries
6. Exercises that have students make revisions or corrections and edit their photographs
7. Critiques and evaluation of assignments and exercises

Special Facilities and/or Equipment

1. A lecture room equipped with color LCD overhead projector for displaying projected computer monitor displays; an instructional computer with high resolution monitor, scanner, color printer, and Adobe Photoshop/Lightroom software; lighting and wall space suitable for displaying and critiquing hard-copy output. An integrated or separate facility for student computer time.
2. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer graphics applications and email software; email address.

Methods of Evaluation

Methods of Evaluation
Critiques of digital photographs
Instructor's review of student's on-going work
Review of student's participation in discussion and critiques, laboratory performance
Written paper(s) on current issues in digital photography
Quizzes/tests

Method(s) of Instruction

Method(s) of Instruction
Lectures on the techniques of digital imaging software and digital photography
Discussion and electronic discussions/chat using the language of digital imaging and photographic/artistic critiques
Demonstrations of digital imaging software and digital photography
Field trips to visit photographic, artistic, and technical locations

Representative Text(s)

Author(s)	Title	Publication Date
Evening, Martin	Adobe Photoshop 2020 for Photographers (ISBN-13: 978-0367346836)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Access to Adobe Photoshop and Lightroom software

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading of the textbook
2. Review of handouts and relevant reading material
3. Review of tutorial videos
4. Research and planning of individual creative projects
5. Written assignment statement
6. Written portfolio statement
7. Written critiques of student work
8. Written report of attending a photography exhibition or event

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
35

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101100 - Photography

PHOT F404B : PHOTOSHOP FOR PHOTOGRAPHERS II

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F404B

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
PHOTOSHOP FOR PHOTOGRAPHERS II

Former ID

Cross Listed

Related Courses
PHOT F004B - PHOTOSHOP FOR PHOTOGRAPHERS II

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a restricted support course for the noncredit Certificate of Completion in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a restricted support course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
Intermediate-level exploration with the tools for expressive communication in digital photography using Adobe Photoshop and Adobe Photoshop Lightroom. Development of skills in image capture, enhancement, printing, and web publishing, for both fine art and commercial applications.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: PHOT 4A or 404A or equivalent experience.

Course Objectives

The student will be able to:

1. Demonstrate an in-depth ability to use electronic imaging software
2. Demonstrate an in-depth ability to use current computer hardware
3. Create complex hard copy photographic images for portfolio presentation and web appropriate images for electronic publishing
4. Discuss and describe expanding visual awareness
5. Demonstrate an in-depth awareness of basic photographic principles underlying the new technologies and the ability to apply these interdisciplinary principles in the sciences and fine arts
6. Demonstrate an understanding of ethics of the new technologies, including the principles of truthfulness in images, copyright, and appropriation
7. Recognize contributors from diverse cultures and backgrounds to contemporary electronic imaging

Course Content

1. Digital imaging hardware
    1. In-depth look at input devices (scanners, digital cameras, and their features)

        1. Advanced features
        2. New innovations
    2. In-depth look at output devices (printers, film recorders, and their features)
        1. Advanced features
        2. New innovations
2. Digital imaging software
    1. Advanced workspace
        1. Tool presets, panel options, the preset manager
        2. Customizable keyboard shortcuts, context sensitive menus, views, and screen modes
        3. Automating the digital workflow (advanced features of automate menu and actions)
    2. Color management overview
        1. Calibration
        2. Photoshop color settings
        3. Printing (inkjet, chromogenic, and other printing methods)
    3. Advanced layers and blending
    4. Advanced masking and selection (pen tool, extract)
    5. Advanced color correction and tonal adjustments (levels and curves)
    6. File formats and their uses
        1. RAW
        2. Non-compression formats (psd, tiff, etc.)
        3. Compression formats (jpg, gif, etc.)
    7. Working with B&W images
        1. Converting color to grayscale
        2. Quadtone printing
    8. Special effects and alternative imagery
    9. HDR imagery
3. Organizing and archiving images
    1. Rating systems and methods
    2. Keywords and other metadata
    3. File management
4. Using digital imagery to make artwork of meaning and intention
    1. Complex and effective communication through digital imaging
    2. Implications of image appropriation and copyright issues
    3. Developing and presenting a body of work
        1. Image creation, postproduction editing, sequencing
        2. Presentation (traditional and alternative methods, PDF presentation, web photo gallery)

Lab Content

1. Assignments and exercises that practice digital imaging techniques
2. Assignments and exercises that practice the use of digital imaging vocabulary

3. Assignments and exercises that practice the use of printing and other output methods
4. Preparation of professionally presented photographs using both matting framing and digital presentation techniques
5. Visit and review photography exhibitions in museums and galleries
6. Exercises that have students make revisions or corrections and edit their photographs
7. Critiques and evaluation of assignments and exercises

Special Facilities and/or Equipment

1. A lecture room equipped with color LCD overhead projector for displaying projected computer monitor displays; an instructional computer with high resolution monitor, scanner, color printer, and Adobe Photoshop/Lightroom software; lighting and wall space suitable for displaying and critiquing hard-copy output. An integrated or separate facility for student computer time.
2. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer graphics applications and email software; email address.

Methods of Evaluation

Methods of Evaluation
Critiques of digital photographs
Instructor's review of student's on-going work
Review of student's participation in discussion and critiques, laboratory performance
Written paper(s) on current issues in digital photography
Quizzes/tests

Method(s) of Instruction

Method(s) of Instruction
Lectures on the techniques of digital imaging software and digital photography
Discussion and electronic discussions/chat using the language of digital imaging and photographic/artistic critiques
Demonstrations of digital imaging software and digital photography
Field trips to visit photographic, artistic, and technical locations

Representative Text(s)

Author(s)	Title	Publication Date
Evening, Martin	Adobe Photoshop 2020 for Photographers (ISBN-13: 978-0367346836)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Access to Adobe Photoshop and Lightroom software

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading of the textbook
2. Review of handouts and relevant reading material
3. Review of tutorial videos
4. Research and planning of individual creative projects
5. Written assignment statement
6. Written portfolio statement
7. Written critiques of student work
8. Written report of attending a photography exhibition or event

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
35

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101200 - Applied Photography

PHOT F404C : PHOTOSHOP FOR PHOTOGRAPHERS III

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F404C

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
PHOTOSHOP FOR PHOTOGRAPHERS III

Former ID

Cross Listed

Related Courses
PHOT F004C - PHOTOSHOP FOR PHOTOGRAPHERS III

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificates of Completion in Commercial Photography and Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a restricted support course for the noncredit Certificate of Completion in Commercial Photography and a required core course for the noncredit Certificate of Completion in Photography, both of which are currently under development.

Attach evidence

Need/Justification
This course will be a restricted support course for the noncredit certificate of completion in Commercial Photography and a required core course for the noncredit certificate of completion in Photography, both currently under development.

Course Description
Advanced-level exploration with the tools for expressive communication in digital photography using Adobe Photoshop and Adobe Photoshop Lightroom. Development of skills in image capture, enhancement, printing, and web publishing, for both fine art and commercial applications.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: PHOT 4B or 404B or equivalent.

Course Objectives

The student will be able to:

1. Demonstrate advanced skills in using digital imaging software
2. Demonstrate advanced skills in using current computer hardware
3. Create complex hard copy photographic images for portfolio presentation and web appropriate images for electronic publishing
4. Discuss and describe expanding visual awareness
5. Demonstrate an in-depth awareness of basic photographic principles underlying the new technologies and the ability to apply these interdisciplinary principles in the sciences and fine arts
6. Demonstrate an understanding of ethics of the new technologies, including the principles of truthfulness in images, copyright, and appropriation
7. Recognize contributors from diverse cultures and backgrounds to contemporary electronic imaging

Course Content

1. Digital imaging software
    1. Advanced level color management (making profiles)
    2. Working with RAW files
    3. 16-bit editing
    4. Digital zone system
    5. Digital lighting techniques
    6. Advanced color and tonal correction techniques
    7. Advanced image compositing techniques
    8. Special effects and alternative imagery
    9. HDR imagery
2. Organizing and archiving images
    1. Rating systems and methods
    2. Keywords and other metadata
    3. File management
3. Using digital imagery to make artwork of meaning and intention
    1. Developing a complex body of work
    2. Print permanence, edition size, copyrights
    3. Contemporary trends in digital art
    4. Contributions to digital art-making by artists from diverse cultural backgrounds
4. Employment opportunities
    1. Review of student backgrounds and skills necessary for a career in industry
    2. Job outlook predictions
    3. Assignments giving students necessary background in skills for employment

Lab Content

1. Assignments and exercises that practice digital imaging techniques
2. Assignments and exercises that practice the use of digital imaging vocabulary
3. Assignments and exercises that practice the use of printing and other output methods
4. Preparation of professionally presented photographs using both matting framing and digital presentation techniques
5. Visit and review photography exhibitions in museums and galleries
6. Exercises that have students make revisions or corrections and edit their photographs
7. Critiques and evaluation of assignments and exercises

Special Facilities and/or Equipment

1. A lecture room equipped with color LCD overhead projector for displaying projected computer monitor displays; an instructional computer with high resolution monitor, scanner, color printer, and software; lighting and wall space suitable for displaying and

critiquing hard-copy output. An integrated or separate facility for student computer time. 2. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer graphics applications and email software; email address.

Methods of Evaluation

Methods of Evaluation
Critiques of computer-generated images as hard copy and/or on disk
Instructor's review of student's on-going work
Review of student's participation in discussion and critiques, laboratory performance
Written paper(s) on current issues in digital imaging
Quizzes/tests
Portfolio of images suitable for display

Method(s) of Instruction

Method(s) of Instruction
Lectures on the techniques of digital imaging software and digital photography
Discussion and electronic discussions/chat using the language of digital imaging and photographic/artistic critiques
Demonstrations of digital imaging software and digital photography
Field trips to visit photographic, artistic, and technical locations

Representative Text(s)

Author(s)	Title	Publication Date
Evening, Martin	Adobe Photoshop 2020 for Photographers (ISBN-13: 978-0367346836)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Access to Adobe Photoshop and Lightroom software

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading of textbook
2. Review of handouts and relevant reading material
3. Review of tutorial videos
4. Research and planning of individual creative projects
5. Written assignment statement
6. Written portfolio statement

7. Written critiques of student work
8. Written report of attending a photography exhibition or event

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
35

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101200 - Applied Photography

PHOT F405. : INTRODUCTION TO PHOTOGRAPHY

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F405.

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
INTRODUCTION TO PHOTOGRAPHY

Former ID

Cross Listed

Related Courses
PHOT F005. - INTRODUCTION TO PHOTOGRAPHY

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.

• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a required core course for the noncredit Certificate of Completion in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a required core course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
A survey of the historical and practical aspects of photography as an art form and social document. Students will be introduced to the use of light, composition, and communication through images. Significant photographers from a diversity of backgrounds will inspire students in the practice of photography and developing an understanding of the varied uses of the photographic image in our culture, including advertising, journalism, social concern, fine art, and scientific applications.

Course Prerequisites

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Recognize and describe works of photography which distinguish different applications of the medium to modern communication and culture
2. Analyze how photographers use different equipment and photographic techniques to communicate by examining the work of great photographers throughout history in all genres of the medium
3. Examine the development of photographic technology through the study of historical and contemporary important works of photography
4. Identify the various uses of composition in photography and explain how composition is related to the overall meaning and purpose of the photograph
5. Identify the importance of light, related light conditions, and composition to the overall meaning of the photograph
6. Compare great works in terms of composition and how the composition contributes to our perception and meaning of the photograph
7. Examine the content and context found in great works of photography via written responses
8. Describe the evolution of photographic equipment throughout history, including how different media establishes the overall expressive and conceptual meaning of the work
9. Evaluate and critique class projects using relevant terminology in oral or written formats

10. Examine and describe contemporary developments, trends, materials, and approaches in photography
11. Identify the various uses of lighting in photography and explain how lighting is related to the overall meaning and purpose of the photograph

Course Content

1. Introduction to photographic history - journalism, documentary, fine art, scientific
    1. Analyze the correlation between scientific discovery and photography, including improvements in chemistry and optics, especially the contributions of early practitioners, including Louis-Jacques-Mande Daguerre, Sir John Herschel, Nicephore Niepce, William Henry Fox Talbot
    2. Apply this understanding to the use of traditional and contemporary tools of photography
    3. Evaluate the contribution of significant photographers from diverse backgrounds to photographic history, such as Edward Weston, Ansel Adams, Ruth Bernhard, Gordon Park, Hiroshi Sugimoto, Dorothea Lange, and Harold Eugene "Doc" Edgerton
    4. Apply understanding of the historic use of images to communicate and persuade by creating projects that communicate about contemporary issues and concerns
2. History of composition and understanding of the tools of composition
    1. Analyze the use and application of the rule of thirds, the golden ratio, and other visual design elements in photography, looking at Leonardo Da Vinci, Sir Joshua Reynolds, Alfred Stieglitz, and Paul Strand
    2. Study the use of repeating shapes and scale in the work of Eadweard James Muybridge, Henri Cartier-Bresson, Andre Kertesz, and Margaret Bourke-White
    3. Analyze the use of spatial perspective and foreground, middle ground, and background in the great works by Edgar Degas, Ansel Adams, Edward Weston, Eugene Atget, Robert Frank, and others
    4. Application of the concepts of compositions to create effective photographs to communicate ideas and concepts
3. Historic perspectives on camera technology
    1. Analyze the contributors to the camera's development from the camera obscura (with developers such as Aristotle, Leonardo Da Vinci) and its early use by the Dutch Master painters (such as Johannes Vermeer) to the modern transformation of the camera to its current state by inventors and entrepreneurs (such as George Eastman, Edwin Land, and Ren Ng)
        1. Film cameras and their uses
        2. Digital cameras and their uses
    2. Impact of changes in technology on the authenticity of the photograph as a document, including use in propaganda, in journalism, and for evidentiary purposes

3. Analyze and apply the use of these tools in documentary, commercial, and artistic expression
4. Evaluate the creative use of camera controls looking at commercial and artistic expressions
    1. Evaluate the control of motion through the use shutter speed, looking at the work of masters, such as Eadweard Muybridge, Ralph Eugene Meatyard, Wynn Bullock
    2. Create images that demonstrate control of focus and depth of field considering the work of the first art movements in photography, including Group F64 and the Pictorialists
    3. Examine the use of metering and sensitometry tools and apply them to photography
    4. Differentiate the different lenses and focal lengths and their effect on photographic space and compositions
5. Seeing and controlling light
    1. Analyze the use of natural light by practitioners such as Gertrude Kasebier, Harry Callahan, Frederick Evans, and Minor White
    2. Analyze the great work of photography by masters of flash and studio, such as Irving Penn, Arnold Newman, Robert Mapplethorpe, Richard Avedon, Yousuf Karsh
    3. Application and practice using light in images
6. Printing and presentation of photographs
    1. Demonstrate preparing and printing images
    2. Analyzing professional presentation of images and demonstrate in final project
7. Content and context
    1. Analyze great works by legacy and contemporary artists, such as Jerry Uelsmann, Man Ray, Manual Alvarez Bravo, and Diane Arbus
    2. Application and practice in using metaphor, personal meaning, and symbolism in a photograph
8. Critique
    1. Analyze and critique great works of photography from history in written formats
    2. Examine and describe contemporary developments, trends, materials, and approaches in photographic artists, such as Andreas Gursksy, Edward Burtynsky, Richard Misrach, William Eggleston, Lee Friedlander, Robert Adams

Lab Content

1. Assignments and exercises that explore the use of photographic equipment and techniques
2. Assignments and exercises related to composition and how to express with composition

3. Assignments and exercises that practice the use of light in photographs
4. Preparation of professionally presented photographs using both matting framing and digital presentation techniques
5. Visit and review photography exhibitions in museums and galleries
6. Exercises that have students make revisions or corrections and edit their photographs
7. Critiques and evaluation of assignments and exercises

Special Facilities and/or Equipment

1. A lecture room equipped for viewing motion pictures, slides, and videotapes; computer with projection ability, access to still cameras and other demonstration equipment as needed.
2. When taught via Foothill Global Access: on-going access to computer with email software and capabilities, email address, JavaScript-enabled internet browsing software.

Methods of Evaluation

Methods of Evaluation
Portfolio review - photographs will be evaluated for technical ability, craftsmanship, and personal creative and conceptual approaches
Written or oral critiques
Quizzes
Written paper(s) on selected topics in photography
Assignments integrating photographs, writing, and analysis
Final project or final exam

Method(s) of Instruction

Method(s) of Instruction
Lecture presentations and classroom discussion using the language of photography, media, and art history
Electronic discussions/chat responding to visual and written prompts about history, issues, and techniques in photography and art
Laboratory practicing and applying concept from the lectures
Demonstrations of technical process in photography
Field trips to see photographs and artwork with discussion about application to course content
E-portfolio to share photographs and exercises and practice written responses to visual images
Critique of presentations of projects with thoughtful commentary and evaluation

Representative Text(s)

Author(s)	Title	Publication Date
Perry, Heather	National Geographic Complete Photo Guide: How to Take Better Pictures (ISBN-13: 978-1426221439)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Photographer paper: 1-3 page paper (900-2700 words) about a photographer or topic in photography that inspires you. Biographical information and significance in history or techniques of photography should be discussed. Use the worksheet from the handouts page to help you gather information and know what questions to ask. You should use a minimum of three sources, one of which must be a book in researching this photographer. Your paper will be posted in the Discussion Area. Each student will read all other presentations and make thoughtful comments on at least two other students' papers
2. Concerned photography assignment:
    1. Our photographer of the week is Sebastiao Salgado. Do you find his work inspiring? Why or why not
    2. Review the Universal Declaration of Human Rights for inspiration on topics: www.un.org/en/about-us/universal-declaration-of-human-rights
    3. Think of two or three issues that concern you. Write about these issues. How would you photograph these issues in a way to make us care, in a way that would make us act?
    4. Shoot thirty photographs (print, slide, or digital) that begin to address one of the issues that concern you. Post eight (8) most effective images. Also write a short essay on what inspired you to take the images you took and post in the description of image 01. Refer to the Universal Declaration of Human Rights and the work of Sebastiao Salgado in your short essay
3. Photography exhibition review assignment: Visit photography exhibition or gallery from instructor's approved list. Write a paper that analyzes presentation and artistic intent of the work and relates it to a historic context. Refer to examples from lectures and discussions and use the vocabulary from the readings to prepare this paper

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
1011.00 - Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
30

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101100 - Photography

PHOT F472. : LIGHTROOM & PHOTOGRAPHIC DESIGN

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F472.

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
LIGHTROOM & PHOTOGRAPHIC DESIGN

Former ID

Cross Listed

Related Courses
PHOT F072. - LIGHTROOM & PHOTOGRAPHIC DESIGN

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a restricted support course for the noncredit Certificate of Completion in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a restricted support course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
Develop intermediate photographic skills with the use of Adobe Photoshop Lightroom and photographic design techniques. Evaluate and utilize current methods of workflow, including archiving, file management, development, image publishing, beginning color management, and printing. Build skills in composition, design, project editing, and visual communication. Utilize design principles to create images that communicate effectively.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: PHOT 5 or 405 or equivalent experience.

Course Objectives

The student will be able to:

1. Demonstrate in-depth awareness of and ability to use the digital camera
2. Demonstrate ability to import and export images using Adobe Photoshop Lightroom and manipulate photographic images to professional standards
3. Create hard copy photographic images for portfolio presentation
4. Create image archives, including compact disk (CD), DVD, and hard drive technologies
5. Create slideshows and websites
6. Utilize effective design principles in the creation of photographs for visual communication
7. Demonstrate awareness of contributions from diverse cultures and backgrounds to the development and application of digital camera technology

Course Content

1. Use of the digital camera
    1. Comparison with traditional camera/film/processing
    2. Lenses, focus, and depth-of-field characteristics

3. Sensitivity, noise reduction, and tonal range
4. Resolution for capture

2. Effective use of Adobe Photoshop Lightroom software
    1. Import images
    2. Workflow and backup
    3. Keywording
    4. Editing process
        1. Using flags, labels, color labels
        2. Effective use of collections
        3. Stacking
    5. Adjust images
        1. Color correction
        2. Exposure
        3. Contrast
        4. Expressive purposes
        5. Altering file formats
        6. Color modes
3. Create hard copy photographic images for portfolio presentation
    1. Resolution for output
    2. Profiles and file preparation
        1. Inkjet printing
        2. Commercial services
        3. Other output options
4. Create image archives and catalogue backups
    1. Image backup
        1. Creating backups on compact disk (CD) and DVD
        2. Creating backups on hard drive technologies
        3. Image storage and retrieval
    2. Catalogue backups
        1. Preferences and daily backups
        2. Long-term catalogue retrieval and updating
    3. Archival properties of electronic media
5. Create slideshows and websites
    1. Use of collections for effective digital output
    2. Sequencing and timing in slideshows and websites
    3. Planning effective communication with images in slideshows and websites
6. Design principles for photography
    1. Composition
        1. Rule of thirds
        2. Foreground, middle ground, background
        3. Leading lines
        4. Centered and off-centered compositions
        5. Balanced and imbalance
        6. Weight

        7. Flow
        8. Repeating shapes
        9. Symmetry and asymmetry
    2. Lighting
        1. Natural light
        2. Artificial light
        3. Flash
    3. Apply above to genres of photographs
        1. Portrait
        2. Landscape
        3. Still life
        4. Documentary photograph
        5. Abstraction
    4. Applying design principles to photographs and using terminology in discussion and class critiques
7. Practitioners from diverse cultures and backgrounds
    1. Historic contributions
    2. Contemporary contributions
    3. Issues of access and communication
    4. Representative examples of digital imaging artwork produced by individuals from diverse cultures and backgrounds

Lab Content

1. Practice of image editing, manipulation, presentation, and techniques learned in lecture
2. Online discussion of techniques and of design
3. Field sessions to practice camera handling techniques

Special Facilities and/or Equipment

1. A lecture room equipped with color LCD overhead projector displaying projected computer displays; a desk or workstation for each student; an instructional computer with high resolution monitor, scanner, color printer, and Adobe Photoshop Lightroom software; lighting and wall space suitable for displaying and critiquing hardcopy output; an integrated or separate facility for student computer time.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware, including Adobe Lightroom Classic; email address.

Methods of Evaluation

Methods of Evaluation
Critiques of image files on disk, and hard copy output of digital camera images
Written discussion, critique, and questions using appropriate terminology
Instructor's review of student's on-going work

Methods of Evaluation
Review of student's participation in discussion and critiques, laboratory performance
Quizzes

Method(s) of Instruction

Method(s) of Instruction
Lecture presentations and classroom discussion using the terminology of digital photography and photographic design
Critique and discussion of images by students and experts in the field
Demonstrations of image editing, manipulation and presentation

Representative Text(s)

Author(s)	Title	Publication Date
Evening, Martin	The Adobe Photoshop Lightroom Classic CC Book 2nd ed. (ISBN-10: 0135447399, ISBN-13: 978-0135447390)	2019

Please provide justification for any texts that are older than 5 years

Other Required Materials

Students will use the Help section of the Lightroom Classic application and Adobe's online user guide: helpx.adobe.com/lightroom-classic/user-guide.html

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Written paper with a detailed analysis of a fellow student's photograph using the terminology learned in the lecture addressing both design and technique
2. Written paper looking in-depth at a topic in the class and reading and commenting on other students' essays

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
30

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101100 - Photography

PHOT F474A : STUDIO PHOTOGRAPHY TECHNIQUES I

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F474A

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
STUDIO PHOTOGRAPHY TECHNIQUES I

Former ID

Cross Listed

Related Courses
PHOT F074A - STUDIO PHOTOGRAPHY TECHNIQUES I

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a required core course for the noncredit Certificate of Achievement in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a required core course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
Introduction and overview to studio lighting, digital medium format cameras, exploration of photographic practices in a studio environment; emphasis on developing effective skills and techniques necessary to begin a career in studio photography.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: PHOT 5 or 405.

Course Objectives

The student will be able to:

1. Operate studio lighting and related accessories with technical skill
2. Employ visual and technical qualities required for professional-level photography
3. Demonstrate the ability to follow basic, visual layouts and art direction
4. Operate an incident/reflected/flash light meter and determine appropriate exposures
5. Assimilate and utilize visual ideas drawn from diverse cultures and backgrounds

Course Content

1. Proper operation of studio flash units and related studio equipment
    1. Light modifiers and reflectors
        1. Expressive qualities of light
        2. Color temperature
        3. Multiple light set-ups
        4. Lighting ratios
    2. Photography of two- and three-dimensional objects
        1. Paintings, documents, sculpture, or other art work
        2. Products

        3. Models (portraiture)
2. Safe handling and care of equipment
    1. Electrical safety (fuses and amperage ratings)
3. General operation of a commercial or art photo studio
    1. Freelance photography
    2. Assistant to photographer
    3. Working with clients
        1. Establishing and meeting deadlines
        2. Invoices, contracts, and estimates
    4. Professional protocols, practices, and client expectations
4. Approaches to studio photography as practices in industry
    1. Commercial
    2. Fine art
    3. Still-life and portraiture
    4. Editorial
    5. Trends in advertising and art production, including representations of and by diverse cultures
5. Presentation of photographs
    1. Portfolio concepts
6. Compositional considerations
    1. Black and white vs. color
    2. Working to fulfill requirements of visual layout

Lab Content

1. Use of computer workstation and image software
2. Use of print kiosks and professional color laboratory services
3. Selection and procuring of styling props and studio materials

Special Facilities and/or Equipment

1. An open-beamed space with high ceiling and room to accommodate lighting equipment, backdrop material, and models. Room should be equipped with many well-placed electrical outlets capable of relatively high amperage draw. Studio should have secure equipment storage areas or easy access to it. Professional-level lighting and studio equipment.
2. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer graphics applications and email software; email address.

Methods of Evaluation

Methods of Evaluation
Emphasis is on effective and safe use of lighting equipment
Quizzes and exam identifying lighting and camera technique

Methods of Evaluation
Written response to terminology, concepts, and practice as discussed in class lectures, demonstrations, and critiques
Maintain studio notebook/journal and portfolio

Method(s) of Instruction

Method(s) of Instruction
Students will attend lecture in classroom for instruction and critique
Hands-on instruction on equipment and lighting techniques are demonstrated in studio area
Students follow the lead of instructor and set up their own work station to complete assignment

Representative Text(s)

Author(s)	Title	Publication Date
Hunter, Fil, Steven Biver, Paul Fuqua, and Robin Reid	Light—Science & Magic: An Introduction to Photographic Lighting, 6th ed. (ISBN-13: 978-0367860264)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Maintain a written studio and lighting notebook/journal that describes necessary tools, exposures, and lighting arrangements, as well as personal reflective notations addressing the efficacy of various studio set-ups

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
30

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101100 - Photography

PHOT F474B : STUDIO PHOTOGRAPHY TECHNIQUES II

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F474B

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
STUDIO PHOTOGRAPHY TECHNIQUES II

Former ID

Cross Listed

Related Courses
PHOT F074B - STUDIO PHOTOGRAPHY TECHNIQUES II

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a restricted support course for the noncredit Certificate of Completion in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a restricted support course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
This course follows PHOT 474A and is intended to teach intermediate level skills in studio photography. Proper and creative use of digital small and medium format cameras, and lighting in a studio environment. Emphasis on developing the specific photographic skills, techniques, and business practices necessary for success in a photography career path that is chosen by the student in consultation with the instructor, e.g., wedding, product, portrait, editorial, still-life, or illustration, etc.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: Completion of one or more of the following courses: PHOT 4A or 404A, 5 or 405, 72 or 472, 74A or 474A.

Course Objectives

The student will be able to:

1. Operate a professional-level camera and related accessories with technical and artistic skill
2. Operate studio lighting and related accessories with technical and artistic skill
3. Employ artistic and technical skills that effectively communicate the photographic job's requirements
4. Demonstrate the ability to follow visual layouts and art direction
5. Operate an incident/reflected/flash light meter and determine appropriate exposures
6. Assimilate and utilize visual ideas drawn from diverse cultures and backgrounds
7. Develop a small portfolio of images that reflect growing mastery in a specific career path

Course Content

1. Proper operation of professional cameras and studio flash units
    1. Lens selections
    2. Light modifiers and reflectors
        1. Expressive qualities of light
        2. Color temperature
        3. Multiple light set-ups
        4. Lighting ratios
    3. Photography of two- and three-dimensional objects
        1. Painting or artwork
        2. Product or artwork
        3. Model (portraiture)
2. Safe handling and care of equipment
    1. Electrical safety (fuses and amperage ratings)
    2. View camera handling and care
3. Exposure techniques
    1. Exposure and development
4. Working with props and models
    1. Selection of appropriate props and models
    2. Model releases and property releases
    3. Representations of models from different cultures
5. General operation of a commercial photo studio
    1. Freelance photography
    2. Assistant to photographer
    3. Working with clients
        1. Establishing and meeting deadlines
        2. Invoices, transmittals, and estimates
    4. Professional expectations
6. Approaches to studio photography as practices in industry
    1. Commercial
    2. Fine art
    3. Still-life and portraiture
    4. Trends in advertising, including representations of and by diverse cultures
7. Presentation of photographs
    1. Portfolio concepts
    2. Display, including books, boxes, and mounting
8. Compositional considerations
    1. Black and white vs. color
    2. Working to fulfill demands of visual layout
9. Guest speakers or studio visits
    1. Professional photographers
    2. Related and supporting occupations
        1. Art directors

2. Magazine or print editors
3. Hair, make-up stylists
4. Prop stylists

Lab Content

1. Preparing and arranging set lighting and related equipment in the studio

Special Facilities and/or Equipment

1. An open-beamed space with high ceiling and room to accommodate lighting equipment, backdrop material, and models. Room should be equipped with many well-placed electrical outlets capable of relatively high amperage draw. Studio should have secure storage areas or easy access to it for props and related studio equipment.
2. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer graphics applications and email software; email address.

Methods of Evaluation

Methods of Evaluation
A photographic portfolio whose content demonstrates control of light placement, the achievement of the appropriate exposure, and a sensitivity to the way the image(s) will be interpreted based on the subject's arrangement and composition
Quiz or exam that reflects the student's knowledge of and the proper application of studio lighting equipment
A studio notebook/journal that shows the student has taken class notes and is aware of the appropriate use and application of various studio equipment via sketches, diagrams, photograph attachments, written notes, and/or composited electronic files

Method(s) of Instruction

Method(s) of Instruction
Students attend weekly lectures for instruction and critique
Hands-on instruction with equipment and lighting techniques are demonstrated
Students follow lead of instructor, set up work stations, and complete the assignments

Representative Text(s)

Author(s)	Title	Publication Date
Hunter, Fil, Steven Biver, Paul Fuqua, and Robin Reid	Light—Science & Magic: An Introduction to Photographic Lighting, 6th ed. (ISBN-13: 978-0367860264)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Maintain a written studio and lighting notebook/journal that describes necessary tools, exposures, and lighting arrangements, as well as personal reflective notations addressing the efficacy of various studio set-ups
2. Written responses to other students' work

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
37

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101100 - Photography

PHOT F474C : STUDIO PHOTOGRAPHY TECHNIQUES III

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Photography (PHOT)
Course Number
F474C

Department
Photography (PHOT)

Division
Fine Arts and Communication (1FA)

Units
0

Course Title
STUDIO PHOTOGRAPHY TECHNIQUES III

Former ID

Cross Listed

Related Courses
PHOT F074C - STUDIO PHOTOGRAPHY TECHNIQUES III

Maximum Units
0

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
3

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
72

Total Student Learning Hours
144

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
Students who need additional practice, deeper understanding, or multiple methods of approaching these commercial photography concepts may benefit from repeating this course.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Noncredit Certificate of Completion in Commercial Photography

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?)

Submitted to division 9/27/22

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This will be a restricted support course for the noncredit Certificate of Completion in Commercial Photography, which is currently under development.

Attach evidence

Need/Justification
This course will be a restricted support course for the noncredit certificate of completion in Commercial Photography, currently under development.

Course Description
This course follows PHOT 474A and 474B. Emphasis is on acquiring advanced skills and techniques in studio lighting and studio operations. Students work towards the creation of a focused portfolio suitable for employment as a photography assistant, the creation of a small business/sole proprietorship in wedding, portraiture, editorial, advertising, and/or fine art studio photography.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: Completion of one or more of the following courses: PHOT 72 or 472, 74A or 474A, 74B or 474B.

Course Objectives

The student will be able to:

1. Operate a professional-level camera and related accessories with technical and artistic skill
2. Operate studio lighting and related accessories with technical and artistic skill with proper safety procedures in mind
3. Employ artistic and technical skills that effectively communicate the job's requirements
4. Demonstrate the ability to follow visual layouts and art direction
5. Operate an incident/reflected/flash light meter and determine appropriate exposures
6. Assimilate and utilize visual ideas drawn from diverse cultures and backgrounds
7. Develop a portfolio of images that reflect growing mastery in a specific career path

Course Content

1. Proper selection of cameras, lenses, and lighting

2. Implement lighting setups that are appropriate to the subject:
    1. Single light portraiture techniques
    2. Two light portraiture, using main and fill lights
    3. Three light portraiture, using main, fill, and hair light
    4. Techniques for shooting glassware and glossy surfaced items
    5. Illustrating editorial and public service announcements
    6. Advanced product photography techniques
    7. Painting with light techniques
    8. Drag shutter technique
    9. Emulating other styles
3. Securing equipment in various outdoor or adverse environments
4. Portfolio styles and the images that best represent student's own abilities and interests
5. Choosing the proper rental equipment and liability insurance
6. Working with professional and non-professional talent
    1. Selection of models
    2. Model releases, waivers
7. Know the proper roles of various members of the creative team
    1. Photographer, assistants, stylists, hair, art director, client, editors, etc.
8. Developing job estimates, knowing the monetary value of the job
9. Location scouting and pre-production
10. Benefits of membership in professional organizations, networking within the creative community, getting work
11. Guest speakers and/or studio visits

Lab Content

1. Preparing and arranging set lighting and related equipment in the studio

Special Facilities and/or Equipment

1. An open-beamed space with high ceiling and room to accommodate lighting equipment, backdrop material, and models. Room should be equipped with many well-placed electrical outlets capable of relatively high amperage draw. Studio should have secure storage areas or easy access to it for props and related studio equipment.
2. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer graphics applications and email software; email address.

Methods of Evaluation

Methods of Evaluation
Preparing a portfolio that demonstrates the photographic skills suitable for immediate acceptance of employment by an employer or client
1. Conducting an interview of an active member of the profession and sharing of results with

Methods of Evaluation
class 2. Presenting a finished portfolio to the instructor and entire class for feedback and ways to improve

Method(s) of Instruction

Method(s) of Instruction
The student will be attending weekly lectures and lighting demonstrations for the upcoming assignment 1. The student will see examples of photography created by professionals, as well as former students, for inspiration and for illustrating specific techniques that will be used in assignments The student will receive hands-on instruction and guidance for creative use of equipment during the lab portion of the class and to ensure safe and proper use of studio equipment Students will work in the studio during lab sessions to produce images for their portfolio While on photography studio or exhibition field trip visits, students will learn how other photographers have developed personal techniques that have influenced current styles of photography in the photography marketplace

Representative Text(s)

Author(s)	Title	Publication Date
Hunter, Fil, Steven Biver, Paul Fuqua, and Robin Reid	Light—Science & Magic: An Introduction to Photographic Lighting, 6th ed. (ISBN-13: 978-0367860264)	2021

Please provide justification for any texts that are older than 5 years

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Keep a notebook relating to client job requirements, specifications, and estimates
2. Read various trade periodicals and equipment manuals
3. Visits to industry websites

Authorized Discipline(s):
Photography

Faculty Service Area (FSA Code)
PHOTOGRAPHY

Taxonomy of Program Code (TOP Code)
*1012.00 - Applied Photography

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count
37

Load
.091

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
143081 - Photography

Account Code
1320

Program Code
101100 - Photography

Program Deactivation: Certificate of Achievement in CPA Examination Preparation

The Accounting Department respectfully requests deactivation of the Certificate of Achievement in CPA Examination Preparation. The reason for deactivation is that this certificate was missing courses that CPA applicants need to adequately prepare for the Certified Public Accountant (CPA) exam. Thus, this certificate is being replaced by five new certificates that would allow CPA applicants a greater chance of successfully passing the five parts of the CPA exam. The new certificates aligned with the five parts of the CPA exam are as follows:

1. Certificate of Achievement in Accounting Ethics (15 units)
2. Certificate of Achievement in CPA Exam Preparation - Audit (25 units)
3. Certificate of Achievement in CPA Exam Preparation - Business Environment and Concepts (25 units)
4. Certificate of Achievement in CPA Exam Preparation - Financial Accounting Reporting (25 units)
5. Certificate of Achievement in CPA Exam Preparation - Regulations (23 units)

BSS Division Curriculum Committee Approval: 10/25/2022

AATA F101A : MAGNETIC PARTICLE TESTING LEVEL 1

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)
Course Number
F101A

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
1.5

Course Title
MAGNETIC PARTICLE TESTING LEVEL 1

Former ID

Cross Listed

Related Courses

Maximum Units
1.5

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
20

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
40

Special Hourly Notation

Total Contact Hours
20

Total Student Learning Hours
60

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 1 classroom training for magnetic particle testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
Introduction to and theory of magnetism, including magnetic fields, material types, penetration variations, flux leakage, Fleming's Rule, and hysteresis curve. Methods of magnetism, including types of currents, field types and their advantages/disadvantages, and AC/DC field distribution. Equipment introduction, including equipment types, equipment uses, and accessories. Mediums for inspection, including different methods and their properties.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Understand the physics of magnetism
2. Understand and work within the limitations of the method
3. Select equipment to conduct test

Course Content

1. Theory of magnetism
    1. Magnetic field, lines of force, flux density
    2. Permeability, reluctance, retentivity, residual magnetism and coercive force
    3. Diamagnetic, paramagnetic and ferromagnetic materials
    4. Flux leakage
    5. Fleming's Right Hand and Left Hand Rule
    6. Magnetic fields
    7. Hysteresis curve
2. Methods of magnetization
    1. Faraday's Law
    2. Types of current
    3. Circular field
    4. Circular field advantages/disadvantages

5. Longitudinal field
6. Longitudinal field advantages/disadvantages
7. AC/DC field distribution

3. Equipment
    1. Equipment consideration
    2. Wet, horizontal, mobile, and portable
    3. Fluorescent testing and black light
    4. Light meter and accessories

Lab Content

Not applicable.

Special Facilities and/or Equipment
When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of written test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Magnetic Particle Testing (MT), Classroom Training Book, 2nd ed.	2015

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Reach Chapter 3 - Magnetization
2. Writing: Complete Quiz 3 on page 57. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F101B : MAGNETIC PARTICLE TESTING LEVEL 2

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)

Course Number
F101B

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
1

Course Title
MAGNETIC PARTICLE TESTING LEVEL 2

Former ID

Cross Listed

Related Courses

Maximum Units
1

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
15

Total Lab Hours per quarter
5

Total Out of Class Hours per quarter
30

Special Hourly Notation

Total Contact Hours
20

Total Student Learning Hours
50

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 2 classroom training for magnetic particle testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
Industry codes and standards; performing a test, including selecting equipment, steps to conduct a test, interpreting results, and writing test reports. Methods of applications and the different particles included in these.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Select appropriate equipment for the testing environment
2. Perform a complete MT test
3. Maintain a work station
4. Read and understand code and standard

Course Content

1. Mediums and preparation
    1. Dry and wet method
    2. Particles: Dry and wet
    3. Properties of particles
    4. Visibility of particles
    5. Methods of application
    6. Contamination of magnetic particles
    7. Settling test procedure
    8. Concentration for wet suspensions as per ASME Sec V Article 7
    9. Bath maintenance
2. Application
    1. Residual and continuous method
    2. Magnetic particle inspection of solid cylindrical parts, gears, multiple diameter articles, discs, hollow cylindrical articles
    3. Selection of proper method of magnetization

4. Verification of magnetic fields
5. Checking the adequacy of field using the Pie Gauge, shims
6. Fluorescent inspection
7. Black light warm up time
8. Minimum intensity and light meter
9. Visual adaptation
10. Visual inspection
11. Minimum light intensity and light meter
12. Magnetic rubber inspection

3. Types of indications
    1. Interpretation, including relevant, false, non-relevant indications MODULE 8: CODES AND STANDARDS (specific training)
    2. MT inspection procedures
4. Codes and standards: Most recent codes and standards will be used
    1. Example:
        1. ASME Section V Article 7: Magnetic Particle Examination
        2. ASME Section VIII (Accept/Reject Criteria)
        3. ASTM E-709: Standard Guide for Magnetic Particle Testing
        4. ASTM E-1444: Standard Practice for Magnetic Particle Testing
    2. Other codes and standards can be discussed if pre-arranged with the instructor at the time of registration

Lab Content

1. Magnetic yoke, dry visible, wet visible, wet fluorescent
2. Central conductor
3. Coil shot - longitudinal
4. Ketos (Betz) Ring - depth of penetration
5. Training on weld flaw samples

Special Facilities and/or Equipment

1. Magnetic yoke, aerosol penetrant.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of written test
Results of practical test

Method(s) of Instruction

Method(s) of Instruction
Discussion

Method(s) of Instruction
Slideshow
Video
Demonstration
Hands-on training

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Magnetic Particle Testing (MT), Classroom Training Book, 2nd ed.	2015

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Reach Chapter 3 - Magnetization
2. Writing: Complete Quiz 3 on page 57. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F102A : PENETRANT TESTING LEVEL 1

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)

Course Number
F102A

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
1.5

Course Title
PENETRANT TESTING LEVEL 1

Former ID

Cross Listed

Related Courses

Maximum Units
1.5

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
20

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
40

Special Hourly Notation

Total Contact Hours
20

Total Student Learning Hours
60

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?
• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 1 classroom training for liquid penetrant testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course covers the principles of liquid penetrant testing and prepares students to understand the different products/equipment; select equipment and setup test equipment and area; understand the steps to conduct a test; and become familiar with codes and standards.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Understand the physical principles and purpose of liquid penetrant testing
2. Name and understand the categories of test processes, types of dye, methods of removal, and sensitivity levels
3. Select the correct process for testing
4. Understand the limitations of liquid penetrant testing
5. Perform the basic steps of a test

Course Content

1. Principles
2. Purpose of liquid penetrant testing
3. Physical properties: Wetting ability and contact angle, surface tension, capillary action, reverse capillary action, viscosity
4. Visibility of indications: Types, visual indicators
5. Categories of test processes
6. Types of dye: Type I (Fluorescent), Type II (Visible)
7. Methods of removal: Excess penetrant, water washable, emulsifiers, solvent removable
8. Sensitivity levels: 1/2 - 4, the appropriate uses
9. Limitations
    1. When liquid penetrant should not be used and why
    2. Using liquid penetrant with other methods of testing

Lab Content

Not applicable.

Special Facilities and/or Equipment
When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of written test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Liquid Penetrant Testing (PT) Classroom Training Book, 2nd ed.	2019

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 2, section 2-4
2. Writing: Complete Quiz 2 on page 13. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F102B : PENETRANT TESTING LEVEL 2

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)

Course Number
F102B

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
1.5

Course Title
PENETRANT TESTING LEVEL 2

Former ID

Cross Listed

Related Courses

Maximum Units
1.5

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
20

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
40

Special Hourly Notation

Total Contact Hours
20

Total Student Learning Hours
60

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 2 classroom training for liquid penetrant testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course covers the application of liquid penetrant testing and prepares students to understand the different products/equipment; select equipment and setup test equipment and area; understand the steps to conduct a test; interpret and evaluate indications; and become familiar with standards and codes.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Understand all applicable industry codes and standards
2. Interpret results with respect to applicable codes and standards
3. Understand limitation of the test method
4. Write test reports

Course Content

1. Application and removal of penetrants
    1. Selection of penetrant materials
        1. Cleaners
        2. Penetrant
        3. Developer
        4. Selection based on family
    2. Application of penetrant
    3. Standard temperature limits
    4. Dwell time
    5. Drying
        1. Drying parameters
        2. Drying time limits
    6. Application of developers
        1. Types of developers

            1. Aqueous
            2. Non-aqueous
        2. Developing time
    7. Fluorescent inspection
        1. Black light warm up time
        2. Minimum intensity and light meter
        3. Visual adaptation
    8. Visual inspection
        1. Minimum light intensity and light meter
    9. Post cleaning
    10. Limitation of penetrant testing
2. Interpretation
    1. Interpretation of test results
        1. Flow chart for interpretation
        2. True, false, relevant and non-relevant indications
        3. Categories of indications: Rounded and linear
3. Examination of indications
    1. ASTM E-433 Reference Photographs of Indications Types
    2. MODULE 7: CODES & STANDARDS (Specific Training)
    3. Codes
        1. ASME Section V, Article 6
        2. ASME Section VIII, Appendix 8 (Accept/Reject Criteria)
    4. Standards
        1. ASTM E-165 Standard Practice for Liquid Penetrant Examination
        2. ASTM E-1209 Fluorescent Water Washable Liquid Penetrant Testing
    5. Other codes and standards can be discussed at the request of the student, at the time of registration

Lab Content

Not applicable.

Special Facilities and/or Equipment
When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of written test

Method(s) of Instruction

Method(s) of Instruction
Discussion

Method(s) of Instruction
Slideshow
Video
Demonstration

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Liquid Penetrant Testing (PT) Classroom Training Book, 2nd ed.	2019

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 5, section 3
2. Writing: Complete Quiz 5 on page 57. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F103A : ULTRASONIC TESTING LEVEL 1

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)

Course Number
F103A

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
3

Course Title
ULTRASONIC TESTING LEVEL 1

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
40

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
80

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
120

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

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• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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

Criteria A. Appropriateness to Mission

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Please indicate how your course supports the Foothill College Mission:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 1 classroom training for ultrasonic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course introduces the basic principles of ultrasonics and prepares the student for straight beam inspections and thickness measurement.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Select equipment to conduct test
2. Follow instructions to conduct UT Level 1 inspections
3. Follow step-by-step written calibration procedure
4. Understand all applicable industry codes and standards
5. Interpret results with respect to applicable codes and standards
6. Understand limitation of the test method
7. Write test reports
8. Conduct thickness testing on various reference materials

Course Content

1. Personnel certification
    1. ASNT SNT-TC-1A, 2021
    2. NAS 410
    3. Training, experience and examination requirements
    4. Training requirements
    5. Certification of NDT Personnel: Level I, Level II and Level III
    6. Recommended course outlines for NDT training
    7. Required training hours
    8. Practical
    9. Quizzes and examinations
2. Wave Modes
    1. Waves - velocity, wavelength, and frequency

    2. Wave modes: Longitudinal and shear waves
    3. Velocity of waves
    4. Factors affecting velocity - temperature
3. Ultrasonic transducer and sound field
    1. Piezoelectric crystal
    2. Near field concept
    3. Beam spread and sound loss
    4. Reducing beam spread: Frequency and diameter
    5. Single and dual transducers
    6. Resolution in flaw detection: Frequency and damping
    7. Transducer selection: Frequency and diameter
4. UT equipment
    1. Pulser-Receivers
    2. Instrument controls: Gain, range, velocity, delay
    3. Displays, A-, B-, and C-scans
    4. Selection of UT equipment for ultrasonic testing
    5. UT equipment demonstration
5. Thickness measurement
    1. Thickness measurement concept
    2. Probe selection: Single vs. dual
    3. Setting the UT equipment for thickness measurement
    4. Thickness measurement practical
6. Sound attenuation and decibels
    1. Attenuation - loss of sound with distance
    2. Maximum range of inspection
    3. What are decibels (dB)?
    4. Reducing attenuation - ultrasonic frequency
    5. Attenuation and its effects on testing of materials
    6. Attenuation and probe selection
7. Acoustic impedance
    1. Reflection and transmission at interfaces
    2. Impedance matching
8. Refraction and reflection
    1. Reflection and refraction at interfaces
    2. Snell's Law
    3. Mode conversion to shear waves at interfaces
    4. Introduction to angle beam testing of welds (covered in detail in UT Level 2 course)
9. Flaw detection - straight beam
    1. Flaw detection, lamination, corrosion mapping, bolts
    2. Use of flat bottom holes for establishing reference
    3. Compensating sound loss from beam spread distance amplitude correction curves (DAC)
    4. Inspection of forgings and castings: ASTM standards

Lab Content

Not applicable.

Special Facilities and/or Equipment
1. UT thickness machine, transducers, test/sample pieces, couplant.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of written test
Results of practical test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration
Hands-on training

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Ultrasonic Testing (UT) Classroom Training Book	2015

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 4 - UT Equipment
2. Writing: Complete Quiz 4 on page 82. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F103B : ULTRASONIC TESTING LEVEL 2

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)
Course Number
F103B

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
3

Course Title
ULTRASONIC TESTING LEVEL 2

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
40

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
80

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
120

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 2 classroom training for ultrasonic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course dives deeper into ultrasonic inspection, including flaw detection using angle beam inspection, application of immersion testing, weld testing, and evaluation and interpretation of codes and standards.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Select equipment to conduct test
2. Set up test equipment
3. Conduct UT inspections of reference samples to find discontinuities and anomalies in materials
4. Create a Distant Amplitude Curve and apply to reference materials and UT inspections
5. Understand all applicable industry codes and standards
6. Interpret results with respect to applicable codes and standards
7. Understand limitation of the test method
8. Write test reports

Course Content

1. UT test modes
    1. Pulse-echo mode
    2. Pitch-catch mode
    3. Thru-transmission mode
    4. Scan plans and weld volume coverage
2. Immersion testing
    1. Normal beam
    2. Angle beam
    3. Focused immersion probes

    4. Immersion tanks
3. Calibration blocks
    1. IIW Blocks Type I and II
    2. Miniature angle beam
    3. DSC Block
    4. AWS Resolution Block
    5. Step wedge
    6. Area Amplitude Block
    7. Distance Amplitude Block
4. Angle beam inspections - basics
    1. Selection of screen range
    2. Measurement of beam exit point
    3. Measurement of refracted angle
    4. Range calibration using IIW, DSC Block
    5. Angle selection for weld inspection
    6. Surface distance, skip distance, depth, 1/2 vee and full V path
    7. Weld inspection and plotting discontinuities - for example, crack, lack of fusion, lack of penetration, slag, porosity in welds
5. Angle beam inspections - DAC and other issues
    1. Sensitivity calibration: Piping and non-piping calibrations
    2. Distance Amplitude Correction (DAC) curve
    3. Time Corrected Gain (TCG)
    4. Weld volume coverage and scan plan
    5. High temp angle beam inspections
    6. Discontinuity length sizing using 6 dB and 20 dB drop method
    7. Worksheet: Plotting of discontinuities for butt welds
6. ASME V, Article 4, Writing an Ultrasonic Procedure
    1. ASME Section V
    2. Essential variables
    3. Non-essential variables
7. ASME V codes and standards
    1. ASME Section V, Article 4 Weld Examination
    2. SA 388 Heavy Steel Forging
    3. Additional codes and standards as per student's requirements, as requested at the time of registration
8. ASME V cladding inspection techniques
    1. Detection of disbond and cladding flaws
    2. Techniques: One and Two
    3. Calibration blocks
9. AWS D1.1 and API RP 2X
    1. Establishing reference level (b)
    2. Indication rating (d), indication level (a), attenuation factor (c)

Lab Content

Not applicable.

Special Facilities and/or Equipment
1. UT testing machine, transducers, test/sample pieces, couplant.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of written test
Results of practical test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration
Hands-on training

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Ultrasonic Testing (UT) Classroom Training Book	2015

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 16 - ASME V Cladding Inspection Techniques
2. Writing: Complete Quiz 16 on page 102. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F104A : ULTRASONIC PHASED ARRAY THEORY

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)
Course Number
F104A

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
3

Course Title
ULTRASONIC PHASED ARRAY THEORY

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
40

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
80

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
120

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for phased array ultrasonic testing classroom training for ultrasonic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course introduces the basic principles of ultrasonic phased arrays and prepares students to use phased array for ultrasonic examinations.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Understand the theory, principles, and physics of ultrasonic phased array testing
2. Conduct a PAUT test
3. Use PAUT appropriately in lieu of radiography
4. Navigate PAUT machine menus and submenus

Course Content

1. Phased array certification
2. Phased array physics
    1. Beam profile of a conventional probe
    2. Near field and beam spread
    3. Conventional focusing
    4. Phased array focusing using time delays
    5. Beam steering and element size
3. Phased array technology
    1. Probe frequency, element size and aperture L-wave probes
    2. S-wave probes
    3. Probe definition
    4. Module PA3 phased array equipment
    5. Starting the instrument
    6. Navigating menus
    7. Submenus

Lab Content

Not applicable.

Special Facilities and/or Equipment
When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of a written test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

Handouts provided by instructor.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Reading of in-class handouts.

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F104B : ULTRASONIC PHASED ARRAY LABORATORY

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)
Course Number
F104B

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
1

Course Title
ULTRASONIC PHASED ARRAY LABORATORY

Former ID

Cross Listed

Related Courses

Maximum Units
1

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
0

Total Lab Hours per quarter
40

Total Out of Class Hours per quarter
0

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
40

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

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Please select
Temporary

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Certificate of Achievement in Nondestructive Testing

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Workforce/CTE

Criteria B. Need

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Evidence

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Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours and hands-on training for phased array ultrasonic testing classroom training for ultrasonic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
Ultrasonic phased array testing laboratory, in which students will receive hands-on training using plates and pipes with embedded flaws. Students will be able to perform tests, analyze results, and categorize flaws.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Navigate the menus and set up an Omniscan machine
2. Upload software programs to the Omniscan machine
3. Calibrate the Omniscan machine
4. Perform element check
5. Use PAUT in lieu of RT when applicable
6. Understand the limitations of PAUT

Course Content

1. Omniscan menus and setups, navigation
    1. Menus, submenus
    2. UT settings, focal laws
    3. Straight beam and angle beam module PA5: Omniscan calibration
    4. Sound velocity
    5. Wedge delay
    6. Sensitivity
    7. TCG
2. OmniPC - analysis software, loading data
    1. Analysis tools
3. Phasor menus and setup
    1. Menus
    2. Setting

    3. Setting sectorial scan
4. Phasor calibration
    1. Sound velocity
    2. Wedge delay
    3. Sensitivity
    4. TCG
5. Element check
6. Straight beam inspection
    1. Probe selection
    2. Focal law
    3. Sweep angle
7. Weld inspection
    1. Setup
    2. Probe/part
    3. Scanning weld samples
8. Encoded scans
    1. Setup of scanner
    2. Encoder calibration
    3. Scanning weld samples
9. PAUT in lieu of RT
    1. ASME Section V, Article 4, Appendix VIII and IX
    2. ASME Section VIII, Section 7.5.5 (previously Code Case 2235-09)
    3. B31.3 Code Case 181-2, Use of Alternate Acceptance Criteria
    4. Examples of accept/reject
10. Special applications; inspection of stainless steel, duplex steels and A 625 welds using refracted L-waves
    1. Generating of refracted L-waves
    2. Limitation of refracted L-waves
    3. Inspection of welds in stainless steels and duplex steel
    4. Inspection of A625 closure welds
    5. Inspection of A625 clad

Lab Content

Phased array UT inspections to be completed on reference samples to find, size, locate, and decide rather or not anomalies are accepted or rejected to industry standards.

Special Facilities and/or Equipment

1. Omniscan MX 32:128, transducers, test pieces, couplant.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of practical exam
Results of written test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Video
Demonstration
Hands-on training

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

Handouts provided by instructor.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Reading of in-class handouts.

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F105A : RADIOGRAPHIC TESTING LEVEL 1

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)
Course Number
F105A

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
3

Course Title
RADIOGRAPHIC TESTING LEVEL 1

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
40

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
80

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
120

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

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Please select
Temporary

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Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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Please indicate how your course supports the Foothill College Mission:
Workforce/CTE

Criteria B. Need

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Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 1 classroom training for radiographic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course introduces the basic principles of radiography, radiation safety, physics of radiation, exposure, radiography film, and radiograph shots.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Understand radiation physics, safety, and types
2. Identify radiation devices and sources and handle them properly
3. Understand the basic principles of radiographic testing
4. Perform a basic radiographic test

Course Content

1. Radiological safety
    1. Units
    2. Dosage and health effects
    3. Radiation detectors including dosimeter, survey meter, film badge, TLD
2. Types of radiation
    1. X-ray
    2. Gamma rays
    3. Properties of radiation
    4. Attenuation of electromagnetic radiation
3. Types of radiation
    1. Particulate radiation - alpha, beta, neutron
    2. Electromagnetic radiation - X-ray, gamma ray
    3. X-ray production
    4. Gamma ray production
    5. Gamma ray energy
    6. Energy characteristics of common radioisotopes
    7. Energy characterization of X-ray machines
4. Interaction of radiation with matter
    1. Ionization
    2. Radiation interaction with matter
    3. Units of radiation

4. Attenuation and shielding
5. Half value layer
6. Inverse square law

5. Exposure devices and radiation sources
    1. Radioisotope sources
    2. Radioisotope exposure device characteristics
    3. Electronic radiation sources - 500 Kev or less
    4. Electronic device sources - medium and high energy
6. Basic principles of radiography
    1. Geometric exposure principles
    2. Radiographic screens
    3. Radiographic cassettes
    4. Composition of radiographic film
7. Exposure techniques
    1. Single wall
    2. Double wall
    3. Panoramic
    4. Use of multiple films
8. Film type selection
    1. Exposure time
    2. Radiographic technique setup
    3. Setup and geometrical unsharpness, establishing 2mR boundary
    4. IQI selection and placement
    5. Location markers
9. Radiographs
    1. Formation of the latent image on film
    2. Inherent unsharpness
    3. Arithmetic of radiographic exposure
    4. Characteristic curve
    5. Film speed and class description, Module 9: Radiographic Image Quality
    6. Radiographic sensitivity
    7. Radiographic contrast
    8. Film contrast
    9. Subject contrast
    10. Definition
    11. Film graininess
    12. Image Quality Indicators (IQI)

Lab Content

Not applicable.

Special Facilities and/or Equipment
When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of a written test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Radiographic Testing (RT), Classroom Training Book, 2nd ed.	2016

Please provide justification for any texts that are older than 5 years
This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 5 - Basic Principles
2. Writing: Complete Quiz 5 on page 45. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F105B : RADIOGRAPHIC TESTING LEVEL 2

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)

Course Number
F105B

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
3

Course Title
RADIOGRAPHIC TESTING LEVEL 2

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
40

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
80

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
120

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?
• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 2 classroom training for radiographic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course prepares students to perform industrial radiography, including dark room facilities, image quality, indications, codes and standards.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Perform RT tests
2. Develop or process film
3. Analyze results and interpret indications

Course Content

1. Dark room facilities
    1. Facilities and equipment
    2. Film loading
    3. Protection of radiographic
    4. Processing of film - manual
    5. Automatic film processing
    6. Film filing and storage
2. Radiographic image quality
    1. Radiographic sensitivity
    2. Radiographic contrast
    3. Definition
    4. Film graininess
    5. Image Quality Indicators (IQI)
3. Viewing radiographs
    1. Equipment
    2. Acceptable densities
    3. Film viewing considerations
    4. Indications: Relevant and non-relevant
4. Unsatisfactory radiographs
5. Weldments and castings
    1. Welding discontinuities
    2. Casting discontinuities

6. ASME V, Article 2
    1. Sensitivity, geometrical unsharpness and density requirements, ASME V Table T-276ASTM E-94 Standards
    2. Application of RT to pressure vessels
    3. ASME VIII

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. Dummy source, caution tape, film, film viewer.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of a written test
Results of practical test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration
Hands-on training

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	Personnel Training Publications: Radiographic Testing (RT), Classroom Training Book, 2nd ed.	2016

Please provide justification for any texts that are older than 5 years

This text is still widely used within the industry and is the most current text used for training.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 17 - Application to Pressure Vessels
2. Writing: Complete Quiz 17 on page 105. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F105C : NON-FILM RADIOGRAPHIC TESTING

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)
Course Number
F105C

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
2.5

Course Title
NON-FILM RADIOGRAPHIC TESTING

Former ID

Cross Listed

Related Courses

Maximum Units
2.5

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
30

Total Lab Hours per quarter
10

Total Out of Class Hours per quarter
60

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
100

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?
• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for Level 2 classroom training for non-film radiographic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
In this course students will learn the advanced radiographic techniques of computed radiography and digital radiography.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Understand the principles of digital and computed radiography
2. Understand abbreviations and Greek symbols used
3. Select appropriate equipment
4. Know how to apply technique to code and standards

Course Content

1. Module 1: Carestream digital radiography course description
2. Module 2: Common abbreviations for digital imaging
3. Module 3: Greek symbols
4. Module 4: Flexible storage phosphor plate vs. film-based technology for erosion/corrosion profiling
5. Module 5: Myths vs. reality in computed radiography image quality
6. Module 6: Qualification of a computed radiography system's exposure range for optimum image quality
7. Module 7: Automated and quantitative method for quality assurance of digital radiography imaging systems
8. Module 8: Computed radiography
    1. Phosphor plates
    2. Film vs. CR
    3. Limitations of CR
9. Module 9: Digital radiography
    1. Flat panel detectors
    2. Image enhancement tools

Lab Content

1. Technique selection

2. Penetrameter requirements
3. Location marker and IQI placement
4. Identification of defects
5. Interpretation
6. Accept/Reject

Special Facilities and/or Equipment
1. CR film scanner, interpretation software, CR film, DR panels.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of a written test
Results of practical test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration
Hands-on training

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

Handouts and equipment manuals provided by instructor.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading of in-class handouts
2. Reading of in-class manuals

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

AATA F105R : RADIATION SAFETY

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Apprenticeship: Aerospace (AATA)

Course Number
F105R

Department
Apprenticeship (A P)

Division
Apprenticeship (1ED)

Units
3

Course Title
RADIATION SAFETY

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
40

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
80

Special Hourly Notation

Total Contact Hours
40

Total Student Learning Hours
120

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Pass/No Pass Only

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Nondestructive Testing

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?)

February 2023

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

Please see attached Center of Excellence NDT Program Program Endorsement Brief: 0956.80/Industrial Quality Control

Attach evidence
NDT COE.PDF
PQNDT-Salary-Survey-Results-2019-Final (1).pdf

Need/Justification
This course covers the required hours for radiation safety training for radiographic testing and prepares students to work within the Nondestructive Testing industry as state-registered apprentices.

Course Description
This course teaches students how to work safely around radioactive materials and how to safely handle and store materials.

Course Prerequisites
Prerequisite: This course is limited to students admitted to the Nondestructive Testing Technician Apprenticeship Program.

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Inform others of the safety area
2. Understand radioactivity and the harmful effects of radiation
3. Determine safety time, distance, and shielding
4. Detect and measure radiation
5. Operate exposure devices
6. Understand safety procedures and transport rules
7. Prevent accidents

Course Content

1. Module 1: Safety training of personnel
2. Module 2: Ionizing radiation
3. Module 3: Radioactivity
4. Module 4: Harmful effects of radiation
5. Module 5: How do time, distance, and shielding affect your personal dose?
6. Module 6: How do we detect and measure this radiation?
7. Module 7: How do radiography exposure devices operate?
8. Module 8: What are the rules for transporting radioactive sources?
9. Module 9: How can following safety procedures help us?
10. Module 10: How and why do radiographic exposure accidents happen?

Lab Content
Not applicable.

Special Facilities and/or Equipment
1. Examples of radiography exposure devices and radiation detection devices.
2. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Methods of Evaluation

Methods of Evaluation
Results of a written test

Method(s) of Instruction

Method(s) of Instruction
Discussion
Slideshow
Video
Demonstration

Representative Text(s)

Author(s)	Title	Publication Date
American Society for Nondestructive Testing	ASNT Study Guide: Industrial Radiography Radiation Safety	2022
American Society for Nondestructive Testing	Gamma Radiation Safety Study Guide, 2nd ed.	1999

Please provide justification for any texts that are older than 5 years
The Gamma Radiations Safety Study Guide is still widely used within the industry and is the most current text used for training, as the principles and information regarding gamma radiation has not changed.

Other Required Materials

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading: Read Chapter 3
2. Writing: Complete Quiz 3 on page 41. Quiz results will be reviewed in class as a group

Authorized Discipline(s):
Industrial Maintenance

Faculty Service Area (FSA Code)
INDUSTRIAL TECH

Taxonomy of Program Code (TOP Code)
*0956.80 - Industrial Quality Control

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

C·O·E CENTERS OF EXCELLENCE
Inform Connect Advance

Program Endorsement Brief: 0956.80/Industrial Quality Control
Industrial Applied Science Core Competencies

Los Angeles/Orange County Center of Excellence, March 2019

Summary:

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide regional labor market supply and demand data related to quality assurance/quality control workers. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with relevant occupations.

The following summarizes key findings from this data brief:

- The number of jobs for the two occupations of interest is projected to decrease by 7% over through 2022; however, approximately 3,325 job openings will be available annually due to retirements and workers leaving the field.
- Over the past 12 months, there were 4,884 online job postings for jobs related to quality assurance/quality control in Los Angeles and Orange Counties.
- One other related program recommendation request was received in 2018 from a regional community college.
- Ten colleges in the region have Manufacturing and Industrial Technology programs.
- Between 2014 and 2017, community colleges in the region conferred an average of 55 awards annually (associate degrees and certificates) in related training programs.

Occupational Demand—In Los Angeles/Orange County, the number of jobs related to quality assurance/quality control (QA/QC) is projected to decrease by 7%. However, there will be more that 3,300 job openings per year through 2022 due to retirements and workers leaving the field (Exhibit 1).

Exhibit 1: Occupational demand in Los Angeles and Orange Counties[1]

Geography	2017 Jobs	2022 Jobs	2017-2022 Change	2017-2022 % Change	Annual Openings
Los Angeles	20,413	18,590	(1,823)	(9%)	2,257
Orange	9,504	9,109	(395)	(4%)	1,067
Total	**29,917**	**27,699**	**(2,218)**	**(7%)**	**3,325**

[1] Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Wages—Entry-level wages for QA/QC-related workers in the region are between $10.55 and $11.11. Entry-level wages for these occupations are lower than the MIT living hourly wage for one adult in the region ($13.54 in Los Angeles County and $15.31 in Orange County). Experienced workers earn between $24.00 and $32.67, which is higher than the living wage.

Job Postings—There were 4,884 online postings for jobs related to QA/QC listed in the past 12 months. The majority of job postings are for quality inspector, quality control inspector, quality assurance inspector, quality assurance specialist, and inventory specialist. Job postings indicate employers require the following skills and machine/tools knowledge: quality assurance and control; micrometers; calipers; quality management; and coordinate measuring machine (CMM).

Educational Attainment—The BLS lists a high school diploma or equivalent as the typical entry-level education for these occupations. The national-level educational attainment data indicates between 34% and 38% of workers in the field have completed some college or an associate degree. In Los Angeles/Orange County, 92% of job postings request a high school diploma or vocational training.

Community College Supply—Appendix A shows the annual and three-year average number of awards conferred by community colleges in Manufacturing and Industrial Technology (0956.00). Currently, Industrial Quality Control (0956.80) is offered at Cerritos College and Santiago Canyon, but there have been no awards granted in the past three academic years. The colleges with the most completions in the region are: Santiago Canyon and Mt. San Antonio. In 2018, there was one other related program recommendation request from a regional community college.

Appendix A: Regional community college awards (certificates and degrees), 2015-2018

TOP Code	Program	College	2015-16 Awards	2016-17 Awards	2017-2018 Awards	3-Year Award Average
0956.00	Manufacturing and Industrial Technology	Cerritos	4	3	6	4
		Compton	-	-	2	2
		El Camino	1	3	3	2
		Fullerton	10	3	11	8
		Irvine	9	7	1	6
		LA Valley	3	4	2	3
		Mt San Antonio	12	19	9	13
		Saddleback	6	5	9	7
		Santa Ana	4	-	1	3
		Santiago Canyon	-	-	27	27
		Total/Average	**49**	**44**	**71**	**55**

Appendix B: Occupational demand and wage data by county

Exhibit 2. Los Angeles County

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	16,847	15,107	(1,740)	(10%)	1,914	$10.94	$18.40	$33.82
Weighers, Measurers, Checkers, and Samplers, Recordkeeping (43-5111)	3,566	3,483	(83)	(2%)	344	$10.50	$13.46	$24.35
Total	**20,413**	**18,590**	**(1,823)**	**(9%)**	**2,257**			

Exhibit 3. Orange County

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	7,718	7,342	(376)	(5%)	895	$11.95	$18.77	$30.88
Weighers, Measurers, Checkers, and Samplers, Recordkeeping (43-5111)	1,786	1,767	(19)	(1%)	173	$11.04	$14.36	$23.51
Total	**9,504**	**9,109**	**(395)**	**(4%)**	**1,067**			

Exhibit 4. Los Angeles and Orange Counties

Occupation (SOC)	2017 Jobs	2022 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	24,564	22,450	(2,114)	(9%)	2,809	$11.11	$18.51	$32.67
Weighers, Measurers, Checkers, and Samplers, Recordkeeping (43-5111)	5,352	5,249	(103)	(2%)	516	$10.55	$13.79	$24.00
Total	**29,917**	**27,699**	**(2,218)**	**(7%)**	**3,325**			

Appendix C: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (EMSI)
- Employment Development Department, Labor Market Information Division, OES
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- MIT Living Wage
- Chancellor's Office Curriculum Inventory (COCI 2.0)

For more information, please contact:

Lori Sanchez, Director
Center of Excellence, Los Angeles/Orange County Region
Lsanchez144@mtsac.edu

March 2019

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PONDT

Salary Survey 2019

*Your Path to the **Perfect Job** Starts Here.*

PQNDT Salary & Benefits Survey 2019
ABOUT PQNDT

ABOUT PQNDT

PQNDT (Personnel for Quality and Nondestructive Testing) is the premier personnel recruitment and placement agency for the nondestructive testing industry.

Founded in 1967, we have been serving the personnel needs of the NDT industry for more than 50 years. We are the only personnel agency in the world focusing exclusively on the technically demanding and highly specialized field of NDT and quality inspection.

PQNDT identifies, screens, pre-qualifies and positions skilled, experienced NDT personnel on both a permanent and contract basis for companies nationwide. Employers in all industries have come to rely on PQNDT to find the most qualified people, while candidates trust us to help them find the "path to the perfect job."

We meet the challenge of balancing the needs of employer and employee by establishing a relationship of mutual trust and respect. Our extensive analysis of candidates and career counseling services help ensure the best match between professional and employer.

Our web site – www.pqndt.com – offers the industry's most comprehensive database of qualified job candidates and current NDT positions available.

For additional information contact us at (800) 736-3841 or visit www.pqndt.com.

*Your Path to the **Perfect Job** Starts Here.*

PQNDT

22 Bates Road, Suite 156, Mashpee, MA 02649
Tel 800-736-3841 Fax 781-643-1786
www.pqndt.com

PQNDT Salary & Benefits Survey Results 2019
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22 Bates Road, Suite 156, Mashpee, MA 02649
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www.pqndt.com

CLICK HERE TO RETURN TO TABLE OF CONTENTS

A SOLID YEAR, BUT AN UNPREDICTABLE FUTURE

Our annual survey of the NDT industry, the results of which you see here, was conducted just prior to the onset of the unprecedented disruption caused by the global COVID-19 pandemic. Nobody could have guessed at the economic turmoil that would emerge, or the unpredictability that has resulted. Which is too bad, because 2019 was a pretty good year for our industry.

Granted, the NDT industry, like many others, has benefitted from an extended run of solid economic progress across the U.S. economy. But, unlike other sectors, salaries and benefits in NDT have outpaced the average wage growth. The average annual compensation for a Full-Time NDT professional rose 3.6% from 2018 to 2019, a period during which the average American worker saw a pay raise of just 2.8% (according to Bureau of Labor Statistics data). This continues a multi-year trend of strong demand and steady wage growth in NDT.

Full-time NDT employment also ran ahead of the curve in 2019 at 3%, while overall unemployment hovered at just below 4% prior to the pandemic. It is no wonder that 92% of Full-Time NDT workers feel "Very Secure" (53%) or "Pretty Safe" (39%) when it comes to job security. Contractors were feeling a little less optimistic about their prospects for continued employment, with 67% saying they were "Very Confident" about finding new assignments.

MORE FULL-TIME STABILITY

Confidence in the decade long expansion of the economy finally began to show up in hiring patterns during 2019. Employers in several industries that had embraced outsourcing NDT work to Contractors showed a tendency to bring on more Full-Time workers, a sign that they felt more secure in a stable future. But what this will mean post-COVID is unknowable. It could well be that uncertainty about economic activity will see a shift back to hiring Contractors to reduce long-term commitment among employers.

WHAT DOES THE FUTURE HOLD?

As I am writing this there is simply no telling what effect the COVID-19 crisis will have on the NDT industry, either short-term or long-term. If key industries such as construction and petrochemical bounce back quickly that may help to ameliorate the more worrisome losses expected in aerospace and shipbuilding, whose customers include the airlines and cruise lines that have taken a terrific blow from the pandemic. Similarly, domestic oil production suffered a double hit from an international price war and a massive reduction in travel. A return to more stable pricing and resumption of more normal travel activity will help stabilize that industry.

However, in the short-term we can expect to see some layoffs of NDT technicians across many industry sectors, and an increase in competition for jobs as the economy regains momentum. Now may be a good time to make your sure certifications are up to date and to undertake that updated training you have been putting off.

STILL A NEED FOR NDT

Despite all that has occurred over the past few months, the need for nondestructive testing remains high. While some inspection processes may be automated in the future, the in-depth testing and analysis that is the hallmark of NDT professionals is not going away.

Sincerely,
Michael P. Serabian
President
PQNDT, Inc.

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PQNDT

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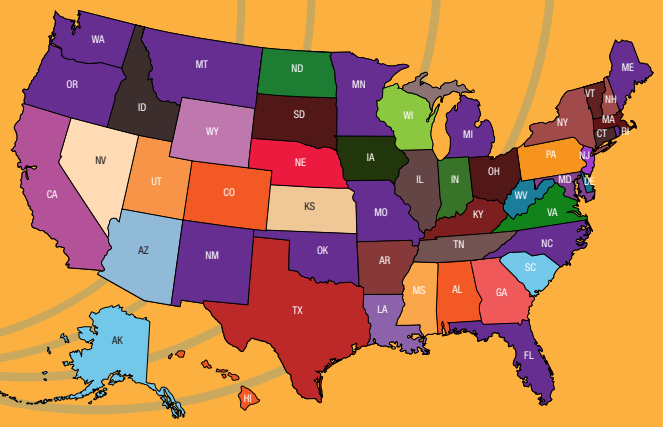
PQNDT Salary & Benefits Survey 2019
OVERALL RESULTS

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- The balance between Full-Time and Contract NDT professionals remains steady, a reflection of the stability of the pre-pandemic economy
- The industry continues to remain primarily dominated by male workers (96%), while the average age of an NDT worker continues to creep up (47 years)
- Average annual compensation for a Full-Time NDT professional rose 3.6% over the past year, while the average American worker saw a pay raise of just 2.8% (Bureau of Labor Statistics)



2019 SURVEY RESPONSES BY REGION

North East (NY, MA, ME, NH, VT, CT, RI)	6%
Mid-Atlantic (PA, MD, WV, DE, NJ)	6%
Southern (FL, GA, AL, MS, NC, SC, KY, TN, VA)	23%
Great Lakes (MI, IL, OH, IN, MN, WI)	12%
North Central (IA, KS, NE, SD, ND, MT, CO, WY, UT, ID)	11%
South Central (TX, LA, OK, NM, AR, MO)	25%
Pacific (CA, OR, WA, NV, AZ, AK, HI)	17%

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EMPLOYMENT TYPE

Full-Time		85%
- Salaried	43%	
- Hourly	42%	
Contractor		15%

RESPONDENT PROFILE

Male	96%
Female	4%
Average Age	46 years
Average NDT Experience	19.7 years

PRIMARY INDUSTRY

Aerospace	33%
Construction	11%
Defense	4%
Laboratory	3%
Petrochemical	30%
Shipbuilding	2%
Steel & Foundry	6%
Utility & Power	11%

CERTIFICATION

Level I	7%
Level II	32%
Level III	34%
API Inspector	14%
CWI Inspector	13%

JOB DESCRIPTION

API Inspector	14%
CWI Inspector	4%
Director of Quality	1%
Level III Specialist	17%
NDT Manager	11%
NDT Supervisor	5%
NDT Technician	30%
QA/QC Inspector	9%
Quality Manager	7%
Sales	0%
Scientist/Engineer	1%
Other	1%

PQNDT Salary & Benefits Survey 2019
FULL-TIME EMPLOYEES

CLICK HERE TO RETURN TO TABLE OF CONTENTS

ON THE ECONOMY	
Recovering Strongly	47%
Slowly Pulling Out of Recession	45%
Still in Recession, Little Change	6%
Getting Worse	2%

JOB PROSPECTS	
Much Better Than Last Year	26%
A Little Better Than Last Year	30%
About the Same	40%
A Little Worse Than Last Year	3%
Much Worse Than Last Year	1%

CURRENTLY EMPLOYED	
Yes	97%
No	3%

LAID OFF IN THE LAST 12 MONTHS	
Yes	3%
No	97%

FEEL SECURE IN POSITION	
Yes, Very Secure	53%
I'm Pretty Safe	39%
Not Sure How Secure Job Is	7%
Worried About Losing Job	1%

Respondent Profile

Male:	96%
Female:	4%
Average Age:	44 years
Average Years of Experience:	19.7 years
Annual Compensation:	$124,136

PRIMARY INDUSTRY

Aerospace	34%
Construction	10%
Defense	5%
Laboratory	4%
Petrochemical	31%
Shipbuilding	2%
Steel & Foundry	5%
Utility & Power	9%

CERTIFICATION

Level I	7%
Level II	32%
Level III	35%
API Inspector	13%
CWI Inspector	13%

BENEFITS

401(k) Savings Plan	94%
Dental Insurance	88%
Disability Insurance	86%
Educational Assistance	61%
Life Insurance	84%
Medical Insurance	99%
Paid Vacation	97%

JOB DESCRIPTION

API Inspector	13%
CWI Inspector	5%
Director of Quality	1%
Level III Specialist	21%
NDT Manager	5%
NDT Supervisor	9%
NDT Technician	33%
QA/QC Inspector	6%
Quality Manager	4%
Sales	1%
Scientist/Engineer	1%
Other	1%

PQNDT Salary & Benefits Survey 2019 CONTRACTORS

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ON THE ECONOMY	
Recovering Strongly	41%
Slowly Pulling Out of Recession	39%
Still in Recession, Little Change	12%
Getting Worse	8%

JOB PROSPECTS	
Much Better Than Last Year	26%
A Little Better Than Last Year	34%
About the Same	33%
A Little Worse Than Last Year	6%
Much Worse Than Last Year	1%

CURRENTLY EMPLOYED	
Yes	87%
No	13%

CONFIDENCE IN FINDING CONTRACTS	
Very Confident	67%
Not Totally Confident	26%
Very Worried About Finding Assignment	6%
Findng Assignments Almost Impossible	1%

Respondent Profile

Male:	97%
Female:	3%
Average Age:	47 years
Average Years of Experience:	20 years

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PRIMARY INDUSTRY

Aerospace	31%
Construction	14%
Defense	6%
Laboratory	1%
Petrochemical	36%
Shipbuilding	2%
Steel & Foundry	2%
Utility & Power	8%

CERTIFICATION

Level I	4%
Level II	27%
Level III	22%
API Inspector	24%
CWI Inspector	23%

JOB DESCRIPTION

API Inspector	17%
CWI Inspector	10%
Director of Quality	0%
Level III Specialist	17%
NDT Manager	2%
NDT Supervisor	1%
NDT Technician	36%
QA/QC Inspector	14%
Quality Manager	0%
Sales	0%
Scientist/Engineer	3%
Other	0%

FINDING ASSIGNMENTS

Internet	34%
Newspaper Ads	1%
Magazine Ads	0%
Placement Agency	21%
Word-of-Mouth	43%
Other	1%

PQNDT Salary & Benefits Survey 2019
LEVEL I

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Compensation for Full-Time NDT Level I professionals 3.1% over 2018, while hourly rates for Contractors rose 3.4%
- Representation of women in the NDT industry continues to be strongest among Level I professionals (17%)
- The Aerospace (32%) and Petrochemical (27%) industries continue to employee the highest percentage of Level I professionals
- Level I employment in the Steel & Foundry industry dropped by two-thirds over 2018

Respondent Profile	
Full-Time Employee:	92%
Salaried:	9%
Hourly:	83%
Contractor:	8%
Male:	83%
Female:	17%
Average Age:	33 years
Average Years of Experience:	4.2 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$74,997
Average Hourly Rate:	$23.97

FULL-TIME BENEFITS

401 (k) Savings Plan	95%
Dental Insurance	91%
Disability Insurance	74%
Educational Assistance	66%
Life Insurance	87%
Medical Insurance	99%
Paid Vacation	97%

CONTRACTORS

Average Hourly Rate	$26.90
Average Weeks Per Assignment	12
Average Months Worked Per Year	9
Average Overtime Hours Per Week	19

PRIMARY INDUSTRY

Aerospace	33%
Construction	12%
Defense	3%
Laboratory	11%
Petrochemical	29%
Shipbuilding	1%
Steel & Foundry	1%
Utility & Power	10%

PQNDT Salary & Benefits Survey 2019
LEVEL II

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- The average hourly rate paid to contract Level II workers increased by 3.4% over 2018, while Full-Time salaries increased by 3.7%
- Average annual compensation for Level II NDT professionals has increased 50% over the past nine years
- Level II Contractors worked more weeks (27) per assignment in 2019, but fewer hours per week

Respondent Profile	
Full-Time Employee:	89%
Salaried:	12%
Hourly:	77%
Contractor:	11%
Male:	95%
Female:	5%
Average Age:	41 years
Average Years of Experience:	13.8 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$113,072
Average Hourly Rate:	$38.36

FULL-TIME BENEFITS

401 (k) Savings Plan	98%
Dental Insurance	89%
Disability Insurance	77%
Educational Assistance	64%
Life Insurance	88%
Medical Insurance	97%
Paid Vacation	98%

CONTRACTORS

Average Hourly Rate	$47.68
Average Weeks Per Assignment	27
Average Months Worked Per Year	10
Average Overtime Hours Per Week	18

PRIMARY INDUSTRY

Aerospace	37%
Construction	9%
Defense	7%
Laboratory	6%
Petrochemical	28%
Shipbuilding	1%
Steel & Foundry	1%
Utility & Power	11%

PQNDT Salary & Benefits Survey 2019
LEVEL III

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Full-Time Level III annual compensation rose 3.6% in 2019, while the hourly rate for Contractors rose 3.3% over 2018
- At 91%, Level III represents the highest percentage of Full-Time employment in the NDT industry
- The average length of an assignment for Level III professionals has dropped by 33.9 weeks to 24 weeks over the past decade
- The Aerospace industry (49%) continues to be - by far - the largest employer of Level III NDT professionals in the U.S.

Respondent Profile	
Full-Time Employee:	91%
Salaried:	76%
Hourly:	15%
Contractor:	9%
Male:	95%
Female:	5%
Average Age:	51 years
Average Years of Experience:	26.9 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$131,273

FULL-TIME BENEFITS

401 (k) Savings Plan	99%
Dental Insurance	94%
Disability Insurance	88%
Educational Assistance	79%
Life Insurance	93%
Medical Insurance	99%
Paid Vacation	99%

CONTRACTORS

Average Hourly Rate	$76.33
Average Weeks Per Assignment	24
Average Months Worked Per Year	8
Average Overtime Hours Per Week	14

PRIMARY INDUSTRY

Aerospace	49%
Construction	7%
Defense	6%
Laboratory	5%
Petrochemical	18%
Shipbuilding	1%
Steel & Foundry	7%
Utility & Power	7%

PQNDT Salary & Benefits Survey 2019
CERTIFIED WELDING INSPECTOR

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Full-Time Certified Welding Inspectors saw an average compensation increase of 3.5% in 2019, and the average hourly wage for Contractors also rose 3.5%
- 22% of Certified Welding Inspectors are Contractors, the highest percentage of any job title in the NDT industry
- The average hourly rate paid to Certified Welding Inspector contractors has risen by 38.9% in the last nine years

Respondent Profile	
Full-Time Employee:	78%
Salaried:	31%
Hourly:	47%
Contractor:	22%
Male:	96%
Female:	4%
Average Age:	47 years
Average Years of Experience:	18.9 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$116,517
Average Hourly Rate:	$48.47

FULL-TIME BENEFITS

401 (k) Savings Plan	92%
Dental Insurance	93%
Disability Insurance	76%
Educational Assistance	67%
Life Insurance	93%
Medical Insurance	99%
Paid Vacation	98%

CONTRACTORS

Average Hourly Rate	$63.91
Average Weeks Per Assignment	24
Average Months Worked Per Year	9.7
Average Overtime Hours Per Week	21

PRIMARY INDUSTRY

Aerospace	3%
Construction	41%
Defense	1%
Laboratory	3%
Petrochemical	18%
Shipbuilding	1%
Steel & Foundry	17%
Utility & Power	16%

PQNDT Salary & Benefits Survey 2019
API INSPECTOR

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- 85% of all API Inspectors work in the Petrochemical industry, a percentage that has remained relatively stable for more than a decade
- Full-Time compensation for API Inspectors increased 3.5% over 2018, while the average hourly rate paid to Contractors increased by 3.7%
- Both average weeks per assignment (down 6.8%) and the average number of months worked (down 7%) by API Inspectors decreased in 2019

Respondent Profile	
Full-Time Employee:	83%
Salaried:	42%
Hourly:	41%
Contractor:	17%
Male:	97%
Female:	3%
Average Age:	48 years
Average Years of Experience:	21.9 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$157,461
Average Hourly Rate:	$52.66

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	96%
Disability Insurance	87%
Educational Assistance	77%
Life Insurance	94%
Medical Insurance	98%
Paid Vacation	99%

CONTRACTORS

Average Hourly Rate	$74.36
Average Weeks Per Assignment	29
Average Months Worked Per Year	9.8
Average Overtime Hours Per Week	23

PRIMARY INDUSTRY

Aerospace	0%
Construction	7%
Defense	0%
Laboratory	8%
Petrochemical	85%
Shipbuilding	0%
Steel & Foundry	0%
Utility & Power	0%

PQNDT Salary & Benefits Survey 2019
AEROSPACE INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Both Full-Time and Contractor compensation in the Aerospace industry rose 3.5% in 2019
- Contractor NDT professionals were busier in the Aerospace industry in 2019, with increases in average weeks per assignment, months worked, and overtime hours
- The complex nature of the industry is reflected in the fact that 89% of NDT professionals employed are Level II or Level III workers

Respondent Profile	
Full-Time Employee:	94%
Salaried:	47%
Hourly:	47%
Contractor:	6%
Male:	94%
Female:	6%
Average Age:	46 years
Average Years of Experience:	21.7 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$105,299

FULL-TIME EMPLOYEE COMPENSATION

Level I	$74,563
Level II	$108,479
Level III	$128,246
CWI Inspector	n/a
API Inspector	n/a

FULL-TIME BENEFITS

401 (k) Savings Plan	96%
Dental Insurance	95%
Disability Insurance	88%
Educational Assistance	79%
Life Insurance	93%
Medical Insurance	99%
Paid Vacation	98%

CERTIFICATION

Level I	11%
Level II	45%
Level III	44%

CONTRACTOR COMPENSATION

Average Hourly Rate	$51.47
Average Weeks Per Assignment	33
Average Months Worked Per Year	10
Average Overtime Hours Per Week	15

PQNDT Salary & Benefits Survey 2019
CONSTRUCTION INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Average compensation for NDT professionals in the Construction industry - both Full-Time employees and Contractors - increased by 3.5% in 2019
- The balance between Full-Time workers and Contractors in the Construction industry has remained stable over the last decade
- The number of Level I NDT professionals working in the Construction industry has tripled over the past nine years

Respondent Profile	
Full-Time Employee:	78%
Salaried:	36%
Hourly:	42%
Contractor:	22%
Male:	97%
Female:	3%
Average Age:	46 years
Average Years of Experience:	19 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$123,136

FULL-TIME EMPLOYEE COMPENSATION

Level I	$77,407
Level II	$110,116
Level III	$134,248
CWI Inspector	$131,759
API Inspector	$146,977

FULL-TIME BENEFITS

401 (k) Savings Plan	95%
Dental Insurance	88%
Disability Insurance	73%
Educational Assistance	66%
Life Insurance	84%
Medical Insurance	99%
Paid Vacation	97%

CERTIFICATION

Level I	6%
Level II	21%
Level III	27%
API Inspector	7%
CWI Inspector	39%

CONTRACTOR COMPENSATION

Average Hourly Rate	$61.39
Average Weeks Per Assignment	31
Average Months Worked Per Year	11
Average Overtime Hours Per Week	20

PQNDT Salary & Benefits Survey 2019
DEFENSE INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Contractor assignments shrunk slightly in 2019, with average weeks per assignment down 5%, and months worked during the year down nearly 12%
- Compensation for both salaried Full-Time workers and Contractors rose by approximately 3.5% over 2018
- The percentage of Contractors in the Defense industry has nearly doubled over the past nine year

Respondent Profile	
Full-Time Employee:	82%
Salaried:	33%
Hourly:	49%
Contractor:	18%
Male:	95%
Female:	5%
Average Age:	47 years
Average Years of Experience:	20.1 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$106,684

FULL-TIME EMPLOYEE COMPENSATION

Level I	$76,983
Level II	$109,156
Level III	$134,331
CWI Inspector	n/a
API Inspector	n/a

FULL-TIME BENEFITS

401 (k) Savings Plan	98%
Dental Insurance	95%
Disability Insurance	76%
Educational Assistance	67%
Life Insurance	95%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	7%
Level II	46%
Level III	47%
API Inspector	n/a
CWI Inspector	n/a

CONTRACTOR COMPENSATION

Average Hourly Rate	$56.44
Average Weeks Per Assignment	39
Average Months Worked Per Year	9.6
Average Overtime Hours Per Week	23

PQNDT Salary & Benefits Survey 2019
LABORATORIES

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Laboratories employ the highest percentage of female NDT professionals (8%), down slightly from 2018 (9%)
- Average annual compensation for Full-Time employees rose nearly 3.5% in 2019, and has increased over 34% in the past decade
- Hourly wages paid to Contractors rose 3.4% in 2019, and has risen more than 54% over the past decade

Respondent Profile	
Full-Time Employee:	95%
Salaried:	45%
Hourly:	50%
Contractor:	5%
Male:	92%
Female:	8%
Average Age:	44 years
Average Years of Experience:	20.6 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$120,674

FULL-TIME EMPLOYEE COMPENSATION

Level I	$74,166
Level II	$111,321
Level III	$133,458
CWI Inspector	$130,752
API Inspector	$151,808

FULL-TIME BENEFITS

401 (k) Savings Plan	98%
Dental Insurance	92%
Disability Insurance	74%
Educational Assistance	67%
Life Insurance	92%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	9%
Level II	46%
Level III	35%
API Inspector	7%
CWI Inspector	3%

CONTRACTOR COMPENSATION

Average Hourly Rate	$60.21
Average Weeks Per Assignment	32
Average Months Worked Per Year	11
Average Overtime Hours Per Week	21

PQNDT Salary & Benefits Survey 2019
PETROCHEMICAL INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- The percentage of Full-Time employees in the Petrochemical industry rose 2.3% in 2019 over 2018
- NDT salaries and hourly wages rose approximately 3.4% across the Petrochemical industry
- At 44%, API Inspectors make up the largest percentage of NDT professionals in the Petrochemical industry

Respondent Profile	
Full-Time Employee:	86%
Salaried:	37%
Hourly:	49%
Contractor:	14%
Male:	93%
Female:	7%
Average Age:	45 years
Average Years of Experience:	21.7 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$125,160

FULL-TIME EMPLOYEE COMPENSATION

Level I	$77,379
Level II	$115,194
Level III	$133,584
CWI Inspector	$135,418
API Inspector	$164,409

FULL-TIME BENEFITS

401 (k) Savings Plan	96%
Dental Insurance	97%
Disability Insurance	84%
Educational Assistance	70%
Life Insurance	92%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	7%
Level II	36%
Level III	10%
API Inspector	44%
CWI Inspector	3%

CONTRACTOR COMPENSATION

Average Hourly Rate	$66.12
Average Weeks Per Assignment	27
Average Months Worked Per Year	11
Average Overtime Hours Per Week	22

PQNDT Salary & Benefits Survey 2019
SHIPBUILDING INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- After a significant year-to-year increase in compensation during 2018 (10%), averages NDT wages in the Shipbuilding industry in 2019 rose by 3.4%
- The percentage of NDT professionals who are Full-Time employees rose slightly (2.2%) while the percentage of Contractors dropped
- 91% of NDT professionals in the Shipbuilding industry are either Level II or Level III

Respondent Profile	
Full-Time Employee:	91%
Salaried:	38%
Hourly:	53%
Contractor:	9%
Male:	95%
Female:	5%
Average Age:	47 years
Average Years of Experience:	19.6 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$104,399

FULL-TIME EMPLOYEE COMPENSATION

Level I	$69,432
Level II	$105,708
Level III	$133,729
CWI Inspector	n/a
API Inspector	n/a

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	87%
Disability Insurance	73%
Educational Assistance	65%
Life Insurance	97%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	9%
Level II	43%
Level III	48%
API Inspector	n/a
CWI Inspector	n/a

CONTRACTOR COMPENSATION

Average Hourly Rate	$57.63
Average Weeks Per Assignment	20
Average Months Worked Per Year	10
Average Overtime Hours Per Week	21

PQNDT Salary & Benefits Survey 2019
STEEL & FOUNDRY INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Slightly fewer females were employed in the Steel & Foundry industry during 2019 (8% vs. 9%)
- Average compensation for Full-Time employees rose 3.4%, while the average hourly rate paid to Contractors rose 3.5%
- Contractors reported their assignments were shorter (by one week) in 2019
- Full-Time NDT compensation in the Steel & Foundry industry has risen just over 14% over the past nine years, lagging behind other industries

Respondent Profile	
Full-Time Employee:	92%
Salaried:	46%
Hourly:	46%
Contractor:	8%
Male:	92%
Female:	8%
Average Age:	49 years
Average Years of Experience:	21 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$103,298

FULL-TIME EMPLOYEE COMPENSATION

Level I	$68,093
Level II	$107,599
Level III	$128,887
CWI Inspector	$108,398
API Inspector	n/a

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	96%
Disability Insurance	82%
Educational Assistance	74%
Life Insurance	95%
Medical Insurance	99%
Paid Vacation	98%

CERTIFICATION

Level I	8%
Level II	37%
Level III	45%
API Inspector	n/a
CWI Inspector	10%

CONTRACTOR COMPENSATION

Average Hourly Rate	$52.87
Average Weeks Per Assignment	20
Average Months Worked Per Year	9.6
Average Overtime Hours Per Week	21

PQNDT Salary & Benefits Survey 2019
UTILITY & POWER INDUSTRY

CLICK HERE TO RETURN TO TABLE OF CONTENTS

KEY INSIGHTS

- Contractors in the Utility & Power industry worked slightly shorter assignments in 2019, but put in more overtime each week (up 8%)
- The percentage of NDT professionals employed Full-Time in the Utility & Power industry has risen from 77% to 88% over the past decade
- Level I employment in the industry has more than tripled in the past seven years (2% to 7%)

Respondent Profile	
Full-Time Employee:	88%
Salaried:	44%
Hourly:	44%
Contractor:	12%
Male:	96%
Female:	4%
Average Age:	47 years
Average Years of Experience:	22 years

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PQNDT
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Tel 800-736-3841 Fax 781-643-1786
www.pqndt.com

FULL-TIME EMPLOYEES

Average Annual Compensation	$123,294

FULL-TIME EMPLOYEE COMPENSATION

Level I	$87,411
Level II	$118,954
Level III	$146,483
CWI Inspector	$124,377
API Inspector	n/a

FULL-TIME BENEFITS

401 (k) Savings Plan	98%
Dental Insurance	97%
Disability Insurance	76%
Educational Assistance	74%
Life Insurance	92%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

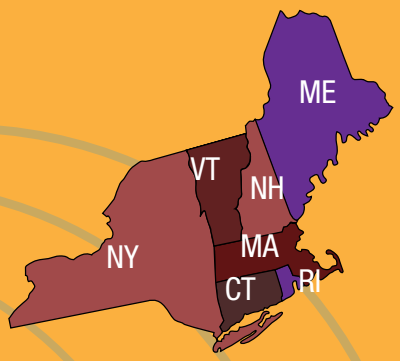
Level I	7%
Level II	36%
Level III	43%
API Inspector	2%
CWI Inspector	12%

CONTRACTOR COMPENSATION

Average Hourly Rate	$62.98
Average Weeks Per Assignment	21
Average Months Worked Per Year	9
Average Overtime Hours Per Week	26

PQNDT Salary & Benefits Survey 2019
NORTHEAST REGION

CLICK HERE TO RETURN TO TABLE OF CONTENTS



Northeast Region

- New York
- Massachusetts
- Maine
- New Hampshire
- Vermont
- Connecticut
- Rhode Island

Respondent Profile	
Full-Time Employee:	91%
Salaried:	46%
Hourly:	45%
Contractor:	9%
Male:	95%
Female:	5%
Average Age:	48 years
Average Years of Experience:	23.3 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$130,951

FULL-TIME EMPLOYEE COMPENSATION

Level I	$79,742
Level II	$117,821
Level III	$141,088
CWI Inspector	$139,973
API Inspector	$160,917

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	93%
Disability Insurance	80%
Educational Assistance	67%
Life Insurance	88%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

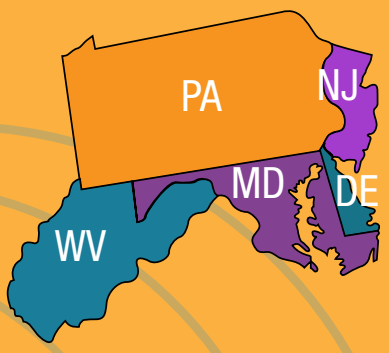
Level I	7%
Level II	35%
Level III	47%
API Inspector	5%
CWI Inspector	6%

CONTRACTOR COMPENSATION

Average Hourly Rate	$65.14
Average Weeks Per Assignment	20
Average Months Worked Per Year	11
Average Overtime Hours Per Week	21

PQNDT Salary & Benefits Survey 2019
MID-ATLANTIC REGION

CLICK HERE TO RETURN TO TABLE OF CONTENTS



Mid-Atlantic Region

- Pennsylvania
- Maryland
- West Virginia
- Delaware
- New Jersey

Respondent Profile	
Full-Time Employee:	87%
Salaried:	45%
Hourly:	42%
Contractor:	13%
Male:	93%
Female:	7%
Average Age:	48 years
Average Years of Experience:	22 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$113,776

FULL-TIME EMPLOYEE COMPENSATION

Level I	$72,995
Level II	$105,989
Level III	$129,783
CWI Inspector	$119,123
API Inspector	$127,225

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	89%
Disability Insurance	84%
Educational Assistance	68%
Life Insurance	85%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

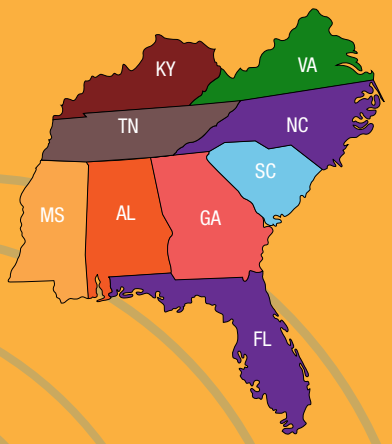
Level I	9%
Level II	37%
Level III	38%
API Inspector	9%
CWI Inspector	7%

CONTRACTOR COMPENSATION

Average Hourly Rate	$52.86
Average Weeks Per Assignment	18
Average Months Worked Per Year	9.5
Average Overtime Hours Per Week	20

PQNDT Salary & Benefits Survey 2019
SOUTHERN REGION

CLICK HERE TO RETURN TO TABLE OF CONTENTS



Southern Region

- Florida
- Georgia
- Alabama
- Mississippi
- North Carolina
- South Carolina
- Kentucky
- Tennessee
- Virginia

Respondent Profile	
Full-Time Employee:	87%
Salaried:	42%
Hourly:	45%
Contractor:	13%
Male:	96%
Female:	4%
Average Age:	47 years
Average Years of Experience:	23 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$114,954

FULL-TIME EMPLOYEE COMPENSATION

Level I	$72,359
Level II	$104,915
Level III	$127,874
CWI Inspector	$121,111
API Inspector	$139,639

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	95%
Disability Insurance	81%
Educational Assistance	72%
Life Insurance	96%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

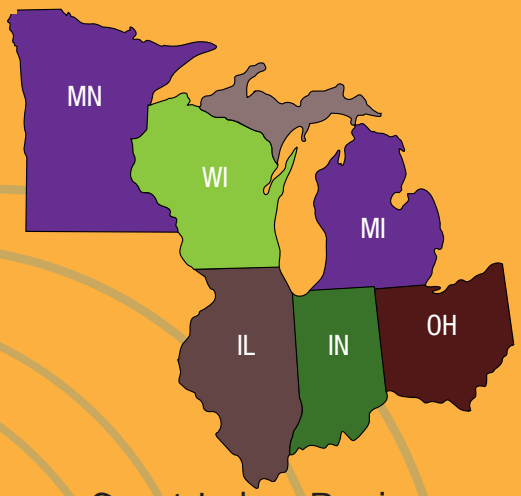
Level I	6%
Level II	37%
Level III	34%
API Inspector	11%
CWI Inspector	12%

CONTRACTOR COMPENSATION

Average Hourly Rate	$57.52
Average Weeks Per Assignment	26
Average Months Worked Per Year	11
Average Overtime Hours Per Week	26

PQNDT Salary & Benefits Survey 2019
GREAT LAKES REGION

CLICK HERE TO RETURN TO TABLE OF CONTENTS



Great Lakes Region

- Michigan
- Illinois
- Ohio
- Indiana
- Minnesota
- Wisconsin

Respondent Profile	
Full-Time Employee:	93%
Salaried:	45%
Hourly:	48%
Contractor:	7%
Male:	95%
Female:	5%
Average Age:	45 years
Average Years of Experience:	21 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$113,525

FULL-TIME EMPLOYEE COMPENSATION

Level I	$65,667
Level II	$102,363
Level III	$129,527
CWI Inspector	$131,335
API Inspector	$144,620

FULL-TIME BENEFITS

401 (k) Savings Plan	96%
Dental Insurance	89%
Disability Insurance	72%
Educational Assistance	66%
Life Insurance	95%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	9%
Level II	32%
Level III	33%
API Inspector	8%
CWI Inspector	18%

CONTRACTOR COMPENSATION

Average Hourly Rate	$58.68
Average Weeks Per Assignment	21
Average Months Worked Per Year	10
Average Overtime Hours Per Week	20

PQNDT Salary & Benefits Survey 2019
NORTH CENTRAL REGION

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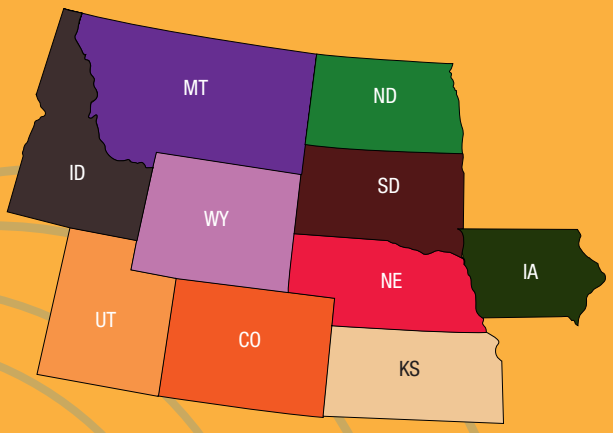

North Central Region

- Iowa
- Kansas
- Nebraska
- North Dakota
- South Dakota
- Montana
- Colorado
- Wyoming
- Utah
- Idaho

Respondent Profile	
Full-Time Employee:	88%
Salaried:	46%
Hourly:	42%
Contractor:	12%
Male:	95%
Female:	5%
Average Age:	45 years
Average Years of Experience:	19 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$115,389

FULL-TIME EMPLOYEE COMPENSATION

Level I	$71,912
Level II	$104,041
Level III	$130,746
CWI Inspector	$122,473
API Inspector	$155,080

FULL-TIME BENEFITS

401 (k) Savings Plan	97%
Dental Insurance	96%
Disability Insurance	84%
Educational Assistance	72%
Life Insurance	91%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	6%
Level II	26%
Level III	33%
API Inspector	19%
CWI Inspector	16%

CONTRACTOR COMPENSATION

Average Hourly Rate	$61.78
Average Weeks Per Assignment	27
Average Months Worked Per Year	9
Average Overtime Hours Per Week	18

PQNDT Salary & Benefits Survey 2019
SOUTH CENTRAL REGION

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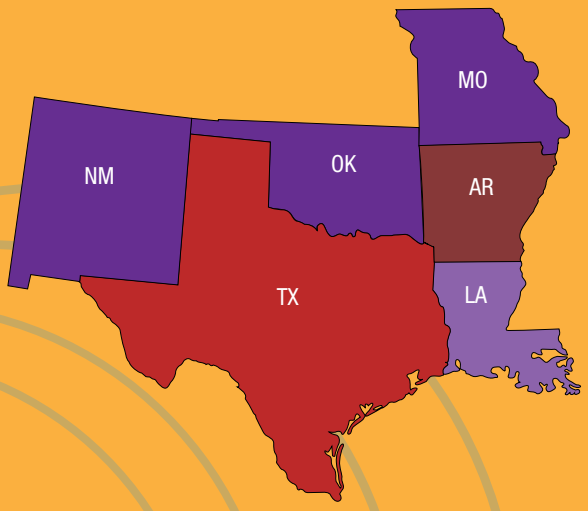

South Central Region

- Texas
- Louisiana
- Oklahoma
- New Mexico
- Arkansas
- Missouri

Respondent Profile	
Full-Time Employee:	85%
Salaried:	48%
Hourly:	37%
Contractor:	15%
Male:	96%
Female:	4%
Average Age:	44 years
Average Years of Experience:	20 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$120,733

FULL-TIME EMPLOYEE COMPENSATION

Level I	$74,392
Level II	$104,931
Level III	$130,096
CWI Inspector	$124,797
API Inspector	$150,703

FULL-TIME BENEFITS

401 (k) Savings Plan	96%
Dental Insurance	94%
Disability Insurance	87%
Educational Assistance	72%
Life Insurance	95%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

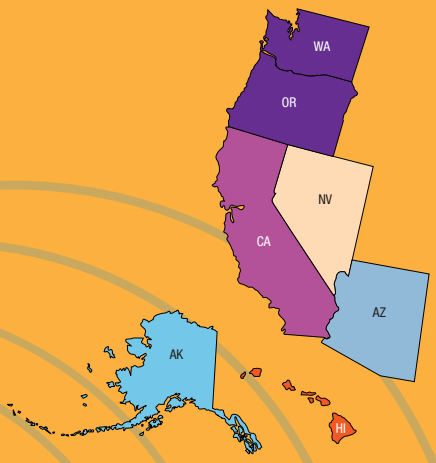
Level I	6%
Level II	32%
Level III	31%
API Inspector	24%
CWI Inspector	7%

CONTRACTOR COMPENSATION

Average Hourly Rate	$61.22
Average Weeks Per Assignment	26
Average Months Worked Per Year	11
Average Overtime Hours Per Week	26

PQNDT Salary & Benefits Survey 2019
PACIFIC REGION

CLICK HERE TO RETURN TO TABLE OF CONTENTS



Pacific Region

- California
- Oregon
- Washington
- Nevada
- Arizona
- Alaska
- Hawaii

Respondent Profile	
Full-Time Employee:	93%
Salaried:	43%
Hourly:	50%
Contractor:	7%
Male:	95%
Female:	5%
Average Age:	44 years
Average Years of Experience:	23 years

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FULL-TIME EMPLOYEES

Average Annual Compensation	$128,665

FULL-TIME EMPLOYEE COMPENSATION

Level I	$80,402
Level II	$113,624
Level III	$141,503
CWI Inspector	$143,587
API Inspector	$163,216

FULL-TIME BENEFITS

401 (k) Savings Plan	98%
Dental Insurance	92%
Disability Insurance	83%
Educational Assistance	72%
Life Insurance	87%
Medical Insurance	99%
Paid Vacation	99%

CERTIFICATION

Level I	9%
Level II	30%
Level III	45%
API Inspector	7%
CWI Inspector	9%

CONTRACTOR COMPENSATION

Average Hourly Rate	$63.82
Average Weeks Per Assignment	27
Average Months Worked Per Year	11
Average Overtime Hours Per Week	24

LINC F060C : EDUCATIONAL GAME DESIGN

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Learning in New Media Classrooms (LINC)
Course Number
F060C

Department
Learning in New Media Classrooms (LINC)

Division
Business and Social Sciences (1SS)

Units
3

Course Title
EDUCATIONAL GAME DESIGN

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
0

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
36

Total Student Learning Hours
108

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Letter Grade (Request for Pass/No Pass)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?
• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Game-Based Learning

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?)

This program is still in development. The anticipated submission date is Winter 2023.

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This course prepares educators for cutting edge pedagogy and technology implementation, improving the field of online and blended instruction. The course will be added to the Certificate of Achievement in Game-Based Learning, which is a program currently under development. Labor market analysis is attached.

Attach evidence
LMI_Foothill_Online and Blended Instruction_May 2020.pdf

Need/Justification
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. The primary target audience includes educators and students 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. The secondary target audience includes schools and residents throughout San Mateo, Santa Clara, Santa Cruz, and Alameda counties. The course will be included in the certificate of achievement in Game-Based Learning, currently under development.

Course Description
This course applies a design thinking process to the design and development of an educational game. Students study the foundations and mechanics of game design, explore the use of games in teaching and learning experiences, and analyze tabletop, digital, and alternate reality games for their educational purposes. Following established methodologies, students research, design, develop, and refine an educational game through an iterative process. The final product will be tested with learners and evaluated on its educational impact.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using web browsers, email, bookmarking, searching, and downloading.

Course Objectives

The student will be able to:

1. Identify the ways in which learning occurs during educational experiences and games
2. Define the role, purpose, and function of an educational game designer
3. Observe the ways in which pedagogical theory and games work together to create learning experiences
4. Differentiate between educational game elements and their purposes
5. Utilize game system dynamics to analyze, understand, and improve educational games
6. Follow ideation processes in order to conceptualize an idea for an educational game
7. Apply empathy techniques to learn about prospective players of an educational game
8. Create digital and physical prototypes of an educational game
9. Use an iterative process to playtest and refine an educational game
10. Evaluate the quality of educational games based on engagement and inclusion factors

Course Content

1. Learning experiences
    1. Defining learning
    2. Motivation to learn
    3. Developing skills and values
    4. Building experiences
    5. Impact of experiences on learning
2. Role of the game designer
    1. Advocate for the player
    2. Passions and skills
    3. Design processes
        1. Playventric
        2. Iterative
    4. Educational game designers
    5. Designing for innovation
3. Pedagogy and games
    1. Solving problems
    2. Role of the educator
    3. Pedagogic impacts
        1. Behaviorism
        2. Cognitivism
        3. Constructivism
    4. Inquiry-based learning
    5. Project-based learning
    6. Learning theory and objectives
    7. Incorporating content area curriculum
    8. Games as reflective tools
4. Game elements
    1. Formal elements
        1. Players
        2. Objectives
        3. Procedures
        4. Rules
        5. Resources
        6. Conflict
        7. Boundaries
        8. Outcome
    2. Dramatic elements
        1. Challenge
        2. Play
        3. Premise
        4. Character
        5. Story

        6. World building
        7. Dramatic arc
    3. Mechanics elements
        1. Educational games and problem solving
        2. Decision making
        3. Chance
        4. Skill
        5. Balancing mechanics
        6. Collaboration vs. competition
5. System dynamics
    1. Games as systems
        1. Objects
        2. Properties
        3. Behaviors
        4. Relationships
    2. Deconstructing system dynamics
    3. Interacting with systems
    4. Information structure
    5. Control
    6. Feedback
    7. Interaction loops and arcs
    8. Tuning game systems
6. Conceptualization
    1. Brainstorming
    2. Ideation methods
    3. Editing and refining
    4. Turning content into games
    5. Ideas vs. designs
7. Audience
    1. Empathy techniques
    2. Understanding players' needs
        1. Stake
        2. Comfort
        3. Space and resources
        4. Socio-emotional development
    3. Player taxonomies
    4. Player personas
    5. Player learning styles
8. Prototyping
    1. Methods of prototyping
    2. Prototyping game ideas
    3. Physical prototypes
    4. Digital prototypes
    5. Control schemes

6. Viewpoints
7. Interface design
8. Prototyping tools

9. Playtesting
    1. Playtesting and iterative design
    2. Evaluating educational games
    3. The play matrix
    4. Methods of playtesting
    5. Conducting playtesting sessions
    6. Data gathering
    7. Receiving feedback
    8. Assessing for functionality, completeness, and balance
10. Evaluating game quality
    1. Fun
    2. Accessibility
    3. Achievement of educational objectives
    4. Aesthetics
    5. Revising for quality

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. When offered on/off campus: Lecture room equipped with projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with computers or laptops with internet access
2. When taught via the internet: Students must have current email accounts and ongoing access to computers with web browsing capability and internet access

Methods of Evaluation

Methods of Evaluation
Developing an educational game
Presenting the project to peers for feedback
Making constructive contributions to class discussions
Providing peer reviews to other class members showing their own understanding of the class content

Method(s) of Instruction

Method(s) of Instruction
Lecture presentations delivered in student-centered learning style, during which students take notes, follow demonstrations, or comple an activity
Facilitated discussions of live presentations, readings, or video presentations

Method(s) of Instruction
Presentations in small group and whole class situations

Representative Text(s)

Author(s)	Title	Publication Date
Perez Marzullo, Fabio, and Antonio De Oliveira	Practical Perspectives on Educational Theory and Game Development (Advances in Educational Technologies and Instructional Design)	2021
Sheldon, Lee	The Multiplayer Classroom: Designing Coursework as a Game	2020
Kalmpourtzis, George	Educational Game Design Fundamentals	2018

Please provide justification for any texts that are older than 5 years

Other Required Materials

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading assignments include analysis of texts, selected examples, and student projects
2. Writing assignments include a course project and multiple developmental projects, reflections, discussion responses, and peer feedback on projects
3. Outside assignments include project planning and development, participation in online peer collaboration activities, and project development through an iterative process

When taught online, these methods may take the form of multimedia and web-based presentations. Assignments will be submitted online as well.

Authorized Discipline(s):
Instructional Design/Technology

Faculty Service Area (FSA Code)
EDUCATION

Taxonomy of Program Code (TOP Code)
*0860.00 - Educational Technology

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
CSU

Validation Date
6/7/22

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

LINC F060E : EDUCATIONAL APPLICATIONS FOR AUGMENTED, ALTERNATE & VIRTUAL REALITY

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Learning in New Media Classrooms (LINC)
Course Number
F060E

Department
Learning in New Media Classrooms (LINC)

Division
Business and Social Sciences (1SS)

Units
3

Course Title
EDUCATIONAL APPLICATIONS FOR AUGMENTED, ALTERNATE & VIRTUAL REALITY

Former ID

Cross Listed

Related Courses

Maximum Units
3

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
3

Weekly Lab Hours
0

Weekly Out of Class Hours
6

Special Hourly Notation

Total Contact Hours
36

Total Student Learning Hours
108

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Letter Grade (Request for Pass/No Pass)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

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Temporary

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Please indicate how your course supports the Foothill College Mission:
Transfer
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This course prepares educators for cutting edge pedagogy and technology implementation, improving the field of online and blended instruction. Labor market analysis is attached.

Attach evidence
LMI_Foothill_Online and Blended Instruction_May 2020.pdf

Need/Justification
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. The primary target audience includes educators and students 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. The secondary target audience includes schools and residents throughout San Mateo, Santa Clara, Santa Cruz, and Alameda counties. The course will be included in the certificate of achievement in Game-Based Learning, currently under development.

Course Description
This course provides a hands-on overview of new and emerging technologies for augmented reality (AR) and virtual reality (VR), as well as alternate reality games (ARGs), from an educational perspective. Students explore AR and VR applications and media and analyze their use for instructional purposes. Issues of equity and accessibility, along with practical strategies for integrating these experiences into the classroom, are centered in discussions throughout the course. Students create projects, media, and environments that support teaching and learning goals using AR, VR, and ARGs.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: Basic computer skills and knowledge of Macintosh or Windows operating systems; basic skills and knowledge using web browsers, email, bookmarking, searching and downloading.

Course Objectives

The student will be able to:

1. Understand the primary elements, methods, and devices of virtual, augmented, and alternate reality, and distinguish between the three modes
2. Analyze the purposes, benefits, and limitations of using virtual, augmented, and alternate reality in educational settings
3. Prepare learning environments to use AR, VR, and ARGs
4. Explore and analyze tools and methods for communication and collaboration within AR, VR, and ARGs
5. Use AR, VR, and ARGs as drivers for exploration and inquiry
6. Create materials to be used within immersive learning environments, and bring materials in and out of varied virtual environments
7. Use AR, VR, and ARGs to develop learning experiences through narratives and storytelling
8. Interweave transmedia experiences involving virtual and augmented reality through the development of an educational ARG

9. Evaluate immersive experiences in virtual, augmented, and alternate reality based on educational technology frameworks, standards, and subject area applications
10. Develop plans for successful implementation of VR, AR, and ARGs in specific educational settings, accounting for both institutional and individual learner needs
11. Follow a design thinking process to design, develop, implement, and evaluate a student-centered project that utilizes virtual, augmented, or alternate reality to meet a specific educational objective

Course Content

1. Primary elements
    1. VR key terms, methods, devices
    2. AR key terms, methods, devices
    3. ARG key terms, methods, devices
    4. Comparing and contrasting the three modes
2. Use educational settings
    1. Student benefit
    2. Transformed classrooms
    3. Engagement and investment
    4. Opportunity and empathy
    5. Standards alignment
    6. Pedagogy of immersive environments
3. Preparation
    1. Technical knowledge
    2. Hardware and software
    3. Cost and funding
    4. Learning environments
    5. Devices
4. Collaboration
    1. Meeting environments
    2. Team tasks and challenges
    3. Integrating desktop tools
    4. Collaborative design
    5. Managing groups in VR
    6. Merging media formats through AR
5. Exploration
    1. 360 video and documentary
    2. Global exploration
    3. Simulations
    4. Group exploration
    5. AR and tinkering
    6. Scavenger hunts and immersive reality
6. Creation
    1. 360 filming

2. 360 interactive elements
3. 3-D graphic design
4. Scanning and viewing objects in AR and VR
5. Bringing VR creations to the real world

7. Storytelling
    1. Empathy stories
    2. Interactive stories
    3. Transmedia storytelling
8. ARGs
    1. Mixed reality
    2. Blending digital, VR, and AR
    3. Transmedia learning
    4. Developing and evaluating learning goals
    5. Storyboarding and narrative structures
9. Evaluation
    1. Evaluative methods
        1. Frameworks: SAMR, TPACK
        2. Standards: Common Core, ISTE
    2. Applications
        1. Sciences
        2. Humanities
        3. 4Cs
        4. Workforce/Entrepreneurship
10. Successful implementation
    1. Purpose
    2. Equity and access
    3. Accessibility
    4. Space
    5. Training
    6. Adaptations and alternatives
    7. Tool selection
    8. Network considerations
11. Project
    1. Empathize and ideate
    2. Design and prototype
    3. Iterate and test
    4. Evaluate and revise

Lab Content
Not applicable.

Special Facilities and/or Equipment
1. When offered on/off campus: Lecture room equipped with projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with

computers or laptops with internet access
2. When taught via the internet: Students must have current email accounts and ongoing access to computers with web browsing capability and internet access

Methods of Evaluation

Methods of Evaluation
Developing a project that utilizes virtual, augmented, or alternate reality
Presenting the project to peers for feedback
Making constructive contributions to class discussions
Providing peer reviews to other class members showing their own understanding of the class content

Method(s) of Instruction

Method(s) of Instruction
Lecture presentations delivered in student-centered learning style, during which students take notes, follow demonstrations, or complete an activity
Facilitated discussions of live presentations, readings, or video presentations
Presentations in small group and whole class situations

Representative Text(s)

Author(s)	Title	Publication Date
Akcayir, Gokce	Designing, Deploying, and Evaluating Virtual and Augmented Reality in Education	2020
Donally, Jaime	The Immersive Classroom: Create Customized Learning Experiences with AR/VR	2021
Frehlich, Craig	Immersive Learning: A Practical Guide to Virtual Reality's Superpowers in Education	2020

Please provide justification for any texts that are older than 5 years

Other Required Materials

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading assignments include analysis of texts, selected examples, and student projects

2. Writing assignments include a course project and multiple developmental projects, reflections, discussion responses, and peer feedback on projects
3. Outside assignments include project planning and development, participation in online peer collaboration activities, and project development through an iterative process

When taught online, these methods may take the form of multimedia and web-based presentations. Assignments will be submitted online as well.

Authorized Discipline(s):
Instructional Design/Technology

Faculty Service Area (FSA Code)
EDUCATION

Taxonomy of Program Code (TOP Code)
*0860.00 - Educational Technology

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
CSU

Validation Date
6/7/22

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

LINC F077. : DESIGN THINKING OVERVIEW

Proposal Type
Course Revision

Effective Term
Summer 2023

Subject
Learning in New Media Classrooms (LINC)
Course Number
F077.

Department
Learning in New Media Classrooms (LINC)

Division
Business and Social Sciences (1SS)

Units
2

Course Title
DESIGN THINKING OVERVIEW

Former ID

Cross Listed

Related Courses

Maximum Units
2

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
2

Weekly Lab Hours
0

Weekly Out of Class Hours
4

Special Hourly Notation

Total Contact Hours
24

Total Student Learning Hours
72

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Letter Grade (Request for Pass/No Pass)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?
• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Temporary

In this case, identify the degree/certificate to which the course will be added:

Certificate of Achievement in Research, Design, and Development for Global Good

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?)

The program application has been submitted and is pending CCC review

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:
Transfer
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This course will be part of the Certificate of Achievement in Research, Design, and Development for Global Good. Approximately 125 students are anticipated to complete this course in Fall 2022.

Attach evidence

Need/Justification
This 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 K-12. The primary target audience includes educators and students 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. The secondary target audience includes schools and residents throughout San Mateo, Santa Clara, Santa Cruz, and Alameda counties.

Course Description
Students learn an overview of the design thinking methodology and its applications in education, business, industry, and government. Focus is on introducing all aspects of the design cycle through inquiry-based facilitation and engaging immersive activities to develop understanding of the design thinking process.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.

Course Objectives

The student will be able to:

1. Define and explain the design thinking process
2. Analyze the design thinking process for its best case uses in education, business, industry, and government
3. Research the opportunities available to implement design thinking process
4. Communicate the benefits and drawbacks of the design thinking process
5. Apply the design thinking process
6. Develop strategies for effective design thinking activities, based on audience
7. Create case uses for education, business, industry, and/or government audiences

Course Content

1. Design thinking process
    1. Empathize, define the problem, ideate, prototype, test
    2. Stanford d.school and IDEO connections
2. Best case uses
    1. In education
    2. In business
    3. In industry
    4. In government
3. Opportunities available
    1. Locally/contextually
    2. Community-based

        3. World-based
    4. Benefits and drawbacks of the design thinking process
        1. Benefits
        2. Drawbacks
    5. Applications
        1. In education
        2. In business
        3. In industry
        4. In government
    6. Strategies
        1. Partnering/small group
        2. Building community
        3. Contextual and empathetic facilitation of activities
    7. Case uses
        1. Use case #1 creation for education, business, industry, and/or government
        2. Use case #2 creation for education, business, industry, and/or government

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. When offered on/off campus: Lecture room equipped with projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with computers or laptops with internet access.
2. When taught via the internet: Students must have current email accounts and ongoing access to computers with web browsing capability and internet access.

Methods of Evaluation

Methods of Evaluation
Developing a case use project utilizing design thinking for the participant's specific purposes, whether educational, business-related, or personal
Presenting their project to peers and providing constructive feedback through peer reviews
Making constructive contributions to class discussions

Method(s) of Instruction

Method(s) of Instruction
Lecture presentations delivered in student-centered learning style, during which students take notes, follow demonstrations, or complete an activity
Facilitated discussions of live presentations, readings, or video presentations
Student presentations in small group and whole class situations

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading assignments include analysis of texts, selected examples, and student projects
2. Writing assignments include a course project and multiple developmental projects, reflections, discussion responses, and peer feedback on projects
3. Outside assignments include project planning and development, participation in online peer collaboration activities, and project development through an iterative process

When taught online, these methods may take the form of multimedia and web-based presentations. Assignments will be submitted online as well.

Authorized Discipline(s):
Instructional Design/Technology

Faculty Service Area (FSA Code)
EDUCATION

Taxonomy of Program Code (TOP Code)
*0860.00 - Educational Technology

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
CSU

Validation Date
6/17/17; 5/26/22

Division Dean Only

Seat Count
25

Load
.044

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
151011 - Learning in New Media Classr (LINC)

Account Code
1320

Program Code
086000 - Educational Technology

LINC F097B : TABLET COMPUTERS & MEDIA CREATION

Proposal Type
Course Revision

Effective Term
Summer 2023

Subject
Learning in New Media Classrooms (LINC)
Course Number
F097B

Department
Learning in New Media Classrooms (LINC)

Division
Business and Social Sciences (1SS)

Units
1

Course Title
TABLET COMPUTERS & MEDIA CREATION

Former ID

Cross Listed

Related Courses

Maximum Units
1

Does this course meet on a weekly basis?
Yes

Weekly Lecture Hours
1

Weekly Lab Hours
0

Weekly Out of Class Hours
2

Special Hourly Notation

Total Contact Hours
12

Total Student Learning Hours
36

Repeatability Statement
Not Repeatable

Credit Status
Credit

Degree Status
Applicable

Is Basic Skills applicable to this course?
No

Grading
Letter Grade (Request for Pass/No Pass)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

Are you requesting Stand Alone approval for the course on a temporary or permanent basis?
• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Permanent

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:
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

LMI attached

Attach evidence
LMI_Foothill_Online and Blended Instruction_May 2020.pdf

Need/Justification
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. The primary target audience includes educators and students 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. The secondary target audience includes schools and residents throughout San Mateo, Santa Clara, Santa Cruz, and Alameda counties.

Course Description
Participants create and publish a wide variety of media using tablet computers and compatible hardware accessories. Focus on free or low-cost software for video, audio,

animation, screen capture, and multimedia creation. Participants explore digital resources and create a media project.

Course Prerequisites

Course Corequisites

Course Advisories
Advisory: Basic skills in using tablet computers, such as iPads or Android devices, to manage applications and system resources, and connect to the internet.

Course Objectives

The student will be able to:

1. Explain personal, professional, or educational purposes for using tablets for media creation
2. Examine tablet media production for different purposes
3. Explore tablet features for media creation
4. Explore apps for media creation
5. Create a media project

Course Content

1. Purposes
    1. 21st century skills and tablet technology
    2. Ease of use and cost effectiveness
    3. How the tool can meet identified goals
    4. Variety of apps to produce media
2. Media production
    1. Photo journals
    2. eDocuments
    3. Short themed movies
    4. Digital stories
    5. Photo essays
    6. Augmented reality
3. Tablet features
    1. Use tablet camera features for taking still images and video
    2. Explore accessories to improve and enhance media capture
    3. Consider media storage options: tablet internal storage, cloud-based, network share drive
    4. Explore broadcast options for videoconferencing, screenshare
4. Apps for media creation
    1. Examine and practice using media apps to create projects

1. Photo editing
2. Drawing
3. Painting
4. Graphic design
5. Screencapture and screencasting
6. Video and audio recording and editing
7. Media sharing
8. Animation
9. Comic book creation
10. Script writing

5. Create a media project
    1. Explore project ideas, determine purpose, and analyze audience
    2. Design the project
    3. Collect the media
    4. Produce the project
    5. Share project on the internet

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. When offered on/off campus: Lecture room equipped with projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with computers or laptops with internet access.
2. When taught via the internet: Students must have current email accounts and ongoing access to computers with web browsing capability and internet access.

Methods of Evaluation

Methods of Evaluation
Developing a project utilizing tablet computers and media
Presenting their design and project to peers
Making constructive contributions to class discussions and peer reviews

Method(s) of Instruction

Method(s) of Instruction
Lecture presentations delivered in student-centered learning style, during which students take notes, follow demonstrations, or complete an activity
Facilitated discussions of live presentations, readings, or video presentations
Student presentations in small group and whole class situations

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading assignments include analysis of texts, selected examples, and student projects
2. Writing assignments include a course project and multiple developmental projects, reflections, discussion responses, and peer feedback on projects
3. Outside assignments include project planning and development, participation in online peer collaboration activities, and project development through an iterative process

When taught online, these methods may take the form of multimedia and web-based presentations. Assignments will be submitted online as well.

Authorized Discipline(s):
Instructional Design/Technology

Faculty Service Area (FSA Code)
EDUCATION

Taxonomy of Program Code (TOP Code)
*0860.00 - Educational Technology

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
CSU

Validation Date
5/29/14; 6/21/17; 6/2/22

Division Dean Only

Seat Count
35

Load
.022

FOAP Codes:

Fund Code
114000 - General Operating- Unrestricted

Org Code
151011 - Learning in New Media Classr (LINC)

Account Code
1320

Program Code
086000 - Educational Technology

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

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 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

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

NCP F404A : UNDOCUENTREPRENEURSHIP: DISCOVER & DEVELOP

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Non-Credit: Parenting Education (NCP)
Course Number
F404A

Department
Family Engagement Institute (FEI)

Division
Student Resource and Support Programs (1SR)

Units
0

Course Title
UNDOCUENTREPRENEURSHIP: DISCOVER & DEVELOP

Former ID

Cross Listed

Related Courses

Maximum Units
0

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
16

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
0

Special Hourly Notation

Total Contact Hours
16

Total Student Learning Hours
16

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
As a noncredit course, students have the option to repeat. Students will greatly benefit from repeated practice of the skills covered.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Permanent

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:
Basic Skills
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This noncredit course focuses on supporting students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies, to explore small business ideas, discover talents and strengths, and develop a vision towards entrepreneurship. The course is intended to support students and build skills to be a viable part of the workforce and learn ways to contribute to their community.

Attach evidence

Need/Justification
This noncredit course focuses on supporting students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies, to explore small business ideas, discover talents and strengths, and develop a vision towards entrepreneurship. The course is intended to support students and build their skills to be a viable part of the workforce and learn ways to contribute to their community.

Course Description
This noncredit course focuses on supporting the undocumented student community to explore small business ideas, discover talents and strengths, and develop a vision towards entrepreneurship. The course helps build the entrepreneur mindset, provides an overview of business structures, and prepares students with resources, skills, and abilities needed to establish a small business plan. The course focuses on self-development, using a combination of teaching, hands-on, and reflective exercises. Students have the opportunity to engage and learn from guest entrepreneurs reflective of the undocumented community served to help develop an entrepreneurial mindset. The course is intended to provide support and resources primarily to, but not limited to, students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies.

Course Prerequisites

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Discover their strengths related to entrepreneurship
2. Identify skills, experiences, and assets to help build an entrepreneur mindset
3. Develop a business vision and purpose
4. Define and discover a business product
5. Identify differences between business structures
6. Identify strategies to approach a business plan
7. Identify the importance of a business plan and the business tools available to develop a plan
8. Develop a business plan

Course Content

1. Discover your strengths related to entrepreneurship

    1. Complete and discuss the "Identify your Strengths and Values" exercise
    2. Develop a SWOT analysis to identify strengths, weaknesses, opportunities, and threats to starting a business from the undocumented perspective
2. Identify skills, experiences, and assets to help build an entrepreneur mindset
    1. Complete a skills mapping exercise to identify the current skills and experiences
    2. Learn about Immigrants Rising, an organization that provides resources and support for undocumented communities who want to start their own business
    3. View and examine "Understanding What It Means to Work for Yourself" webinar
    4. Listen to immigrant entrepreneur stories using Immigrants Rising stories (https://immigrantsrising.org/stories/) and local guest speakers to learn about their immigrant entrepreneurship journey
    5. Develop a resume outlining skills and experiences
3. Develop a business vision and purpose
    1. Create a student profile account with Immigrants Rising to access online entrepreneurship resources (https://spark.immigrantsrising.org/) and Spark Training to learn about financial resources
    2. Review tools such as design thinking or a business model canvas (https://www.designkit.org/methods)
    3. Draw a business model canvas to define the problem your business will solve
4. Define and discover a business product
    1. Practice delivering a business purpose and identify what individual or community problem the business is going to help solve
5. Identify differences between business structures
    1. View Immigrants Rising's webinar on “Sole Proprietorship, Corporations, LLC, Independent Contractor, Cooperative Corporation” for undocumented individuals
    2. View Immigrants Rising's webinars on “Legal Permits including the ITIN Guide" (https://immigrantsrising.org/resource/individual-tax-identification-number-guide/) and legal considerations, legal contracts and forms related to starting a business
6. Identify strategies to approach a business plan
    1. Review tools such as design thinking or a business model canvas (https://www.designkit.org/methods)
    2. View Immigrants Rising's webinar on "Business Model Canvas" (https://immigrantsrising.org/resource/business-model-canvas-and-design-thinking-webinar/) to learn about strategies that will test your business ideas
7. Identify the importance of a business plan and the business tools available to immigrant communities to develop a plan
    1. Discuss funding opportunities, including seed funding for your business and/or non-profit using the Spark Entrepreneurship training
    2. Complete Spark training to seek possible business funding opportunities

8. Develop a business plan
    1. Review the step-by-step process to build a business plan using Centro Community Partners' resources and Immigrants Rising's webinar on "Business Plans" (https://immigrantsrising.org/resource/business-plans-webinar/)
    2. Create a business plan profile using the "Centro Business Planning Tool" phone app via iTunes and Google Play (https://www.centro-mobile.org/)

Lab Content
Not applicable.

Special Facilities and/or Equipment
Students must have access to a Zoom accessible device (e.g., computer) and access to the internet.

Methods of Evaluation

Methods of Evaluation
Participation in class discussions, activities, individualized work, small group work, and teamwork
Writing assignments, journaling
Demonstration, role modeling, and practice

Method(s) of Instruction

Method(s) of Instruction
Lecture
Discussion
Demonstration
Group work

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

No course materials.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Example of a class assignment: Discuss and identify skills, experiences, education, and training to develop a resume
2. Example of a class assignment: **Independent Contractor Brainstorming Worksheet** - Self Assessment and Work Exploration; identify, skills, training, and education needed to perform that work

Authorized Discipline(s):
Vocational (short-term): Noncredit

Faculty Service Area (FSA Code)
GENERAL BUSINESS

Taxonomy of Program Code (TOP Code)
*0506.40 - Small Business and Entrepreneurship

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

NCP F404B : UNDOCUENTREPRENEURSHIP: DESIGN & DELIVER

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Non-Credit: Parenting Education (NCP)
Course Number
F404B

Department
Family Engagement Institute (FEI)

Division
Student Resource and Support Programs (1SR)

Units
0

Course Title
UNDOCUENTREPRENEURSHIP: DESIGN & DELIVER

Former ID

Cross Listed

Related Courses

Maximum Units
0

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
16

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
0

Special Hourly Notation

Total Contact Hours
16

Total Student Learning Hours
16

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
As a noncredit course, students have the option to repeat. Students will greatly benefit from repeated practice of the skills covered.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Permanent

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:
Basic Skills
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This noncredit course focuses on supporting students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies, to explore small business ideas, discover talents and strengths, and develop a vision towards entrepreneurship. The course is intended to support students and build skills to be a viable part of the workforce and learn ways to contribute to their community.

Attach evidence

Need/Justification
This noncredit course focuses on supporting students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies, to explore small business ideas, discover talents and strengths, and develop a vision towards entrepreneurship. The course is intended to support students and build their skills to be a viable part of the workforce and learn ways to contribute to their community.

Course Description
This noncredit course focuses on supporting marginalized students, such as the undocumented student community, to design a marketing plan and deliver a business pitch, and entrepreneurship endeavors specific to the undocumented community. The course focuses on navigating the undocuentrepreneurial landscape, building a road map with goals, mapping a career strategy, and learning about the financial literacy tools and resources (ICA, ITIN, LLC, Cooperatives, etc.) to start a business and implement a marketing and business plan. Students have the opportunity to interview guest entrepreneurs reflective of the community served to learn about effective business strategies, marketing tools, and lessons learned. The course is intended to provide support and resources primarily to, but not limited to, students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies.

Course Prerequisites

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Design a roadmap to set goals and inform their business plan
2. Design a business playbook that is aligned with their business product
3. Identify the budget components and develop a budget
4. Identify and review financial resources to launch a business
5. Discuss strategies to create a network within the business industry
6. Utilize marketing tools to promote a business
7. Design a marketing plan
8. Design and deliver a business pitch

Course Content

1. Design a roadmap to set goals and inform their business plan

    1. Develop goals by designing a roadmap that is aligned with their skills, values, and strengths
    2. Anticipate business challenges and propose solutions for each
2. Design a business playbook that is aligned with their business product
    1. Identify resources and design business workflows and procedures for their business
    2. Review state business licenses requirements
    3. Document and deliver a business playbook to their peers for feedback
3. Identify the budget components and develop a budget
    1. Anticipate and project expenses related to starting a business
    2. Create a budget using the projected business expenses
4. Identify and review financial resources to launch a business
    1. Identify and review an accounting system when starting a business and view Immigrants Rising's webinar on "Introduction to what an accounting system is" (https://immigrantsrising.org/resource/accounting-financial-management-for-business-webinar/)
    2. Identify resources and support when filing taxes as an independent contractor
    3. Discuss and review the difference between an ITIN and an IEN
    4. Review Immigrants Rising's checklist (https://immigrantsrising.org/wp-content/uploads/Immigrants-Rising_ITINs-EINs-and-Taxes-Guide.pdf) when looking for a tax preparer
    5. Review and understand what credit is and understand a credit report
5. Discuss strategies to build a network within the business industry
    1. Identify the community and audiences the business product will serve
    2. Deliver mock interviews with peers to prepare for informational interviews
    3. Identify and select immigrant entrepreneurs, partners, and other small business owners from the community, and conduct informational interviews to develop a network
6. Utilize marketing tools to promote a business
    1. Compare and contrast social media applications to help market the business
    2. View Immigrants Rising's webinar on "How Social Media can Lead to Fundraising for Your Startup" (https://immigrantsrising.org/resource/marketing-and-financing-webinar/)
    3. Create a social media account that is aligned with their business
7. Design a marketing plan
    1. Review and use Immigrants Rising's "Create a Marketing Plan" worksheet
    2. Identify strategies to promote their business
    3. Deliver a marketing plan to peers for feedback
8. Design and deliver a business pitch
    1. Identify the community or individual problem the business will help solve
    2. Deliver their business pitch and practice selling the product to peers
    3. Evaluate their business pitch using peer feedback

Lab Content

Not applicable.

Special Facilities and/or Equipment
Students must have access to a Zoom accessible device (e.g., computer) and access to the internet.

Methods of Evaluation

Methods of Evaluation
Participation in class discussions, activities, individualized work, small group work, and teamwork
Writing assignments, journaling
Demonstration, role modeling, and practice

Method(s) of Instruction

Method(s) of Instruction
Lecture
Discussion
Demonstration
Group work

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

No course materials.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Example of reading material: Getting Access to Financial Capital for Yourself and Your Business (https://immigrantsrising.org/resource/credit-and-financial-capital-guide/)

Authorized Discipline(s):
Vocational (short-term): Noncredit

Faculty Service Area (FSA Code)
GENERAL BUSINESS

Taxonomy of Program Code (TOP Code)
*0506.40 - Small Business and Entrepreneurship

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code

NCP F404C : UNDOCUENTREPRENEURSHIP: CONNECT

Proposal Type
New Course

Effective Term
Summer 2023

Subject
Non-Credit: Parenting Education (NCP)
Course Number
F404C

Department
Family Engagement Institute (FEI)

Division
Student Resource and Support Programs (1SR)

Units
0

Course Title
UNDOCUENTREPRENEURSHIP: CONNECT

Former ID

Cross Listed

Related Courses

Maximum Units
0

Does this course meet on a weekly basis?
No

Total Lecture Hours per quarter
8

Total Lab Hours per quarter
0

Total Out of Class Hours per quarter
0

Special Hourly Notation

Total Contact Hours
8

Total Student Learning Hours
8

Repeatability Statement
Unlimited Repeatability

Repeatability Criteria
As a noncredit course, students have the option to repeat. Students will greatly benefit from repeated practice of the skills covered.

Credit Status
Non-Credit

Degree Status
Non-Applicable

Is Basic Skills applicable to this course?
No

Grading
Non-Credit Course (Receives no Grade)

Will credit by exam be allowed for this course?
No

Honors
No

Degree or Certificate Requirement
None of the above (Stand Alone course)

Stand Alone

If a Foothill credit course is not part of a state-approved associate's degree, certificate of achievement, or the Foothill 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 that 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.

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

• Temporary means the course will be incorporated into a new degree or certificate that is not yet State approved.
• Permanent means there are no plans to add the course to a State approved degree or certificate, nor to the Foothill GE pattern.

Please select
Permanent

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:
Basic Skills
Workforce/CTE

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 provided in the box below and/or uploaded as an attachment.

Evidence

This noncredit course focuses on supporting students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies, to build networking skills, connect with local entrepreneurs, build a support network, and use resources available to position a business product to the right customer. The course is intended to support students to be a viable part of the workforce and learn ways to contribute to their community.

Attach evidence

Need/Justification
This noncredit course focuses on supporting students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies, to build networking skills, connect with local entrepreneurs, build a support network, and use resources available to position a business product to the right customer. The course is intended to support students to be a viable part of the workforce and learn ways to contribute to their community.

Course Description
This noncredit course focuses on supporting students to connect and network with local business organizations, non-profit organizations, and small business entrepreneurs reflective of the undocumented community. Students have an opportunity to create a business pitch and explore and seek seed funding. The course is intended to provide support and resources primarily to, but not limited to, students from marginalized, immigrant communities, such as undocumented/AB 540/Dreamers, mixed-status families, and allies.

Course Prerequisites

Course Corequisites

Course Advisories

Course Objectives

The student will be able to:

1. Connect with peers, partners, and the community to share their business story and identify best business practices
2. Organize and plan a career panel of entrepreneurs, small business owners, and on-campus and off-campus partners, such as Immigrants Rising
3. Identify relevant financial resources, loans, and funding for undocumented and immigrant small business owners
4. Plan and attend a networking session with community business supporters and partners supporting small business owners

Course Content

1. Connect with peers, partners, and the community to share their business story and identify best business practices
    1. Create a vision board that outlines the business idea using PowerPoint
    2. Exhibit a business vision board and story with peers and request feedback
2. Organize and plan a career panel of entrepreneurs, small business owners, and on-campus and off-campus partners, such as Immigrants Rising

    1. Identify and select career panelists within the local business community
    2. Plan and execute a career panel, including recruiting panelists and gathering community questions
    3. Connect and network with panelists by sharing business cards, contact information, and relevant resources
    4. Originate an online contact list for ongoing connection
3. Identify relevant financial resources, loans, and funding for undocumented and immigrant small business owners
    1. Identify funding resources, such as Venturize, a free online resource hub, to grow a business (https://venturize.org/about-venturize)
    2. Submit a seed funding application through Immigrants Rising's Sparks Training program
4. Plan and attend a networking session with community business supporters and partners supporting small business owners
    1. Identify resources that will support the business and align with the problem the business is trying to solve
    2. Develop and use a method to stay connected to other entrepreneurs and business supporters

Lab Content

Not applicable.

Special Facilities and/or Equipment

Students must have access to a Zoom accessible device (e.g., computer) and access to the internet.

Methods of Evaluation

Methods of Evaluation
Participation in class discussions, activities, individualized work, small group work, and teamwork
Writing assignments, journaling
Demonstration, role modeling, and practice

Method(s) of Instruction

Method(s) of Instruction
Lecture
Discussion
Demonstration
Group work

Representative Text(s)

Please provide justification for any texts that are older than 5 years

Other Required Materials

No course materials.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Example of class assignment: Become familiar with how to be a qualified recipient of seed funding. Review past entrepreneurship grantees (https://drive.google.com/file/d/1N7IC5iU2Ahq55CmcVOpgRFVgHA76ZUvH/view)
2. Example of reading material: Learn about seed funding through Immigrants Rising (https://immigrantsrising.org/wp-content/uploads/SEED-Funding-Frequently-Asked-Questions_English.pdf)

Authorized Discipline(s):
Vocational (short-term): Noncredit

Faculty Service Area (FSA Code)
GENERAL BUSINESS

Taxonomy of Program Code (TOP Code)
*0506.40 - Small Business and Entrepreneurship

Attach Historical Forms/Documents (if applicable)

Articulation Office Only

C-ID Notation

IGETC Notation

CSU GE Notation

Transferability
None

Validation Date
N/A

Division Dean Only

Seat Count

Load

FOAP Codes:

Fund Code

Org Code

Account Code
1320

Program Code